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AC Targeting Maths

Foundation

NEW Australian Curriculum Edition

Fully aligned to the Australian Curriculum Mathematics Version 9.0

Judy Tertini

Teacher Guide

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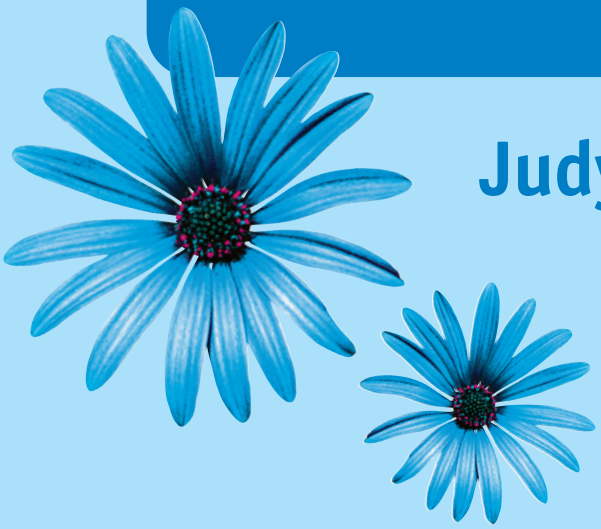

Judy Tertini

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Australian Targeting Maths–Foundation Teaching Guide
Written by Judy Tertini

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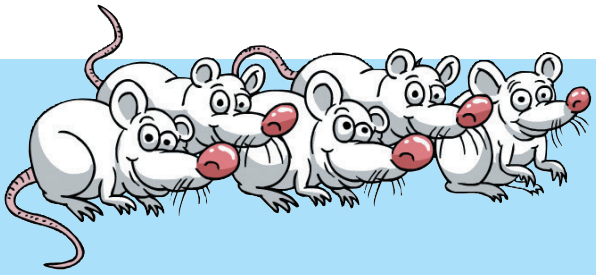
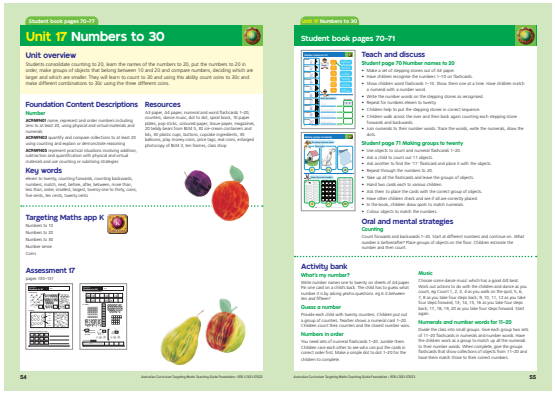
Contents



The Ultimate Australian Curriculum Mathematics Solution for your Whole School!

1 TEACH

The Australian Curriculum is easy to implement with these full colour Teaching Guides that include everything you need from Year Planners to Assessment work sheets.

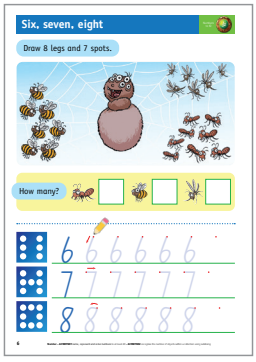


Front of Class Teaching

Interactive Whiteboard activities for engaging front of class teaching.

2 LEARN

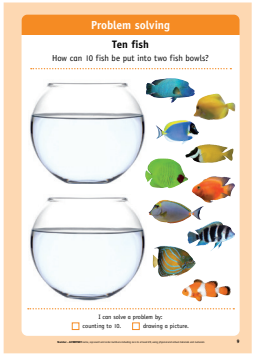
Student Workbooks are full of student-friendly activities with instructions that are easy to read and understand. Students enjoy using these books.



Targeting Maths Apps are a powerful way to improve learning.

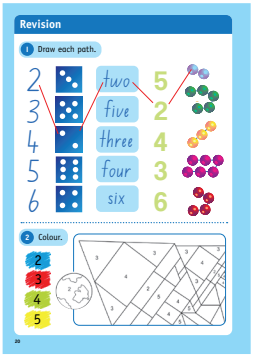
3 APPLY

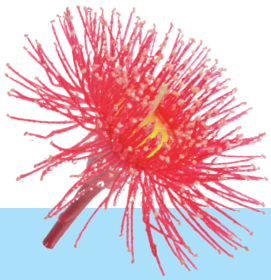
Integrated Problem Solving Program embeds problem solving in every unit. Children learn new skills and then apply them to a variety of interesting problems.



4 REVISE

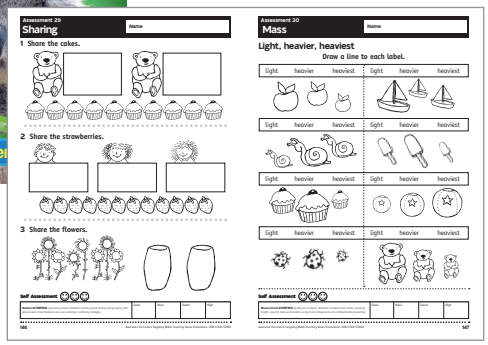
Student books include mid-term and end-of-term revision pages.





5 ASSESS

Teaching Guides include a full assessment program with assessments for every Australian Curriculum Content Description.



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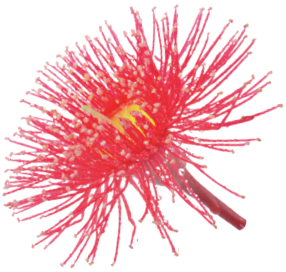
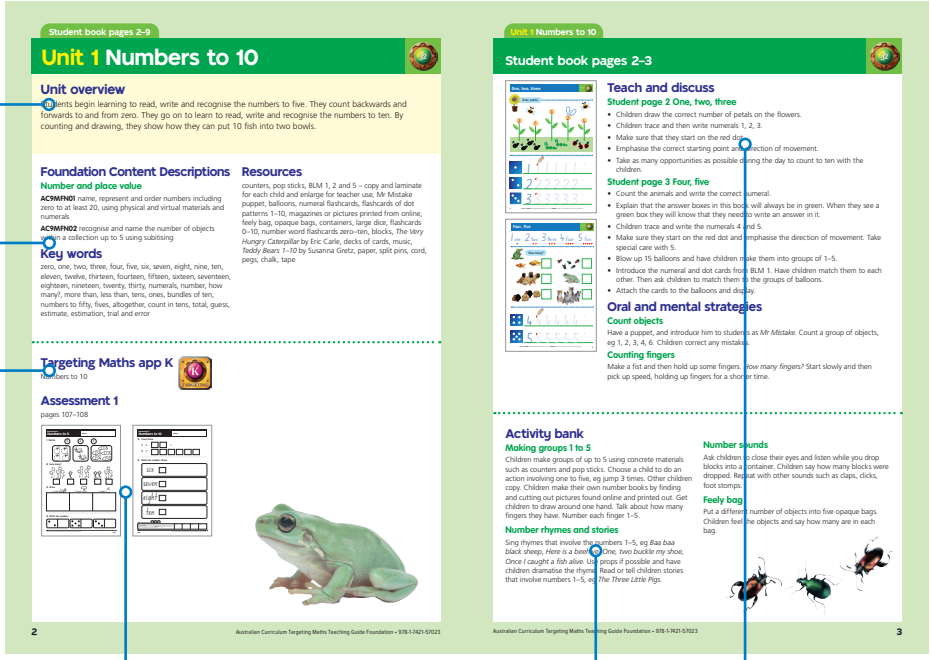
Unit overview

The Unit overview looks at the big ideas covered in this unit.

Australian Curriculum Content Descriptions

Targeting Maths App links





Student book pages 2–9

Unit 1 Numbers to 10

Unit overview

Students begin learning to read, write and recognise the numbers to five. They count backwards and forwards to and from zero. They go on to learn to read, write and recognise the numbers to ten. By counting and drawing, they show how they can put 10 fish into two bowls.

Foundation Content Descriptions

Number and place value

ACMNN001 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

ACMNN002 recognise and name the number of objects within a collection up to 5 using subitising

Key words

zero, one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, thirty, numerals, number, how many?, more than, less than, tens, ones, bundles of ten, numbers to fifty, fives, altogether, count in tens, total, guess, estimate, estimation, trial and error

Resources

counters, pop sticks, BLM 1, 2 and 5 – copy and laminate for each child and enlarge for teacher use, Mr Mistake puppet, balloons, numeral flashcards, flashcards of dot patterns 1–10, magazines or pictures printed from online, feely bag, opaque bags, containers, large dice, flashcards 0–10, number word flashcards zero–ten, blocks, *The Very Hungry Caterpillar* by Eric Carle, decks of cards, music, *Teddy Bears 1–10* by Susanna Gretz, paper, split pins, cord, pegs, chalk, tape

Targeting Maths app K

Numbers to 10

Assessment 1

pages 107–108

2

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Unit 1 Numbers to 10

Student book pages 2–3

Teach and discuss

Student page 2 One, two, three

- Children draw the correct number of petals on the flowers.
- Children trace and then write numerals 1, 2, 3.
- Make sure that they start on the red dot.
- Emphasise the correct starting point and direction of movement.
- Take as many opportunities as possible during the day to count to ten with the children.

Student page 3 Four, five

- Count the animals and write the correct numeral.
- Explain that the answer boxes in this book will always be in green. When they see a green box they will know that they need to write an answer in it.
- Children trace and write the numerals 4 and 5.
- Make sure they start on the red dot and emphasise the direction of movement. Take special care with 5.
- Blow up 15 balloons and have children make them into groups of 1–5.
- Introduce the numeral and dot cards from BLM 1. Have children match them to each other. Then ask children to match them to the groups of balloons.
- Attach the cards to the balloons and display.

Oral and mental strategies

Count objects

Have a puppet, and introduce him to students as *Mr Mistake*. Count a group of objects, eg 1, 2, 3, 4, 6. Children correct any mistakes.

Counting fingers

Make a fist and then hold up some fingers. *How many fingers?* Start slowly and then pick up speed, holding up fingers for a shorter time.

Activity bank

Making groups 1 to 5

Children make groups of up to 5 using concrete materials such as counters and pop sticks. Choose a child to do an action involving one to five, eg jumps 3 times. Other children copy. Children make their own number books by finding and cutting out pictures found online and printed out. Get children to draw around one hand. Talk about how many fingers they have. Number each finger 1–5.

Number rhymes and stories

Sing rhymes that involve the numbers 1–5, eg *Baa baa black sheep*, *Here is a beehive*, *One, two buckle my shoe*, *Once I caught a fish alive*. Use props if possible and have children dramatise the rhyme. Read or tell children stories that involve numbers 1–5, eg *The Three Little Pigs*.

Number sounds

Ask children to close their eyes and listen while you drop blocks into a container. Children say how many blocks were dropped. Repeat with other sounds such as claps, clicks, foot stomps.

Feely bag

Put a different number of objects into five opaque bags. Children feel the objects and say how many are in each bag.

3

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More than 30 Assessments included in each Teaching Guide.

The Activity bank provides a range of practical activities that present the mathematical content in a variety of ways.

The Teach and discuss section provides interesting lesson starters and pointers.

Full Assessment Program included

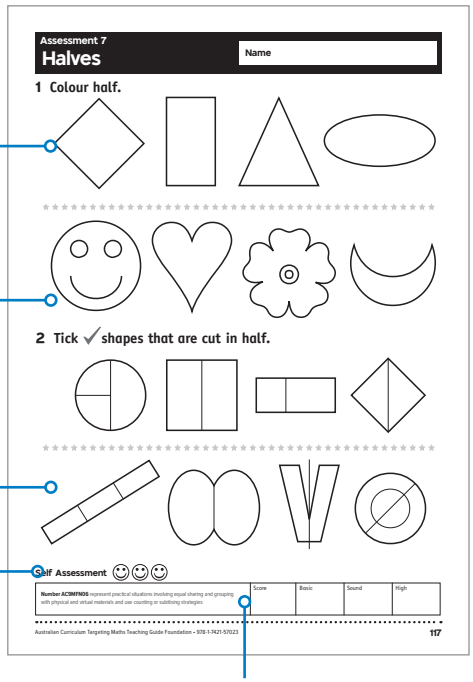
Topic-based assessments include sections that test skills at three levels of understanding — basic, sound and high.

First questions assess basic knowledge and skills.

Middle questions assess sound knowledge and skills.

Final questions assess high knowledge and skills.

Self assessment lets you know how children feel about their understanding of this topic.



Assessment 7

Halves

Name

1 Colour half.

2 Tick ✓ shapes that are cut in half.

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Number ACMNN065 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies				

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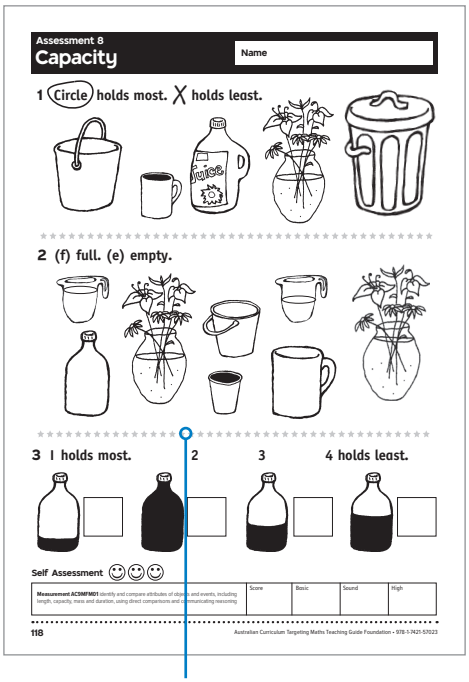
117



Assessment 8

Capacity

Name

1 Circle holds most. X holds least.

2 (f) full. (e) empty.

3 1 holds most. 2 3 4 holds least.

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Measurement ACMMM051 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning				

118

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Teacher assessment of level.

The line of stars shows where the assessed level changes from basic to sound, and then from sound to high.

TARGETING MATHS APPS

K TARGETING | 1 TARGETING | 2 TARGETING | 3 TARGETING | 4 TARGETING | 5 TARGETING | 6 TARGETING

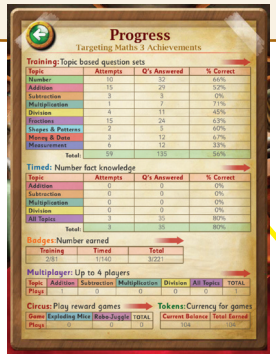
THESE APPS ARE HUGE!

Multiple accounts – tracks progress and achievements for each student.

The first Australian Curriculum maths app for iPad with a huge range of activities! Choose from Training, Timed or Multiplayer.

Progress

A detailed snapshot of skills mastered and individual achievements.



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- 9 big topics to choose from.
- Each topic has 9 subskill sections. Students can earn a badge for each one.
- 50 word problems for each topic.
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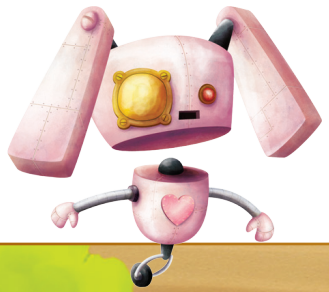

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Foundation Planners

Year Planner • Term 1

Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Unit 1: Numbers to 50				
One, two, three Four, five	2–3	Making groups 1 to 5; Number rhymes and stories; Number sounds, Feely bag	Count objects; Counting fingers	counters, popsticks, BLM 1, Mr Mistake puppet, balloons, numeral flashcards, flashcards of dot patterns 1–10, magazines or pictures printed from online, feely bag, opaque bags, containers **Targeting Maths App K:** Numbers to 10
Number names to five Counting back to zero	4–5	Outside activities; Songs, rhymes and stories; Dice games; Match the number	Mr Mistake counting, Finger counting	counters, popsticks, BLM 1 and 5, Mr Mistake puppet, large dice, flashcards 0–5, word flashcards zero–five, flashcards of dot patterns 1–10, number word flashcards, blocks, *The Very Hungry Caterpillar* by Eric Carle
Six, seven, eight Nine, ten	6–7	Our number walk; Card games; Musical pass; Come and count table; Teddy bears	Count forwards and backwards	counters, BLM 2 and 5, numeral flashcards, decks of cards, music, *Teddy Bears 1–10* by Susanna Gretz, paper, split pins, cord, pegs
Number names six to ten Problem solving: Ten fish	8–9	Children in 'bowls'; Make the number; Match up;	Teddy bear number line	counters, BLM 5, numeral flashcards 1–10, flashcards of dot patterns 1–10, number word flashcards 1–10, paper, pegs, chalk, tape **Assessment 1**: pages 107–108 Numbers to 10
Unit 2: 2D Shapes				
2D shapes	10–11	Cook and play; Shape printing; Books; 20 shapes; Shape snap	Shapes in a bag	multi-attribute blocks, opaque bag, sponges, pegs, magazines and pages printed from online, puzzles, construction toys, printing pad, paper, *Shapes* by Jan Pienkowski, *Shapes* by Gwenda Turner, cooking ingredients, cut out shapes, flashcards of 2D shapes **Targeting Maths App K:** 2D Shapes; Patterns
Patterns with shapes Closed shapes and lines	12–13	Printing patterns; Shape patterns in the environment; Pattern swap; Human patterns; Closed shapes	Sound patterns	assembled teddy bears from BLM 5, multi-attribute blocks, sponges, pegs, vegetables, Mr Mistake puppet, printing pad, paper, glue, camera, painting crafts, cut out shapes, string **Assessment 2**: pages 109–110 2D Shapes
Unit 3: Addition				
Problem solving: Addition Addition to five	14–15	Hidden objects; Target throwing; Problem books; Number line; Making five	Adding to 5	ten assembled teddy bears from BLM 5, counters, beanbags, A4 paper, Mr Mistake puppet, pencils, blocks, camera, play dough, popsticks **Targeting Maths App K:** Add to 10
Combinations of 3, 4 and 5 Making numbers using five	16–17	Real problems; In the bag; Patterns; Bear game	Teddy bears count	counters, assembled teddy bears from BLM 5, A4 paper, opaque bag, small blocks, Mr Mistake puppet **Assessment 3**: pages 111–112 Addition to 5
Investigation 1 One to ten	18–19	Number cut-out collages; Outdoor walk-around; Decorate my number; Number songs	Numbers in the environment	books to find numbers in, photographs of different numbers in different places, counting books from the library, eg *One Woolly Wombat* by Rod Tricia and Kerry Argent, art paper, pages of numbers found online **Assessment 33**: page 150 Draw a Diagram
Revision	20–21			
Unit 4: Time				
Day and night Longer and shorter time	22–23	Speed; Who can?; Sing; Longer or shorter; Hot potato	Clap to count	pictures of animals and humans moving fast and slow, egg timer, string and threading beads, balls, beanbags, stopwatch, A4 paper, dress up clothes **Targeting Maths App K:** Time
Yesterday, today and tomorrow Days of the week	24–25	Baby photos; Books; Daily talk; Life cycles; Calendars; Weekly menu	Day of the week	storybooks about a child's daily routine, eg Moonlight, Sunshine by Jan Ormerod, Boss for a Week by Libby Handy, Today is Monday by Eric Carle, Lucy and Tom's Day by Shirley Hughes, pages of images found online and printed, calendars, diaries, phones/tablets/computers, flashcards for days of the week, A4 paper **Assessment 4:** page 113 Time

Year Planner • Term 1

Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Unit 5: Subtraction				
Subtraction stories Take away	26–27	Real problems; Games; Never empty; Rhymes; Dinosaur teeth; Five green bottles	Subtraction stories	clear container, blocks, 5 bottles, outlines of dinosaurs showing teeth **Targeting Maths App K:** Subtract to 10 **Assessment 5**: pages 114–115 Subtraction to 5
Unit 6: Mass				
Heavy and light Light, heavier, heaviest	28–29	Mass; Same size, different mass; Equal-arm balance	Heavier and lighter	various items for practising hefting, equal-arm balance, boxes, food containers to pack, flashcards, blocks **Targeting Maths App K:** Mass **Assessment 6**: page 116 Mass
Unit 7: Halves				
Halves	30–31	Halves; Making halves; Geo boards; Tea party for two	Halving shapes	rubber bands, geoboards, a sandwich, an orange, an apple, sheets of paper of different sizes and shapes, images of party foods, paper plates **Targeting Maths App K:** Fractions **Assessment 7**: page 117 Halves
Unit 8: Capacity				
Full, empty and half full Comparing capacities	32–33	Capacity language; Estimation; Sand hills; Cooking; Capacity; Capacities	Teaming up	plastic cups, water bottles, jugs, 2L milk containers for each set of three children, various empty containers, small buckets, items to fill containers, funnels, measuring cups, sand, small blocks, cereal boxes, egg cups, a collection of environmental containers some full, some empty, some half full, rice, cooking ingredients, water and dry items for measuring **Targeting Maths App K:** Volume and capacity **Assessment 8**: page 118 Capacity
Revision Term 1	34–35			

Year Planner • Term 2

Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Unit 9: Number				
Counting to twenty Counting back from ten	36–37	Counting skills; Bingo; Listen and count; Popstick flowers;	Action counting	flashcards 1–20, blocks, counters, BLM 4, cut out flowers, container, popsticks, sticky tape, plastic cups **Targeting Maths App K:** Numbers to 10; Numbers to 20
Ordering numbers to ten	38–39	What's my number?; Caterpillar; Teddy bear; Songs; I spy a number	Finger counting	unifix cubes, 1–10 flashcards, 10 fish, dowel rod, string, magnet, teddy bears from BLM 5, 11 paper plates, paper clips **Assessment 9:** page 119 Number
Unit 10: Addition				
Adding Counting on	40–41	Problem solving; Dominoes; Stop go; Games; Buzz	Dot counting	groups of objects to count such as toy fish, flowers, frogs, cars, dinosaurs, robots, counters, dot pattern cards 1–10, 10 frames, dice, dominoes, snakes and ladders, number bears (BLM 5) **Targeting Maths App K:** Add to 10; Count on; Ten frames
Combinations to 10 Problem solving: Animal zoo	42–43	10 frame; Make ten; Addition stories; Addition counters	How many more make ten?	counters, cards, 10 frames, blocks, dice, BLM 4, containers, number cards 1–10 **Assessment 10**: pages 120–121 Addition to 10
Unit 11: Length				
Tallest and shortest Length words	44–45	Finger plays; Towers; Storybooks; Craft; Jump the river; Measure reach; Compare and order	Counting counters	counters, unifix cubes, blocks, streamers, ropes, playdough, clay, cotton, string, wool in various colours, books about size, paper, paint, leaves **Targeting Maths App K:** Length

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Year Planner • Term 2

Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Comparing lengths Problem solving: Heights	46–47	Thickness; Standing jump; Heights; Animal heights	Length mime	ropes, clay, cotton, string, fishing line, ruler, pencil, paintbrush, paint, paper **Assessment 11**: pages 122–123 Length
Unit 12: Take Away				
Take away	48–49	Never empty; Games; Skittles; Ten; Threading beads	Teddy bear count	teddy bear number line 1–10, blocks, 10 identical plastic bottles, ball, dice, flashcards 1–10, container, cord, beads, objects to count, ten green frogs and a lily pad (green pillow), flashcard with 'take away' on one side and 'count on' on the reverse **Targeting Maths App K:** Subtract to 10; Number line –
Subtraction as cover up Counting back	50–51	Gone missing; Number line; Dropping off; Toys in the bed	Count back	teddy bear number line 1–10, flashcards 1–10, counters, container, ice-cream container, objects to count **Assessment 12**: pages 124–125 Take Away
Investigation 2 How old are we?	52–53	Different groups; Bingo number after; Teen dot patterns; How old are we?	Counting off	age list for the class, BLM 4, counters **Assessment 34**: page 151 Act it Out
Revision	54–55			
Unit 13: 3D Objects				
3D objects Objects that roll	56–57	Boxes and balls; Build it; Roller ball; Rolling races; Things that roll; Things that stack	Which will fit?	blocks, boxes, Lego, balls, 3D shapes, toys, containers, feely bag, empty plastic bottles, mini whiteboards, balls in different shapes and sizes, pages of pictures, construction toys, junk materials, flat blocks or sheets of cardboard for ramps **Targeting Maths App K:** 3D objects **Assessment 13**: page 126 3D Objects
Unit 14: Time				
Ordering the days of the week O'clock	58–59	Pictures; Jobs of the week; Make-a-day book; Monday's child	Days of the week; The clock face	days of week flashcards, pictures of time pieces, teaching clock, cut-out clock **Targeting Maths App K:** Time
O'clock times	60	Class times; Songs; Games; A minute; Clock faces	Where do the hands go?	teaching clock, popsticks, books about time, analogue clock faces **Assessment 14**: page 127 O'clock
Unit 15: Patterns				
Shape patterns Number patterns	61–62	Kids' shapes; Dance; Children's patterns; Making patterns; Bead patterns	Patterns are everywhere	Mr Mistake puppet, beads, blocks, buttons, Lego, counters, small cards with 1, 2 or 3 shapes (squares, triangles, circle etc) in different colours, multi-attribute coloured blocks, items for patterning, bead pattern cards **Targeting Maths App K:** Patterns
Patterns Problem solving: Patterns	63–64	Mobiles; Calculators; Using counters; Pattern printing; Patterned names	Flash numbers	flashcards showing number combinations, coloured paper, calculators, cotton reels, Lego, scissors, small cards with 1, 2 or 3 shapes (squares, triangles, circle etc) in different colours, multi-attribute coloured blocks, coloured felt balls, large initials of each student, counters, items for patterning, wool, hole punch, printing materials **Assessments 15**: page 128 Patterns
Unit 16: Position				
Above, below and inside Position	65–66	Games; In the circle, out of the circle; Toy box; Ahoy!	Imagine this	objects to move around, toys, beanbags, containers, hoops, masking tape **Targeting Maths App K:** Data
Position	67	Where is Teddy?; Role plays; Where are they?; Children draw; Mr Mistake draws; Position stories	Moving Teddy	Mr Mistake puppet, teddy bear, bucket, A4 paper, objects to position **Assessment 16:** page 129 Position
Revision Term 2	68–69			

Year Planner • Term 3

Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Unit 17: Numbers to 30				
Number names to 20 Making groups to twenty	70–71	What's my number?; Guess a number; Numbers in order; Music; Numerals and number words for 11–20	Counting	A3 paper, A4 paper, numeral and word flashcards 1–20, counters, dance music, dot to dot **Targeting Maths App K:** Numbers to 10; Numbers to 20; Numbers to 30; Number sense; Coins
Comparing numbers to 20 Order numbers to 20	72–73	Spiral book; Class numbers; Caterpillar; Concentration; Cups in order	Which number is the largest?	A3 paper, numeral and word flashcards 1–20, spiral book, 20 plastic cups, 10 paper plates, popsticks, coloured paper, tissue paper, magazines, 20 teddy bears from BLM 5
Problem solving: On the farm Counting to thirty	74–75	One to thirty; Counting cupcakes; Balloons; Missing numbers	Finger counting to 30	30 ice-cream containers and lids, 30 plastic cups, counters, buttons, cupcake ingredients, 30 balloons
Coins to 30c Problem solving: 30 cents	76–77	Shop; Guess my number; Ten frames for thirty; Money	Estimate groups	play money coins, price tags, real coins, counters, enlarged photocopy of BLM 3, ten frames, class shop **Assessment 17:** pages 130–131 Numbers to 30
Unit 18: Area				
Area Measuring area	78–79	Clues for area; Playground area; Cooking; Junk buildings; Hand sizes	Smaller/bigger area	junk materials, maths book, blocks, books of different areas, ingredients for pikelets, sticky notes **Targeting Maths App K:** Area
Comparing areas	80	Different shape, same area; Cover it; Sorting; Larger areas	Square it	blocks, books of different areas, 100 square, 20 × 20 cm squares of white paper, 2 × 2 cm of coloured paper, glue, objects to sort according to area **Assessment 18**: page 132 Area
Unit 19: 2D Shapes				
2D Shape pictures Drawing shape patterns	81–82	Silent shapes; Cook; Grouping shapes; Pattern making; Shape pictures; Tangrams	Picture this	2D shapes, multi-attribute blocks, paper shapes, large paper, ingredients for cooking, tangram sets **Targeting Maths App K:** Patterns; Sorting
Problem solving: Shape sort	83	Tracing shapes in the air; Drawing blind; A 2D body; New patterns	Shape search	2D shapes, Mr Mistake puppet, multi-attribute blocks, pattern blocks, paper shapes, mini whiteboards, large paper **Assessment 19**: page 133 Shapes and Patterns
Unit 20: Groups				
Making groups	84–85	Magazines; Animals; Book reading; Cooking; How many altogether?	Making two groups	popstick flowers, counters, flashcards 1–20, toys, magazines, plastic animals, *When the Doorbell Rang* by Pat Hutchins, cupcake ingredients, A4 and A3 paper, Oz tag equipment **Targeting Maths App K:** Group
Recognising unequal groups Groups of two and three	86–87	Groups and rows; Sharing shells; Rows; The bee hive	Equal and unequal groups	muffin trays, egg cartons, counters, toys, Mr Mistake puppet, objects for counting, sand, fish bowl, shells, toy fish, sharks, turtles and dinosaurs
Equal groups Problem solving: 2 Fishing boats	88–89	Copy my groups plus some; Listen, think, solve; Copy my groups; Groups into rows	Sharing	counters, toys, Mr Mistake puppet, blocks, objects for counting, A4 and A3 paper, voice recording equipment **Assessment 20**: pages 134–135 Sharing
Investigation 3 Paper pets	90–91	Pattern blocks; Block patterns; Barrier game; Treasure hunt for shapes; Outdoor shapes search	What can you see?	coloured paper shapes ready cut, scissors, glue, pattern blocks **Assessment 35:** page 152 Draw a Diagram
Revision	92–93			
Unit 21: Addition				
Addition to ten Counting with money	94–95	Game shop; Flashcards; Addition stories; 10 in a bed; Counting book	How many more?	counters, dot pattern cards 0–10, numeral and word cards zero to ten, real money, photocopies of $5 notes, toys, BLM 3, cardboard, price tags, items for shop, A4 paper **Targeting Maths App K:** Tens frames; Count on; Add to 10

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Year Planner • Term 3

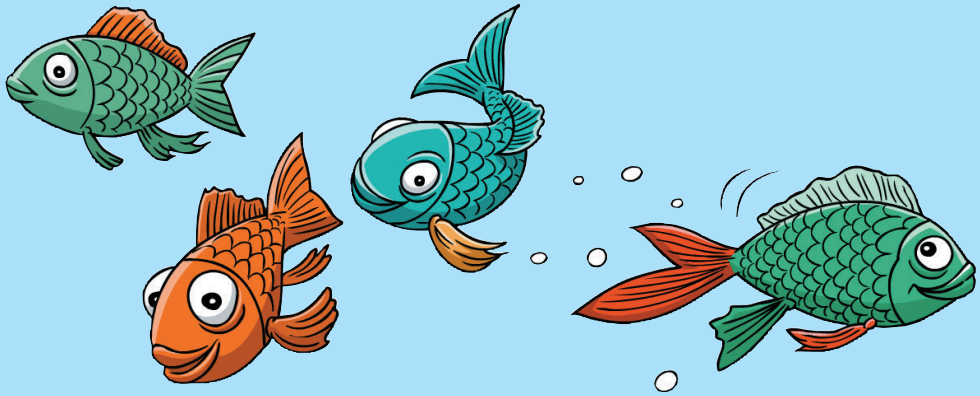
Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Adding three numbers Problem solving: A dozen	96–97	Buzz counting; Body counting; Count on; Die addition in fours	How many ways can we add to a number?	counters, dot pattern cards 1–10, numeral cards zero to ten, + and = cards, dice, blocks, bucket **Assessment 21:** pages 136–137 Addition
Unit 22: Time				
The seasons O'clock times	98–99	Seasons and weather; My favourite season; Colours of the seasons collage; What's the time Mr Wolf?; Seasons	Order the seasons	teaching clock, pictures to illustrate the four seasons, season flashcards, books about seasons, magazines, paper, coloured pencils, crayons, textas **Targeting Maths App K:** Time **Assessment 22**: page 138 Seasons
Unit 23: Half a Length				
Half a length Halfway	100–101	Finding halfway; Half a length; Half a pattern; Equal halves; Playdough halves	Halfway	lengths of ribbons, wool and paper, scissors, A3 paper, stamps, playdough **Targeting Maths App K:** Fractions **Assessment 23:** page 139 Length
Unit 24: Data				
Sorting 2D shapes Weather	102–103	Toys to sort; Books to sort; Pictures; Stories and songs	I am thinking of a shape; Days of the week	multi-attribute blocks, days of week flashcards, magazines, books, *Mrs Mopple's Washing Line* by Anita Hewett and *Spot Looks at the Weather* by Eric Hill **Targeting Maths App K:** Data **Assessment 24**: page 140 Data Displays
Revision Term 3	104–105			

Year Planner • Term 4

Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Unit 25: Numbers				
First to fifth Ordinal numbers to tenth	106–107	Cross the river; Choose your seat; Where is it? In order; The train; Teddy bears	Where in the row?	ten small cars, flashcards 1st to 10th and first to tenth, opaque plastic cups, paper stepping stones, counters, bears from BLM 5, art supplies, string, scissors, sticky tape **Targeting Maths App K:** Number sense; Numbers to 30; Number lines
Number names to thirty Counting forwards and backwards	108–109	Real life; Numbers to 30; Counting; Number names to thirty	Counting to 30	ice-cream containers, sets of number cards to 30, paper stepping stones, flashcards with number words twenty to thirty, Mr Mistake puppet
Tens and ones Using a number line	110–111	Caterpillar; Change direction; Ordering; Blind grab	Counting with fingers to 30	base 10 materials, ice-cream containers, sets of number cards to 30, blank number lines for the IWB, flashcards with number words twenty to thirty, paper plates
Counting to thirty Problem solving: Number Problems	112–113	Races; Concentration to 30; Groups for thirty; Ordinal pairs; One more, one less	Number lines	sets of number cards to 30, blank number lines for the IWB, flashcards 1st to 10th and first to tenth, counters, Snakes and Ladders, a set of cards marked 'safe', 'one more' and 'one less' **Assessment 25:** pages 141–142 Numbers
Unit 26: Time				
Digital and analogue time Problem solving: Your day	114–115	How long does it take?; What are they doing?; Timepiece chart; Time displays; Time for work and play	Making time	magazines, computers, teaching clock, class analogue and digital clocks, flashcards **Targeting Maths App K:** Time **Assessment 26:** page 143 Time
Unit 27: Volume and Capacity				
Volume Measuring capacity	116–117	I am thinking of …; Put in order; Experiments; Water play; More or less space	Ordering containers	*Mr Archimedes' Bath* by Pamela Allen, small bucket, containers of various size, rice, sand, seeds, water **Targeting Maths App K:** Volume and Capacity **Assessment 27:** page 144 Volume

Year Planner • Term 4

Teaching Focus	Student Pages	Supporting Activities from TG	Oral and Mental Strategies	Resources
Unit 28: Subtraction				
Comparing groups Shopping with dollar coins	118–119	Children in line; Combinations; 10 frame; Class shop	Comparing groups	objects for counting, 10 frames, counters, unifix blocks, a poster showing Australian money, plastic dollar coins or copies of coins, items with whole dollar price tags, catalogues, cardboard **Targeting Maths App K:** Count on; Shopping
Counting back Subtraction	120–121	21 sticks; Take away stories; What's my answer; Compare it	Number line take aways	unifix blocks, blank number lines for the IWB, popsticks, A4 paper, 10-sided dice **Assessment 28:** page 145 Subtraction
Investigation 4 Block it up	122–123	Copy my model; Same volume; More and less; 12 blocks; Construct it; Lego models	Comparing volume	base 10 cubes or construction cubes, Lego bricks, diagram of 3D models made with cubes, diagram of simple models made from Lego bricks **Assessment 36:** page 153 Read, Plan Work, Check
Revision	124–125			
Unit 29: Sharing				
Sharing	126–127	Cooking to share; Sharing stories; Practical experiences; Toy shop	Can you share it?	counters, Mr Mistake puppet, beads, toys, ingredients to make cookies, teddy bears (from BLM 5) **Targeting Maths App K:** Share
Equal shares Problem solving: Cars	128–129	Act out a problem; Count them out; Musical groups	Sharing	counters, lollies, blocks, music, Smarties, strawberries, napkins, drinks **Assessment 29:** page 146 Sharing
Unit 30: Mass				
Comparing mass by hefting Using an equal arm balance	130–131	Hefting; Equal-arm balance; Light, heavier, heaviest; Using the equal-arm balance	Measuring mass	equal-arm balances, blocks, unifix cubes, items to heft, sand, buckets, Mr Mistake puppet, boxes, wrapping paper **Targeting Maths App K:** Mass **Assessment 30:** page 147 Mass
Unit 31: 3D Objects				
Sorting 3D objects 3D objects	132–133	Shape exploration; Shape; Feely bag; 3D shape table; Gift wrapping; Draw 3D	Object match	3D shapes, eg balls, boxes etc, Mr Mistake puppet, items that resemble 3D shapes, feely bag, boxes, wrapping paper **Targeting Maths App K:** 3D objects **Assessment 31:** page 148 3D Objects
Unit 32:				
Reading a picture graph Make a picture graph	134–35	A picture graph; Interpret a graph; Data; The toy shop	Graphing the class	A4 paper, magnetic shapes, toys **Targeting Maths App K:** Data; Picture graphs; Number sense
Estimation to 20	136	Just enough!; How many?; Smarties; Playground	Groups	Mr Mistake puppet, Smarties, counters, blocks, buttons, beads, flashcards, shoebox, toys, flowers from page 29 **Assessments 32**: page 149 Data
Revision Term 4	137–138			



Problem Solving

Problem solving is the fundamental core of mathematics. We solve problems every day, when we shop, plan our 'to-do' list, make things for the house, prepare and cook meals, travel, play etc. Aspects of number, measurement, space and data are a constant part of our lives.

We need to build students' mathematical skills so that they can apply their knowledge to solving a variety of problems in a variety of situations. They need to become flexible thinkers who can call upon many strategies which can be used effectively. Students must practise these strategies regularly to gain experience in working with a wide range of possibilities. Solving problems involves steps, which aid understanding and accuracy. Helping students to use these steps in a structured approach can increase their abilities to accurately solve problems and hence increase their confidence.

READ

What are you asked to find?

Students read the question again and look for the key information. They need to fully understand the question.

PLAN

Underline key words.

Students underline the important words. They then work out how they will solve this problem. They consider all the methods that they know. Encourage students to explore and to think widely.

WORK

What strategy can you use to help you to solve this problem?

Students decide which one of these strategies they will use.

Draw a diagram ➔ Act it out ➔ Find a pattern

Show your working.

Students need guidance as to how to show their working, what to write and how to organise it. Model these steps for them often.

THE ANSWER

Where and how do you write the answer?

Show students how to answer the question completely.

CHECK

Make sure that you have answered the question.

Students check their answer by doing the problem another way.

Sometimes, have them explain how they arrived at the answer.

TEACHING AND LEARNING

What did you learn?

Ask students about their working and whether there were other methods they could have used to solve the problem.

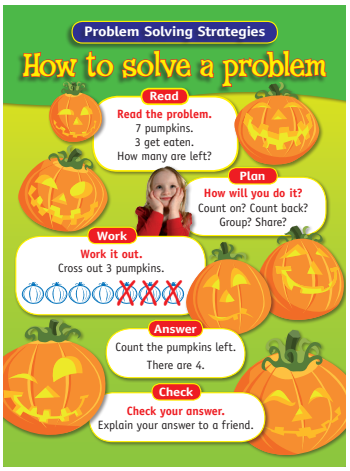
What else can you find out?

Ask students to relate this problem to other similar problems.

Do they know of any other questions like this one?

Problem Solving Strategies

There are five problem solving posters that can be enlarged and photocopied up to A3 size for classroom use. These posters can be referred to as needed whenever you revisit each problem solving strategy. Children, when working with problems, can refer to them as a reminder of how to structure their responses.



4 step plan – for number problems

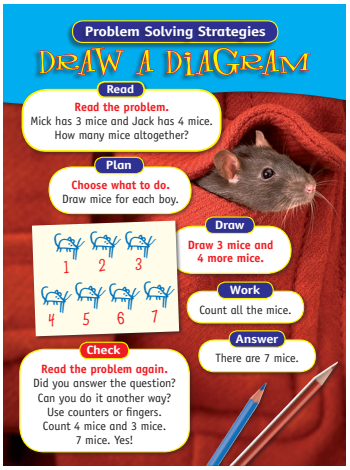
Read, Plan, Work, Check

READ the problem all the way through.
WHAT is asked? **Underline** key words.
Name the thing that will be in the answer, eg elephants.

PLAN how this is to be done. Write a number sentence (equation) to fit the plan.

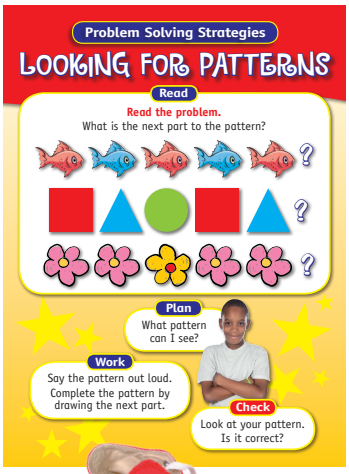
WORK out the answer and write it fully.
12 elephants are in the train.

CHECK the answer. Does it make sense?



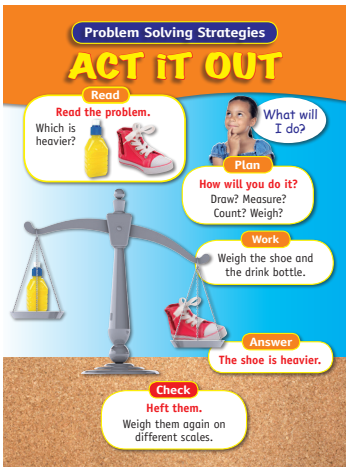
Draw a diagram

Draw a picture of **what is known at the beginning**. This is the first step to using logic. Students should develop the ability to simplify drawings into diagrams. Arrows, lines to cut and separate, boxes, tally marks and cross-outs can all denote items and actions. Numbers may accompany diagrams towards the end of the task.



Look for patterns

Drawing a diagram or making a list will sometimes reveal a pattern. If students notice a pattern forming it will help them determine what action to take to complete the solution.



Act it out

This strategy involves students in some action in order to find an answer. It can involve the use of concrete materials, eg counters or blocks and with very young children, actual objects, eg shoes, socks. Acting it out may involve moving objects, cutting or arranging and rearranging or even using people. This strategy helps students to clarify ideas and gain confidence.

The **Students' Open-ended Problem Solving Rubric** assists teachers to assess students' achievement in various areas of the problem solving process and to report them effectively.

The **Students' Working Towards the Proficiency Strands Rubric** assists teachers to assess students' achievement in the working mathematically outcomes of the Mathematics syllabus.

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Problem Solving Strategies

How to solve a problem

Read

Read the problem.

7 pumpkins.
3 get eaten.
How many are left?

Plan

How will you do it?

Count on? Count back?
Group? Share?

Work

Work it out.

Cross out 3 pumpkins.

Answer

Count the pumpkins left.

There are 4.

Check

Check your answer.

Explain your answer to a friend.

Problem Solving Strategies

DRAW A DIAGRAM

Read

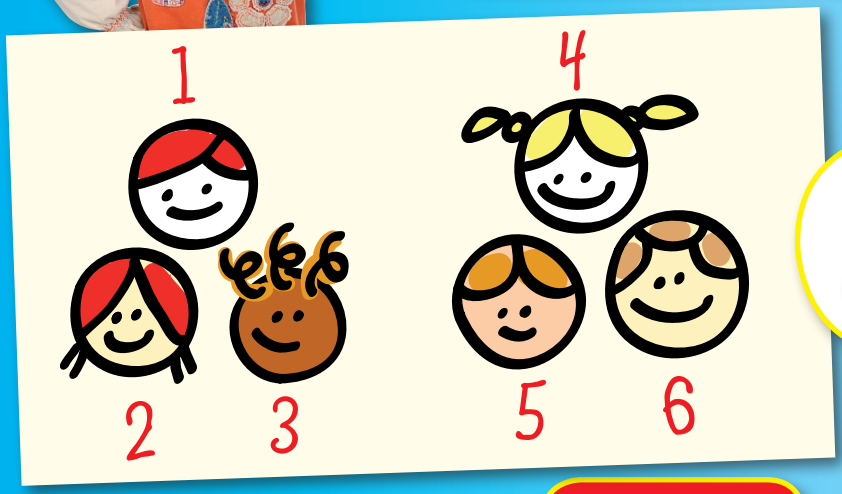
Read the problem.

6 children are in 2 equal teams.
How many are in each team?

Plan

How will you do it?

Think of how to share 6 children.



Draw

Draw 6 children in two groups.

Answer

Count the children in each team.
There are 3 children in each team.

Check

Explain your answer to a friend.

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Problem Solving Strategies

ACT iT OUT

Read

Read the problem.

Which is heavier?

What will I do?

Plan

How will you do it?

Draw? Measure?
Count? Weigh?

Work

Weigh the shoe and the drink bottle.

Answer

The shoe is heavier.

Check

Heft them.

Weigh them again on different scales.

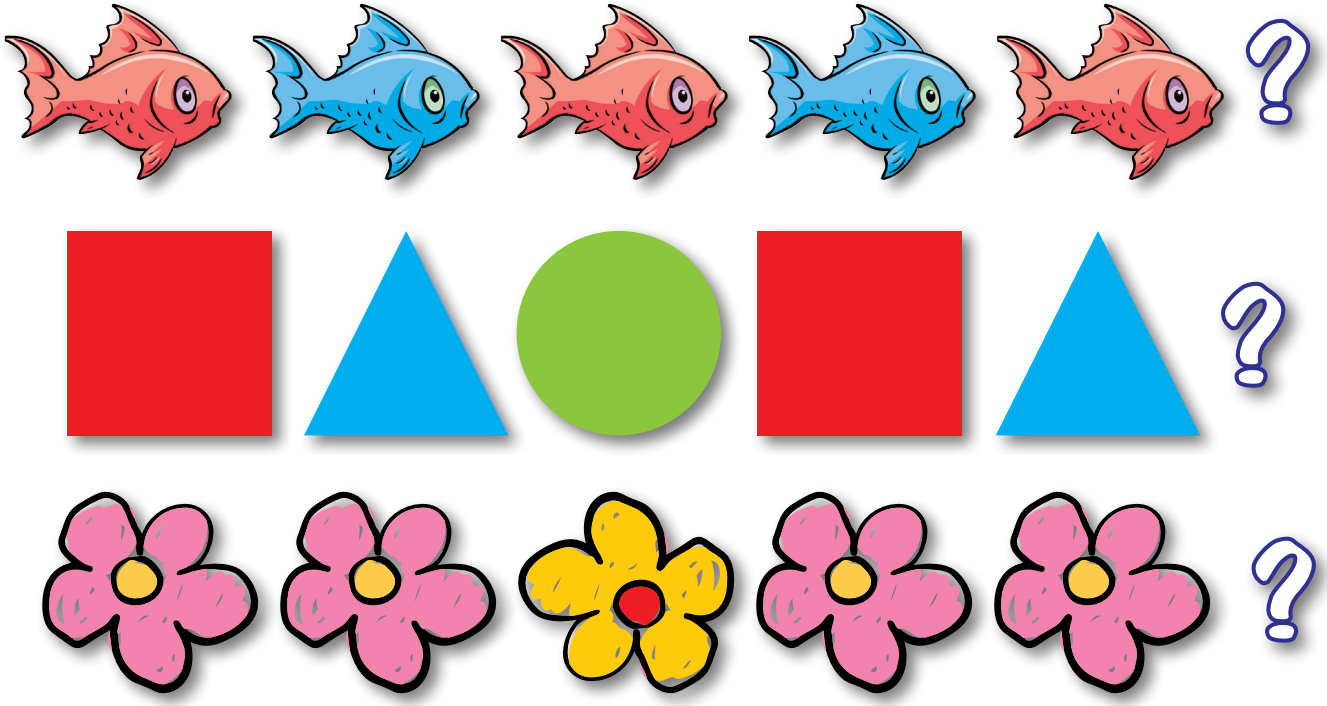
Problem Solving Strategies

LOOKING FOR PATTERNS

Read

Read the problem.

What is the next part to the pattern?



Plan

What pattern can I see?

Work

Say the pattern out loud. Complete the pattern by drawing the next part.

Check

Look at your pattern. Is it correct?

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Problem Solving Strategies

DRAW A DIAGRAM

Read

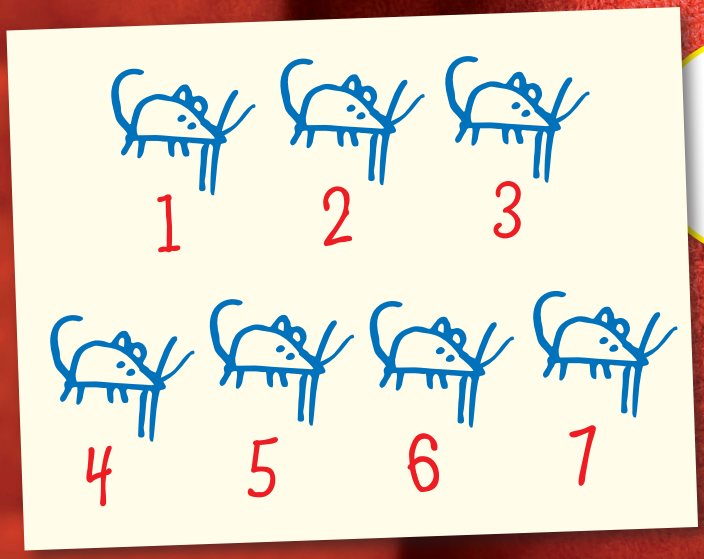
Read the problem.

Mick has 3 mice and Jack has 4 mice.
How many mice altogether?

Plan

Choose what to do.

Draw mice for each boy.



Draw

Draw 3 mice and 4 more mice.

Work

Count all the mice.

Answer

There are 7 mice.

Check

Read the problem again.

Did you answer the question?
Can you do it another way?
Use counters or fingers.
Count 4 mice and 3 mice.
7 mice. Yes!

Foundation • Assessment Record Sheet

Outcomes	Student's name
Number	
AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals	
AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising	
AC9MFN03 quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning	
AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts	
AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies	
AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies	
Algebra	
AC9MFA01 recognise, copy and continue repeating patterns represented in different ways	

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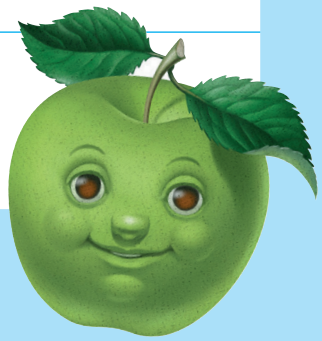
Foundation • Assessment Record Sheet

Outcomes	Student's name
Measurement	
AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning	
AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions	
Space	
AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons	
AC9MFSP02 describe the position and location of themselves and objects in relation to other people and objects within a familiar space	
Statistics	
AC9MFST01 collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situation**s**	

Foundation Outcomes

	Foundation Year Content Descriptions	Targeting Maths F Student Pages
Number	**AC9MFN01** name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals	2, 3, 4, 5, 6, 7, 8, 9, 18, 19, 36, 37, 38, 39, 53, 70, 71, 73, 74, 75, 76, 77, 106, 107, 108, 109, 110, 111, 112, 113, 136
	AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising	2, 3, 6, 7, 48, 96, 112
	AC9MFN03 quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning	38, 39, 72, 74, 118,
	AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts	16, 17, 42, 94, 95, 119
	AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies	14, 15, 16, 17, 26, 27, 40, 41, 43, 48, 49, 50, 51, 62, 76, 77, 94, 95, 96, 97, 118, 119, 120, 121
	AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies	30, 31, 84, 85, 86, 87, 88, 89, 126, 127, 128, 129
Algebra	**AC9MFA01** recognise, copy and continue repeating patterns represented in different ways	12, 61, 63, 64, 82
Measurement	**AC9MFM01** identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning	23, 28, 29, 32, 33, 44, 45, 46, 47, 78, 79, 80, 100, 101, 116, 117, 122, 123, 130, 131
	AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions	22, 24, 25, 58, 59, 60, 98, 99, 114, 115
Space	**AC9MFSP01** sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons	10, 11, 13, 56, 57, 59, 60, 98, 99, 114, 81, 83, 90, 91, 102, 132, 133
	AC9MFSP02 describe the position and location of themselves and objects in relation to other people and objects within a familiar space	65, 66, 67
Statistics	**AC9MFST01** collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations	52, 102, 103, 134, 135



Foundation

Term 1

Student book pages 2–9

Unit 1 Numbers to 10

Unit overview

Students begin learning to read, write and recognise the numbers to five. They count backwards and forwards to and from zero. They go on to learn to read, write and recognise the numbers to ten. By counting and drawing, they show how they can put 10 fish into two bowls.

Foundation Content Descriptions

Number and place value

AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising

Key words

zero, one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, thirty, numerals, number, how many?, more than, less than, tens, ones, bundles of ten, numbers to fifty, fives, altogether, count in tens, total, guess, estimate, estimation, trial and error

Resources

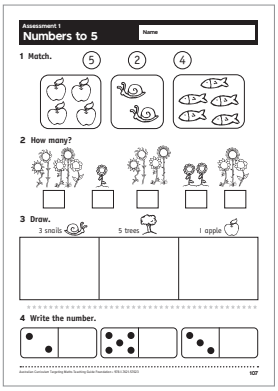
counters, pop sticks, BLM 1, 2 and 5 – copy and laminate for each child and enlarge for teacher use, Mr Mistake puppet, balloons, numeral flashcards, flashcards of dot patterns 1–10, magazines or pictures printed from online, feely bag, opaque bags, containers, large dice, flashcards 0–10, number word flashcards zero–ten, blocks, *The Very Hungry Caterpillar* by Eric Carle, decks of cards, music, *Teddy Bears 1–10* by Susanna Gretz, paper, split pins, cord, pegs, chalk, tape

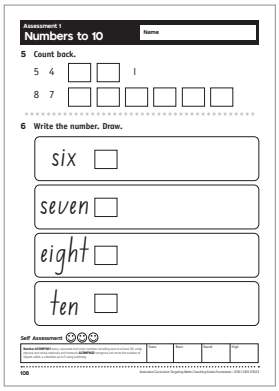
Targeting Maths app K

Numbers to 10

Assessment 1

pages 107–108


Assessment 1
Numbers to 5
Name
1 Match.
5
2
4
2 How many?
3 Draw.
3 snails
5 trees
1 apple
4 Write the number.
107


Assessment 1
Numbers to 10
Name
5 Count back.
5 4
8 7
6 Write the number. Draw.
six
seven
eight
ten
Self Assessment
108

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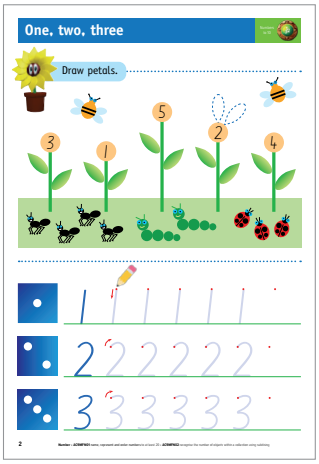
Student book pages 2–3



Teach and discuss

Student page 2 One, two, three

- Children draw the correct number of petals on the flowers.
- Children trace and then write numerals 1, 2, 3.
- Make sure that they start on the red dot.
- Emphasise the correct starting point and direction of movement.
- Take as many opportunities as possible during the day to count to ten with the children.

Student page 3 Four, five

- Count the animals and write the correct numeral.
- Explain that the answer boxes in this book will always be in green. When they see a green box they will know that they need to write an answer in it.
- Children trace and write the numerals 4 and 5.
- Make sure they start on the red dot and emphasise the direction of movement. Take special care with 5.
- Blow up 15 balloons and have children make them into groups of 1–5.
- Introduce the numeral and dot cards from BLM 1. Have children match them to each other. Then ask children to match them to the groups of balloons.
- Attach the cards to the balloons and display.

Oral and mental strategies

Count objects

Have a puppet, and introduce him to students as *Mr Mistake*. Count a group of objects, eg 1, 2, 3, 4, 6. Children correct any mistakes.

Counting fingers

Make a fist and then hold up some fingers. *How many fingers?* Start slowly and then pick up speed, holding up fingers for a shorter time.

Activity bank

Making groups 1 to 5

Children make groups of up to 5 using concrete materials such as counters and pop sticks. Choose a child to do an action involving one to five, eg jump 3 times. Other children copy. Children make their own number books by finding and cutting out pictures found online and printed out. Get children to draw around one hand. Talk about how many fingers they have. Number each finger 1–5.

Number rhymes and stories

Sing rhymes that involve the numbers 1–5, eg *Baa baa black sheep*, *Here is a beehive*, *One, two buckle my shoe*, *Once I caught a fish alive*. Use props if possible and have children dramatise the rhyme. Read or tell children stories that involve numbers 1–5, eg *The Three Little Pigs*.

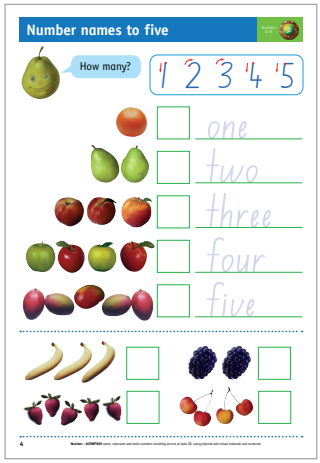
Number sounds

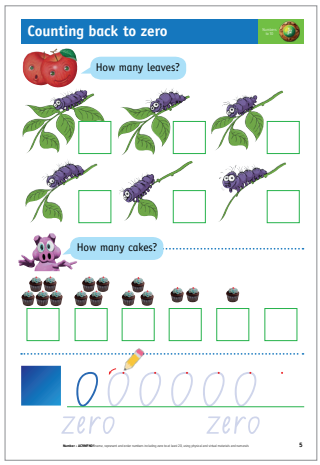
Ask children to close their eyes and listen while you drop blocks into a container. Children say how many blocks were dropped. Repeat with other sounds such as claps, clicks, foot stomps.

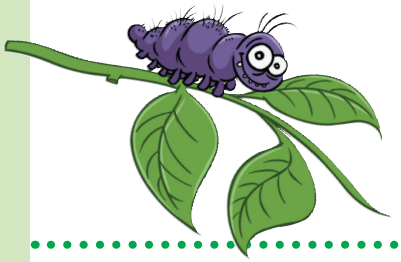
Feely bag

Put a different number of objects into five opaque bags. Children feel the objects and say how many are in each bag.

Student book pages 4–5







Teach and discuss

Student page 4 Number names to five

- Make three sets of large flashcards for the numbers to five using the numerals 1–5, dot patterns and number words (BLM 1).
- Introduce the dot pattern cards first. Count the dots with the children.
- Introduce the numeral cards. Have children match the numeral to its dot pattern.
- Introduce the number words. *Do you know what this word says?*
- Children count the groups of fruit and write the answers in the answer boxes.
- They trace over the number words one to five.

Student page 5 Counting back to zero

- Discuss how caterpillars eat leaves.
- Children count the leaves and write numerals in the answer boxes.
- Children count cupcakes and write answers in answer boxes.
- Children trace over the 0.
- They start at the red dot and emphasise the direction of movement.
- Using BLM 5, colour and cut out the bears. Attach a pop stick to each bear so they can be puppets.
- Introduce the bears for children to count.
- Ask children if they know another word for none, eg zero, nothing. Show them an A4 flashcard of the word zero and an A4 flashcard of the numeral 0.
- Flash flashcards 0–5, zero to five and have children recognise each one. *What does this one say?*

Oral and mental strategies

Mr Mistake counting

Have *Mr Mistake* put objects, eg small blocks, on each flashcard. Children count the blocks on the 'five' card and state if he is wrong.

Finger counting

Make a fist and then 'flash' a number of fingers. Hide the fingers in the fist and ask children now many fingers you held up. Count 0 to 5, 5 to 0.

Activity bank

Outside activities

Outside, walk forward counting 1, 2, 3, 4, 5 then walk backwards while counting 5, 4, 3, 2, 1. Repeat using hops or jumps.

Songs, rhymes and stories

Teach the children lots of finger play counting songs that involve counting back from zero to five, eg *Five Little Monkeys*. Use fingers, or props to visualise the sequence. Sing the songs regularly.

Encourage children to make their own rhymes using numbers 0 to 5. Record as many as possible and say them in class regularly, eg *Let's say Dale's rhyme about the five cars*.

Read *The Very Hungry Caterpillar* to the children. Discuss what the caterpillar ate. As a class write another text with you as the scribe. Children can illustrate the text – make as a book or a wall chart.

Dice games

Get a large 0–5 die or a 1–6 die and cover the numeral or dot pattern for six. If a numeral die, write 0 on the covered side. Encourage the children to play games with the die. eg Take turns rolling the die. *Who has the highest number? Who has the lowest number? Can you throw a two?*

Children take turns to throw a die and pick up the correct number of counters. See who has the most counters at the end.

Match the number

Play in pairs or small groups. Give each child a pile of counters. Flash a numeral, or number-word card for 0 to 5. Children put out the correct number of counters. Check. Flash the cards and direct children to do an action. eg *If I flash five, everyone needs to jump five times.*

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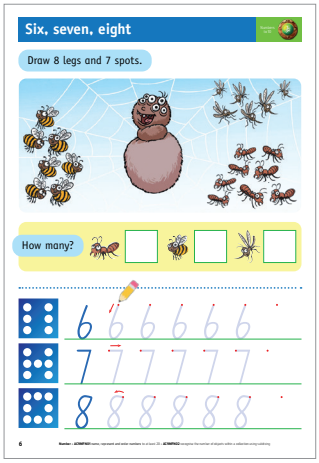
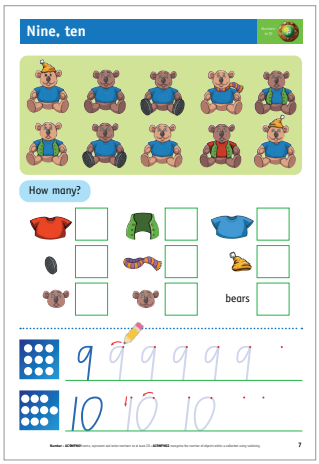
Student book pages 6–7





Teach and discuss

Student page 6 Six, seven, eight

- Children draw to complete the spider. They count the insects and write how many there are in the answer boxes.
- Children recognise dot patterns six to eight and trace numerals six to eight. Emphasise the correct starting point and direction of the movement.
- Make three sets of large flashcards for six to ten using the numerals 6–10, dot patterns and number words (BLM 2).
- Introduce the dot pattern cards first. Count the dots with the children.
- Introduce the numeral cards so children know what the numerals are. Have children match the numeral to its dot pattern.
- Introduce the number words in the same way.

Student page 7 Nine, ten

- Children look at the teddy bears, find how many have different characteristics and write the numerals in the answer boxes.
- Children recognise dot patterns for nine and ten then trace the numerals nine, ten.
- Emphasise the correct starting point and direction of the movement.
- Get the children to help put out ten counters. Have children count as they are being put out. Ask children to say how they are different, the same.
- Ask children to put the same coloured counters together. Count the groups. We have three red counters, two blue, three green counters and two yellow counters. We have ten counters altogether.
- Put out different combinations and count the colour groups.

Oral and mental strategies

Count forwards and backwards

Count fingers with children. Make a fist and show finger groups up to ten. Get children to copy and to say how many fingers are being held up. Ask students to count forwards and backwards to and from this number.

Activity bank

Our number walk

Go for a walk and encourage children to count things. On return to the classroom, discuss what was seen and record their observations. *Kaye saw three dogs. Each dog had four legs*. This can become a class book for children to read.

Card games

Divide the class into teams of four. Provide each with a deck of cards minus the court cards. Children sort the cards, eg hearts, clubs, aces, spades, by numbers. Children can also race each other to see who can put the cards in the correct order one to ten, or ten to one.

Musical pass

Pass numeral cards around the circle. When the music stops each child with a card says what numeral they have. If correct they keep it.

Come and count table

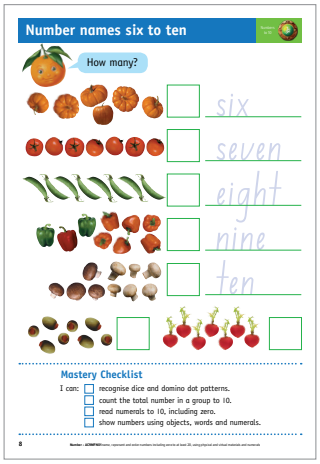
Display groups of objects six, seven, eight, nine or ten. Take as many opportunities as possible to count groups of objects with the children. Make a number line for the floor, eg write numerals one to ten on floor tiles. Children can walk along it counting as they go.

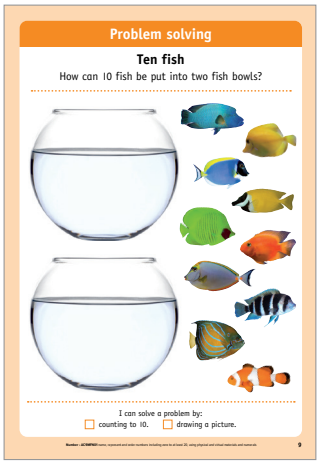
Teddy bears

Use Susanna Gretz's *Teddybears 1–10* as a model and as a class write your own teddy bear book, using BLM 5.

Use coloured paper or get children to colour (suggest ten yellow, ten brown, ten orange). Have children cut out the bears and assemble with split pins. Put the yellow and orange bears away for future use. Count the brown bears with the children. Stretch a cord across the bottom of the whiteboard and peg up the bears. Use for counting forwards/backwards.

Student book pages 8–9





Teach and discuss

Student page 8 Number names six to ten

- Count the vegetables and write the numbers. Trace the number words.
- You need the ten teddy bears made from BLM 5.
- Peg them in groups (from six to ten). Children count the groups.
- Write the numerals 1 to 10 on the teddy bears.
- Muddle them up and choose children to peg them back on the line in the correct order 1 to 10.
- Ask questions. *What numeral comes next?*

Student page 9 Ten fish

Problem solving

- Give pairs of children 10 counters and two pieces of paper to place in front of them. Count the counters with the class. The papers are bowls.
- Tell the children to put the counters into the 'bowls' in any combinations, as long as all ten counters are used.
- Ask them to tell you how they achieved this. Are there different answers from many children?
- Talk about this. Use the language of *more than*, *less than* and *the same* or *equals*. *Which bowl has more, which bowl has less? Who has two bowls with the same number in each?*
- Explain that children will get different answers in their book as well.
- Practise counting the ten fish on the side of the page.
- Ask them to tell you how children might show they are putting a number of fish into a bowl in their book. They could draw them in the bowl, then cross them out on the page.

Oral and mental strategies

Teddy bear number line

Use the teddy bear number line. As a class count forwards, backwards, count on from different numbers. Children close eyes while the number order is changed. Children open eyes and say which teddy bear is in the wrong place. Choose a child to make it right. Children close eyes while a teddy bear is turned around. *What number is missing? How many are in each group?* Trace over number words.

Activity bank

Children in 'bowls'

Ten children assemble at the front of the room. Make two 'bowls' with marks or tape on the floor. Ask the ten children to put themselves into the bowls so that there are different numbers in each bowl. How can they put the same number in each bowl?

Make the number

Have children walk around. You say a number and they have to quickly find other children to make the number.

Outside, use chalk to make number lines 0–10. Put children into teams. Children take turns to run and stand on a given number, eg 6. Run and stand on the smallest number. Run and stand on the number before five.

Match up

Divide the class into small groups. Give each group two sets of flashcards, showing numbers 1–10 in numerals and number words. Have the groups work together to match up the flashcards. When complete ask each group to use materials in the classroom to match the correct number of objects for each flashcard.

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Student book pages 10–13

Unit 2 2D Shapes

Unit overview

Students will learn the names of the square, circle, triangle, rectangle and oval. They identify them from a group of shapes and colour to match. Photographs of real life objects which are shaped like 2D shapes are used to reinforce students' knowledge of these. The shapes are also used in repeating patterns for students to colour, continuing the pattern. They identify and explore closed shapes and curved lines.

Foundation Content Descriptions

Space

AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons

Key words

square, circle, triangle, rectangle, oval, match, shapes, pattern, repeat, colour, closed, open, curved, straight

Resources

multi-attribute blocks, opaque bag, sponges, pegs, magazines and pages printed from online, puzzles, construction toys, printing pad, paper, *Shapes* by Jan Pienkowski, *Shapes* by Gwenda Turner, cooking ingredients, cut out shapes, flashcards of 2D shapes, assembled teddy bears from BLM 5, vegetables, Mr Mistake puppet, glue, camera, painting crafts, string

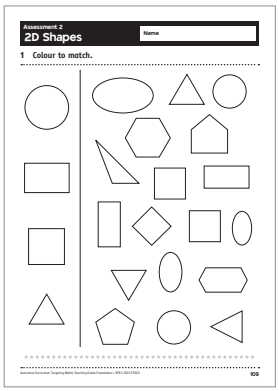
Targeting Maths app K

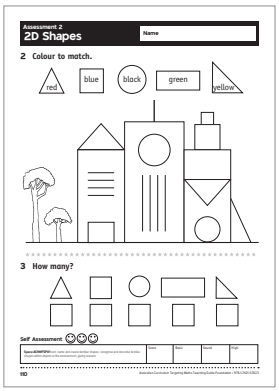
2D shapes

Patterns

Assessment 2

pages 109–110


Assessment 2
2D Shapes
Name
1 Colour to match.
109


Assessment 2
2D Shapes
Name
2 Colour to match.
red
blue
black
green
yellow
3 How many?
Self Assessment
110

Student book pages 10–11

Teach and discuss

Student page 10 2D shapes

- Identify different 2D shapes and colour code them.
- You need a set of multi-attribute blocks. Scatter blocks on a mat.
- Ask children if they can see a circle. Everyone who says yes goes and takes a circle and returns to sitting in the circle.
- Repeat for other shapes.
- Ask children to look around the classroom to find an item for each shape in front of them. Choose children to go and get the items.
- Pack up the shapes by asking for all the circles, all the rectangles etc.

Student page 11 2D shapes

- Identify shape of environmental objects and match to 2D shape names on the page.
- Ask children for all the names of shapes they can remember.
- Write these on the board.
- *Do some objects in our room have more than one shape in them?*
- Play *I spy* with shapes, not letters. *I spy with my little eye, something that is a circle and is blue.*
- Identify shape of environmental objects and match to 2D shape names on page.
- Capable students may write the shapes under some of the real life objects, eg circle under the clock.

Oral and mental strategies

Shapes in a bag

Put 20 shapes into an opaque bag. Pass the bag around the circle and ask each child to take a particular shape out of the bag. Students explain the key attributes and name their shape.

Activity bank

Cook and play

Provide opportunities for the children to play with puzzles and construction toys to develop an awareness of shape.

Cook with the children focusing on shapes. Talk about the shapes and then eat them, eg pizza (circle), fairy bread (triangles).

Shape printing

Cut small thick sponges into 2D shapes. Cut two slots in the top about 1 cm deep and 2 cm apart, for a peg to clip into. Clip clothes peg to top of sponge to act as a handle. Press sponge shapes into a printing pad, remove, stamp onto paper.

Books

Look at *Shapes* by Jan Pienkowski and *Shapes* by Gwenda Turner, with the children. Provide shapes for children to draw around.

20 shapes

Children work in small groups. They look through magazines or print out pictures online of about 20 shapes. These can be cut out and pasted onto sheets of paper that have been labelled with shape names. Display.

Shape snap

Put students into groups of four and give each group a set of flashcards showing 2D shapes in various colours and sizes. Children use the 2D shape flashcards to conduct games of snap.

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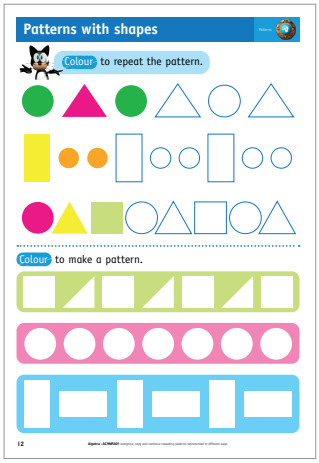
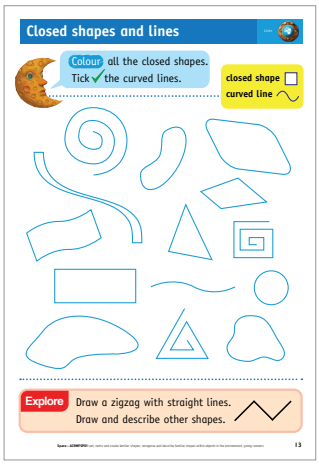
Student book pages 12–13





Teach and discuss

Student page 12 Patterns with shapes

- Colour the shapes to repeat the patterns. Colour to make patterns with shapes.
- Ask five children to come out to the front. The 1st faces the class, 2nd faces the board, 3rd faces the front, 4th faces the board etc. I am making a pattern using children. *Who can tell me where the next child should face?* Ask children to explain the pattern. Have children come out to continue the pattern.
- Use assembled teddy bears. Use two colours, eg yellow and orange. Make a pattern, eg yellow, orange, yellow, orange.
- Or use all one colour, moving the bears' legs to make them different. Make a pattern standing, sitting, standing, sitting. Children say what the pattern is and continue it.
- Ask the class to suggest more patterns using the children.
- Now use cut-out shapes of squares and triangles in place of children or teddies.
- Read the pattern by saying *Square, triangle, square, triangle*.

Student page 13 Closed shapes and lines

- Close and open the classroom door as an example of a closed space and an open space.
- Discuss other examples of closed and open spaces the children may be aware of eg they may close their gate at home to keep their dog inside, they may open the bird cage to let their bird out, pool gates are closed to keep people out, farmers close their gates to stop their animals from escaping.
- Draw a closed shape on the board and draw a dog inside it. *The dog is inside this closed yard. It can't get out.* Erase part of the shape. *If I open part of the shape, it can get out.*
- Draw some other open and closed shapes on the board. Children identify which shapes are closed and which are open.
- Have children take turns to draw open and closed shapes on the board.
- *Lines are not closed shapes. Lines can be straight or curved.* Draw some straight and curved lines on the board. Children identify which are straight and which are curved.

Oral and mental strategies

Sound patterns

Make a sound pattern, eg two fast claps, one slow clap. Children copy. Make other sound patterns. Make action patterns, eg two hops, two jumps. Have *Mr Mistake* continue patterns incorrectly. Children identify the mistakes. Draw patterns on the board. Children draw the next term.

Activity bank

Printing patterns

Provide opportunities for children to do sponge, vegetable and hand printing for them to experiment with pattern making. Children draw patterns or do texture rubbings of patterns. Take photos of patterns you find. Share findings with class and record in a book.

Shape patterns in the environment

Take the children out into the playground and see if they can identify any patterns around the school. It could be a pattern in the bricks, chain links in a fence, types of trees etc. Have them draw some of these patterns. Come together at the end of the class and discuss what you found.

Pattern swap

Give each child some paper and multi-attribute blocks. Have them trace around the blocks to create patterns similar to those on page 12. Once they have completed their patterns get them to swap them with a friend. Have the friends make a colour pattern for the shape pattern created. Children can compare their patterns at the end of the lesson.

Human patterns

Print out some large coloured shapes onto A4 paper. Have each child come up and choose a shape, and stick it to the front of their shirt. Take your 'shapes' out into the playground and assemble them into groups. Have the groups form different sorts of patterns. Take photos of all the 'human' patterns the class creates.

Student book pages 14–17

Unit 3 Addition

Unit overview

In this unit, students will learn to add numbers to 5 using concrete materials or drawings. They draw more objects to add, colour counters, count counters and match to diagrams and answers and draw more dots on dominoes to make a total given in number form.

Foundation Content Descriptions

Number and place value

AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts

AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies

Key words

one–ten, how many?, more, match, add, addition, altogether, make, combinations, different

Resources

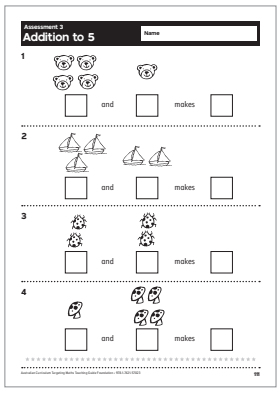
ten assembled teddy bears from BLM 5, counters, beanbags, A4 paper, Mr Mistake puppet, pencils, blocks, camera, play dough, pop sticks, opaque bag, small blocks

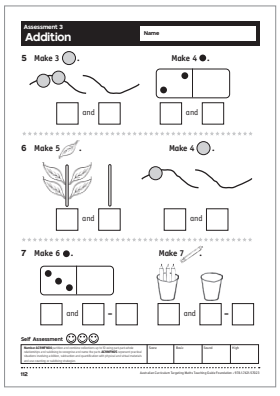
Targeting Maths app K

Add to 10

Assessment 3

pages 111–112


Assessment 3
Addition to 5
Name
1
and
makes
2
and
makes
3
and
makes
4
and
makes


Assessment 3
Addition
Name
5 Make 3 . Make 4 .
and
and
6 Make 5 . Make 4 .
and
and
7 Make 6 . Make 7 .
and
and
Self Assessment

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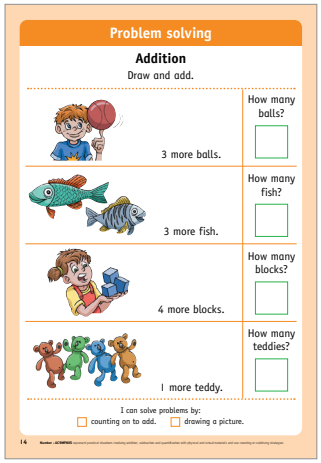
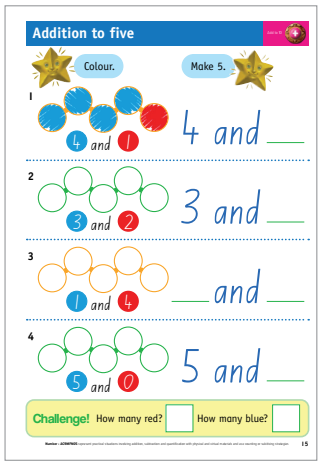
Student book pages 14–15





Teach and discuss

Student page 14 Addition

Problem solving

- You need ten assembled teddy bears from BLM 5.
- Put out two teddy bears. *Two teddy bears went for a walk*.
- Put out three more teddy bears. *They met three more teddy bears. How many teddy bears altogether?*
- Start with addition stories to five and increase to ten.
- Children will draw 3 more balls, then count the total number of balls to write in the answer box.
- Continue with other tasks.
- Capable children may add up all the drawings that they made. *How many extra things did you draw?*

Student page 15 Addition to five

- Colour to find combinations for five. Challenge! Count to see how many there are of each colour.
- Children need ten counters, five each of two different colours.
- Call out a number 0–5 and have children put out that number of counters, eg four.
- Then call out another number, eg one. Children put out one more counter.
- Ask what number was found. Discuss how four and one makes five.
- Call out other combinations for 3, 4 and 5.

Oral and mental strategies

Adding to 5

Use the teddy bears to make more problem stories. *Mr Mistake* answers some incorrectly. Children correct the errors. Make a fist and show, eg two fingers. *How many more fingers do I need to make 5?* Count on and show 5 fingers altogether.

Play verbal games for 0–5. eg *Who can make four?* Children give suggestions, eg 4 + 0, 2 + 2. Check by using counters. Use language such as 'and', 'more', 'add'.

Ask *Mr Mistake* to make suggestions, eg 4 + 1. Children say why he is wrong.

Activity bank

Hidden objects

Place five objects on the floor. Count them with the children. Cover the objects. *I am going to add two more blocks. How many will there be altogether?* Uncover and count.

Target throwing

Draw targets, eg circles in the playground. Divide each target into parts and number the parts 1–5. Put groups of blocks into each part to correspond with the numbers. Children throw two beanbags onto a target. They add the blocks to see who has the highest total.

Problem books

Make a class addition storybook. Children make up an addition problem, write it in the book and illustrate it. Make sure that the answer is hidden while the problem is being read. Encourage children to read the book often.

Number line

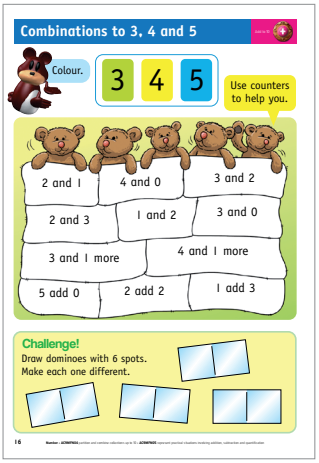
Use a large number line that children can stand on. Choose a child to stand on five. Take two steps. *What number are you on now? How many more steps do you need to get to ten?*

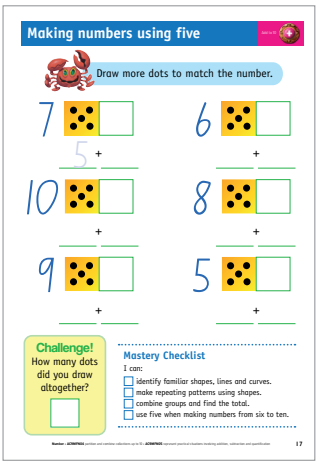
Making five

Model for students different ways of making five using objects differentiating between the two groups using colours or size, eg. *Four red counters and one yellow counter makes five counters altogether*. Discuss recording these models of five. Encourage the use of photographs, audio notes, drawings and paintings to display their different models.

Give children a range of materials counters, play dough, pop sticks, pencils, blocks, etc. Have them model addition to 5 with their materials. For students who need extending, allow them to explore the different ways they can add to ten. 5 pop sticks plus 2 pop sticks makes 7 pop sticks.

Student book pages 16–17





Teach and discuss

Student page 16 Combinations of 3, 4 and 5

- Solve simple addition problems to five using concrete materials if needed.
- Draw different dot patterns to make six.
- Use counters instead of teddies to show groups to add.
- Ask the children to show 3 teddies and 2 teddies with counters.
- Write 3 and 2 on the board. Count and get 5 teddies altogether. 3 and 2 is 5.
- Ask a child at the board to write. Have children from the class call an addition of counters they have made in front of them. Child at the board writes the correct sentence, eg 4 and 1.
- Children will colour the brick in the wall to match the colour of the answer, ie all answers of 3 will be coloured green.

  Challenge! Allow children to work ahead to draw spots on the dominoes to total 6. Can they find enough ways to use all the dominoes?

Student page 17 Making numbers using five

- All children need counters. You call out a number and they are to show you different ways to make that number in two groups, eg 7 could be 4 counters and 3 counters.
- Ask for children to tell you their combinations.
- *Who has put the biggest number first? eg 5 and 3 make 8*
- *Who puts the biggest number last? eg 3 and 5 make 8.*
- *Does it matter what comes first? Is the answer still the same?*
- In their books, children will make the written number with more dots and record how many they added on.
- Children draw dots to complete combinations for 5–10.

  Challenge! *Count up how many dots you drew altogether. How could this be told in a number story?*

Oral and mental strategies

Teddy bears count

Use the teddy bears to make more 'problem' stories to ten. *Mr Mistake* answers some incorrectly. Children correct the errors. Provide opportunities to play board games which require counting on.

Activity bank

Real problems

Encourage children to solve real problems in the classroom using real objects, eg *There are four red pencils and three green pencils. How many pencils altogether?*

In the bag

You need an opaque bag and some identical objects, eg small blocks. With children watching, put in, eg two blocks. Show children you're going to put in another two blocks. Children have to say how many blocks are now in the bag. Take them out and count them.

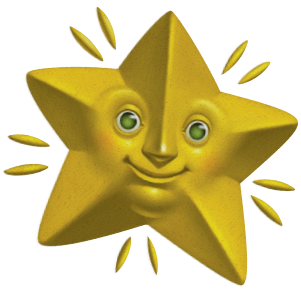
Patterns

Children need counters, a sheet of paper and coloured pencils. Ask children if they can find any interesting patterns for five using two different colours. Children record and share their findings.

Bear game

Use BLM 5 to make 5 teddy bears. Cut A4 paper into four to make flashcards:

1 and 0
1 and 1
1 and 2
1 and 3
1 and 4
2 and 0
2 and 1
2 and 2
2 and 3



Jumble the flashcards and put in a pile face down. Choose children to pick up a flashcard and put out the correct number of teddy bears. See if they can solve the problem before putting the bears down.

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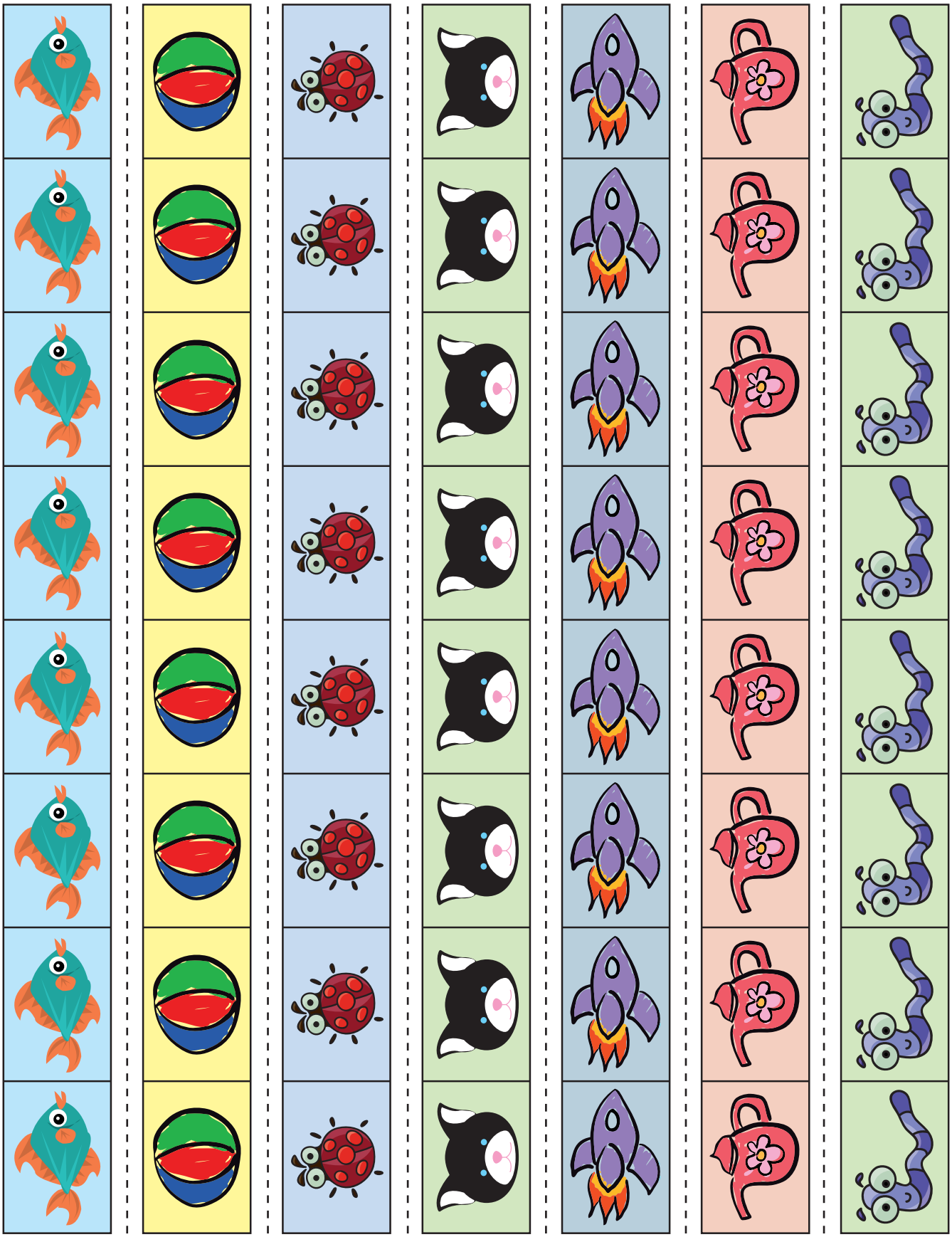
Picture rulers

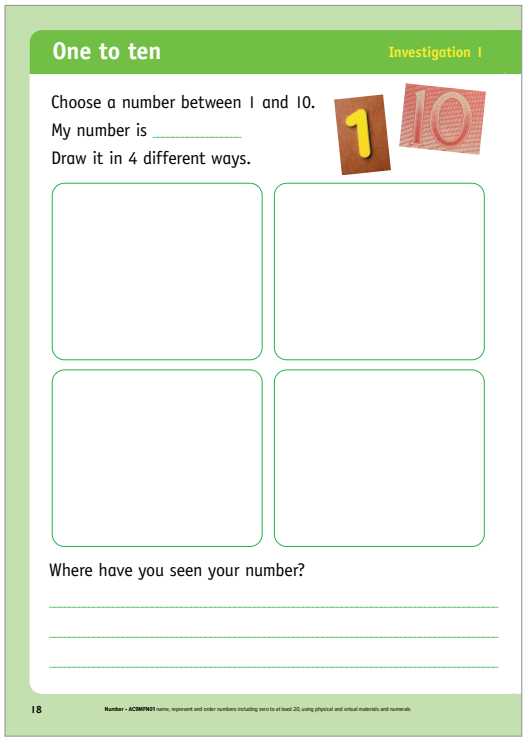


Student book pages 18–19

Investigation 1 One to ten

Overview

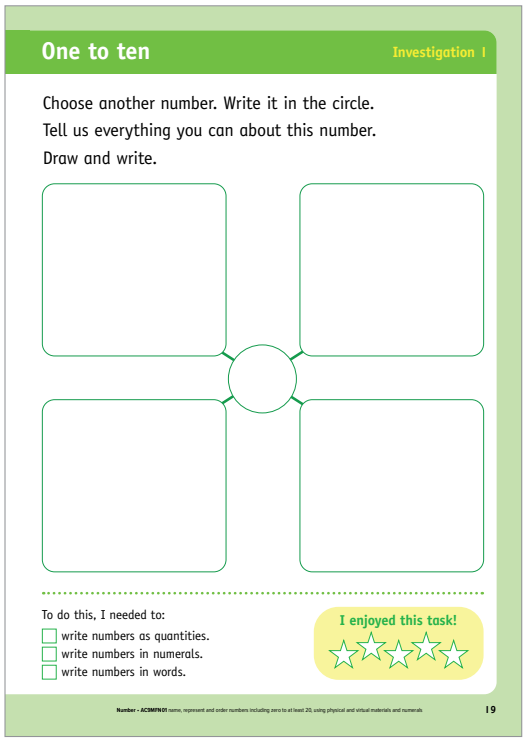
Students will observe and record the use of numbers in many different places and contexts. They can look at the style of writing numbers, where numbers are used, what different meanings the number can have and their importance in everyday life.


One to ten Investigation 1

Choose a number between 1 and 10.
My number is _____
Draw it in 4 different ways.

Where have you seen your number?

18 Number - AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals


One to ten Investigation 1

Choose another number. Write it in the circle.
Tell us everything you can about this number.
Draw and write.

To do this, I needed to:
- write numbers as quantities.
- write numbers in numerals.
- write numbers in words.

I enjoyed this task!

Number - AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals 19

Foundation Content Descriptions

Number

AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

Key words

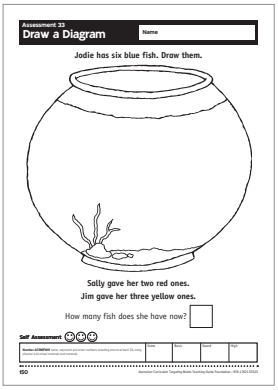
number, different, five–ten

Resources

books to find numbers in, photographs of different numbers in different places, counting books from the library, eg *One Woolly Wombat* by Rod Tricia and Kerry Argent, art paper, pages of numbers found online

Assessment 33

page 150


Assessment 33
Draw a Diagram
Name

Jodie has six blue fish. Draw them.

Sally gave her two red ones.
Jim gave her three yellow ones.

How many fish does she have now?

Self Assessment

150

Student book pages 18–19

Investigate

Where and how numbers are used and what they mean in different places.

Skills

Observing and remembering, drawing and writing the numbers 1–10.

Teach and discuss

Student book page 18 One to ten

- Show pictures of houses, offices, entrances, letterboxes etc. to gather information on where we find numbers being used.
- Look in books for numbers used to find things, like page numbers.
- Discuss numbers on cars. *What are they for?*
- *Why do we find numbers so important?*
- *What are the special numbers about you?* Ask children to talk to a partner about their address number, their phone number, their age, their birthday.
- Talk about the shapes on numbers. *Who likes curvy numbers? Who likes straight numbers?*
- All children must choose a number between one and ten and think of different ways to show it. Allow creativity in the responses children make to this task.
- In small groups of three or four, have children show and talk to others about what they have drawn, what it shows about their number and why they chose that number.
- Take the children on a walk around the school for them to find their number. Have them count how many times they see it.
- On return to the classroom, talk about new things which children discovered about the places where numbers are used.

Student book page 19 One to ten

- Quickly review the ideas from page 18.
- Children will choose another number and write and draw other things which they know about it.
- Encourage new ideas about their numbers.
- Bring class together for meeting of ideas.
- Have a report-back session with a small group. Children tell each other where they see the number, why they chose it, what their drawing shows.
- Ask a member of a group to report back to the whole class about someone else in their group.

Oral and mental strategies

Numbers in the environment

Give some clues about where you saw a number in the school. Have the children guess what the number is and where you saw it.

Pretend you are a number and talk about how important you are and why. Have the children guess which number you are.

Activity bank

Number cut-out collages

Print out pages of numbers found online. Children cut out the numbers for a given time limit, eg five minutes, working with a partner. They paste them onto a half sheet of art paper, or if the numbers are small, a smaller piece of paper. Add a coloured border and hang in the classroom.

Outdoor walk-around

After completing page 18 of the investigation, take children on a walk around the school to look for numbers. When you find some, take note and talk about them. Children can write them down.

Decorate my number

On half an art paper page, give children a large outline of their number. They should decorate the number in any way they feel suitable; with stars, rainbow colours, designs, patterns, pictures. Hang them in the classroom.

Number songs

Make a collection of counting songs: *Ten Green Bottles*; *Mother Duck*, …

Sing these during lesson breaks. As their number is mentioned, children could hold up their decorated number.

Student book pages 22–25

Unit 4 Time

Unit overview

Students begin the unit by reviewing day and night as times for certain activities. They will identify which activities suit each part of the day. Also, after and before lunch are used to describe morning and afternoon. Longer and shorter are used to describe the duration of activities with which students are familiar. Students use the days of the week and relate to yesterday and tomorrow. They illustrate days of the week according to things they like to do on these days.

Foundation Content Descriptions

Measurement

AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions

Key words

day, night, night-time, daytime, before, after, morning, afternoon, longer time, shorter time, yesterday, today, tomorrow, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, weekdays, weekend days

Resources

pictures of animals and humans moving fast and slow, egg timer, string and threading beads, balls, beanbags, stopwatch, A4 paper, dress up clothes, story books about a child's daily routine, eg *Moonlight, Sunshine* by Jan Ormerod, *Boss for a Week* by Libby Handy, *Today is Monday* by Eric Carle, Lucy and *Tom's Day* by Shirley Hughes, pages of images found online and printed, calendars, diaries, phones/tablets/computers, flashcards for days of the week

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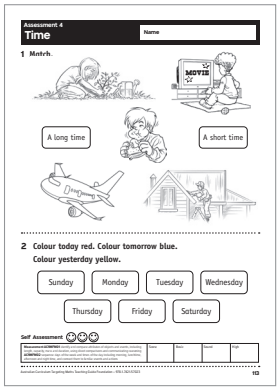
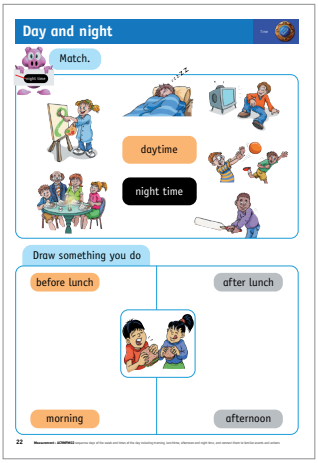
Time

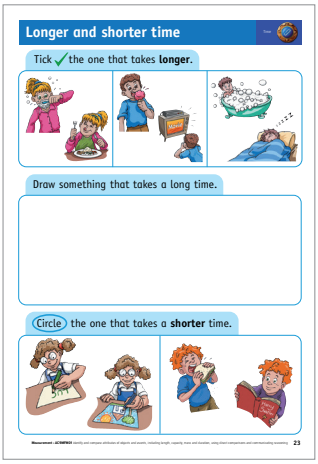
Assessment 4

page 113


Assessment 4
Time
Name
1 Match.
MOVIE
A long time
A short time
2 Colour today red. Colour tomorrow blue.
Colour yesterday yellow.
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Self Assessment

Student book pages 22–23





Teach and discuss

Student page 22 Day and night

- Children match the activities to the correct time.
- They draw a morning (before lunch) and an afternoon (after lunch) activity.
- Hold a class discussion about our day. *What do we do during a school day?*
- Some activities which can be done at night or day will have two matches, eg watching TV.
- *What do we do during the night? How do daytime and night-time activities differ?*
- Discuss how some people, eg nurses, taxi drivers, work at night and have to sleep during the day.
- Discuss animals, eg owls that sleep during the day and are active at night.
- Introduce the word *nocturnal* and find other Australian animals that are nocturnal.

Student page 23 Longer and shorter time

- Children tick the activities that take longer to perform.
- They draw an activity that takes a long time.
- Children circle the activity that takes a shorter time.
- Talk about the things you do at school. *Which ones take a long time? Which ones take a short time.*
- *What is the longest time that you can remember for one thing?* Record these in a list on the board.
- *What is the shortest time that you can remember doing something?*
- *Are all long times the same? Are all short times the same?*
- *What might be a short time for some and a long time for others?* Discuss.

Oral and mental strategies

Clap to count

Clap hands slowly and count to ten. Repeat counting to ten quickly. Which way took the longer/shorter time? Do other things that happen quickly and slowly, eg sing a short song, jump 8 times on the spot. Discuss longer and shorter.

Activity bank

Speed

Discuss how animals move, eg gallop, slither, crawl, fly. Discuss human movement, eg run, crawl, skip. Talk about speed. Make a list of fast and slow movements for both animals and humans. Children dramatise the movements.

Find pictures to compare speed and write speed stories. eg The snail moves more slowly than the rabbit.

Who can?

Bounce the ball the most times before they miss?

Catch the most beanbags without dropping one?

Hop the most times on one leg without overbalancing?

Sing

Sing *This is the Way* to the tune of *Here We Go Round the Mulberry Bush*. Children suggest things they do during a day: eg This is the way we clean our teeth before we go to school. This is the way we go to sleep so we can have a rest, etc.

Egg timer

Children count actions before the sand runs out on an egg timer. eg How many beads can you thread? How many dress-up clothes can you put on?

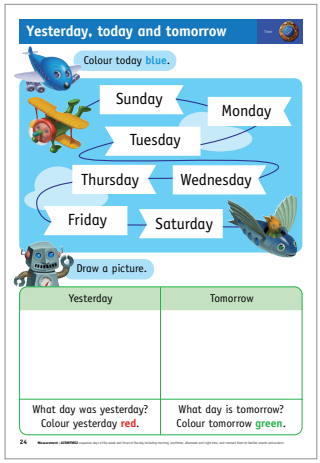
Hot potato

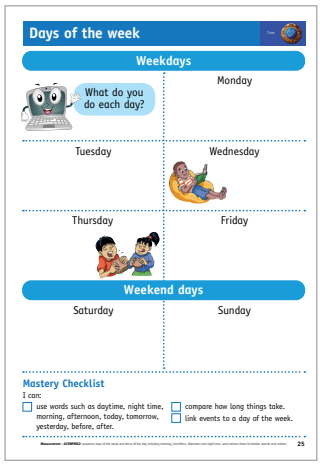
Set a timer, eg 20 seconds. Children pass a hot potato (a beanbag) around the circle. The aim is not to be holding the hot potato when the timer goes off.

Longer or shorter

Discuss with the class, activities they do together each day. Use examples that relate to the entire class like eating lunch together, changing home readers, singing the national anthem, etc. Choose one of these activities and draw/ find an image/ photograph of the class completing this activity. Divide the board in half on either side of the image. Label one half 'shorter' and the other 'longer'. Have the class suggest daily activities that take a longer or shorter time than this activity, and write them up on the board.

Student book pages 24–25





Teach and discuss

Student page 24 Yesterday, today and tomorrow

- Make flashcards for days of the week.
- Ask children to name the days of the week.
- Show the flashcard for the days they name.
- Ask what day it is today. Show the flashcard.
- Ask what day is it tomorrow. Have a child come and find the correct flashcard and display.
- Ask what day it was yesterday. Have a child find the correct flashcard and display.
- In their books, recognise what day it is today. Colour it blue.
- Draw something to illustrate an event yesterday and one for tomorrow.

Student page 25 Days of the week

- Show a 'days of the week' flashcard and ask *What do we do on this day?*
- Repeat with other cards for other days.
- Have a child choose an activity and have others guess which day they are thinking of.
- Go right through the week in order and identify things the class is familiar with doing on those days. This will vary.
- In their books, children will draw their choice of activity for each day.
- Review how each child's ideas will be different. Why?

Oral and mental strategies

Day of the week

Show flashcards one at a time and children say the days of the week.

Activity bank

Baby photos

Encourage children to bring in photos of when they were babies and photos of themselves now. Talk about what they can remember when they were younger.

Make a Birthday Chart for the whole class.

Books

Look at Jan Ormerod's books *Moonlight*, *Sunshine* which depict a child's daily routine. Read *Boss for a Week*, Libby Handy, *The Very Hungry Caterpillar*, Eric Carle and *Lucy and Tom's Day*, Shirley Hughes. Find books about life cycles.

Daily talk

Every day talk about what day it is and what day it will be/was tomorrow and yesterday.

Give small groups of children pages of images found online and printed out to find pictures that illustrate what they do during the week. Cut out pictures and paste into books. Come together and share. eg We go to school on Mondays. We go to football on Saturdays.

Life cycles

Discuss life cycles and the changes that time brings about.

Calendars

Talk about how we can find out what day it is, eg calendars, diaries, on phones, tablets and computers.

Weekly menu

Read Eric Carle's book *Today is Monday* and discuss the food the children eat each of the days.

Make a simple chart for students to draw their lunch for the week and ask them to take it home over the weekend to record their lunch. *Do you eat different things on weekdays to weekends? Who do you eat with on weekdays? Who do you eat with on weekends? Where do you eat on weekdays? Where do you eat on weekends?*

Students could use colours or symbols to help distinguish weekdays from weekends.

Unit 5 Subtraction

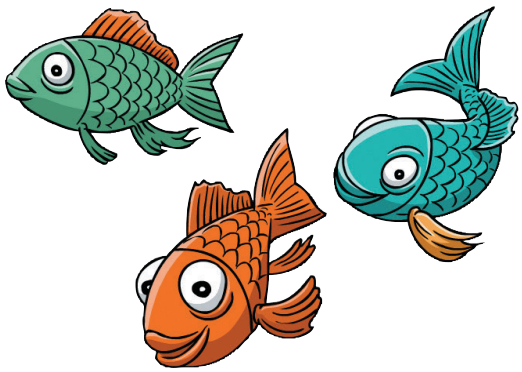
Unit overview

In this unit, students encounter subtraction as a process of taking away. Using illustrations as visual clues, they see objects going away and count those remaining. Then students see a group and work out how to take one or two away from the picture.

Foundation Content Descriptions

Number

AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies



Key words

take away, how many left?, subtract, subtraction, match

Resources

clear container, blocks, 5 bottles, outlines of dinosaurs showing teeth

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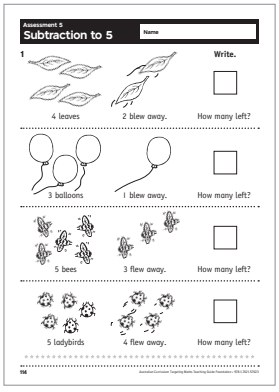
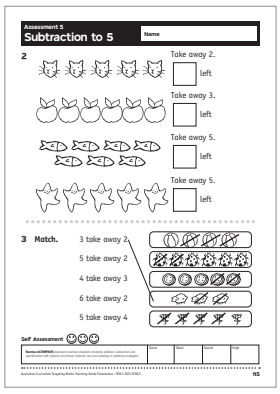
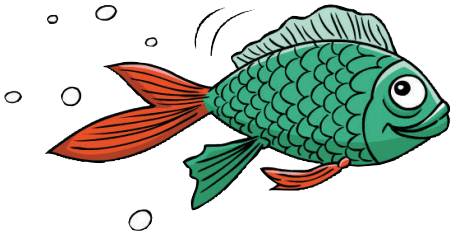
Subtract to 10

Assessment 5

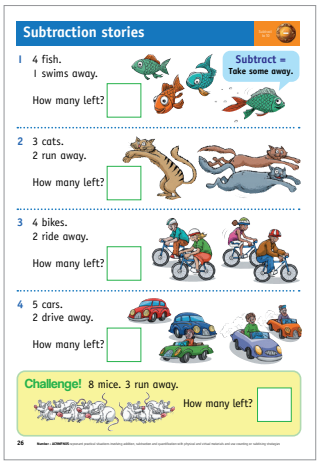
pages 114–115

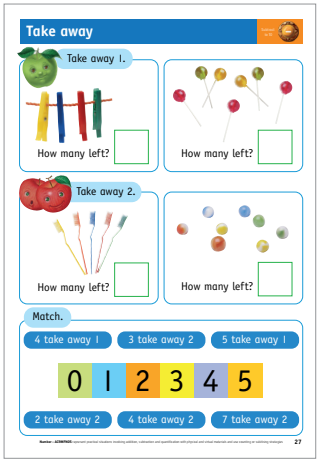






Student book pages 26–27





Teach and discuss

Student page 26 Subtraction stories

- Do simple subtraction problems to find how many are left using visual clues.
  Challenge! Use visual clues to do subtraction involving a group of eight.
- Use objects from around the classroom to create and model subtraction stories. e.g. *4 pencils, 1 falls to the floor. How many pencils?*

Student page 27 Take away

- Write numbers only on the board and match with visual clues.
- Ask *What will I draw for 4 take away 3?* Draw a visual clue chosen by the children.
- Count the items remaining when 3 are taken away.
- Continue to take numbers away from up to 7 and find how many left using visual clues.
- Practise taking away with no pictures. Children may use fingers or counters.
- Read subtraction problems without visual clues and match with numbers.

Oral and mental strategies

Subtraction stories

Have plenty of practice at simple subtraction problems. Use classroom objects, eg *At the Lions table there are seven children but two are absent today. How many are left?*

Encourage the children to pose oral problems for the class to solve.

Activity bank

Real problems

Encourage children to solve real problems in the classroom using real objects. eg *There were three empty chairs and Patrick sat on one. There are now two empty chairs.*

Make class problem books (more able children can make their own). Children suggest subtraction problems 0–5. They are encouraged to 'read' these books.

Games

Have the children in a line across the playground. Ask them to take five steps forward, one step back, three steps forward etc. Check to see if children are going forwards and backwards correctly.

I am thinking of. Think of a number between one and five and think of a subtraction problem about that number, eg *I am thinking of the number that is three away from four.* First child to say 'one' has the next turn.

Never empty

Have a clear container, and a pile of blocks. The object of the game is never to have an empty bucket. Children can either put in or take out up to five blocks and say what they are going to do, eg *I will take out one. I will put in three*.

Rhymes

Teach the children finger number rhymes that involve subtraction from five, eg *Five Little Monkeys*. Encourage children to make up other versions of subtraction rhymes.

Dinosaur teeth

Make an enlarged image of the outline of several dinosaurs smiling showing ten teeth and laminate to use for this activity. Talk about losing baby teeth and that these grow back as adult teeth. Introduce baby dinosaur Bobby, explaining that Bobby and his friends were all born with ten teeth but are growing up fast. Count the teeth together demonstrating one-to-one correspondence. Explain Bobby is growing up and has lost a tooth, whilst colouring in one tooth with a black whiteboard marker. Re-count the teeth together. *How many teeth are left? How could we record Bobby's teeth?* Repeat with Bobby's friends Billy, Betty, Benny and Biba.

Five green bottles

Make a wall out of some blocks and place 5 bottles on top. Have the children sing the 'Green bottles' song and at the end of every verse, count the remaining bottles in a chant all together. Repeat the verse with one less bottle and continue to count the remaining bottles. Possible ending – *We picked up all the bottles, so there are 5 bottles sitting on the wall!*

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Student book pages 28–29

Unit 6 Mass

Unit overview

Students experience light and heavy objects and use the vocabulary associated with mass. They use hefting as a method to find out which is heavier or lighter. Then they deal with objects they cannot heft so they rely on knowledge of the story of the *Three Bears* to determine heaviest, heavy and light.

Foundation Content Descriptions

Measurement

AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

heavy, light, heavier, lighter, heaviest, lightest, heft, hefting

Resources

various items for practising hefting, equal-arm balance, boxes, food containers to pack, flashcards, blocks

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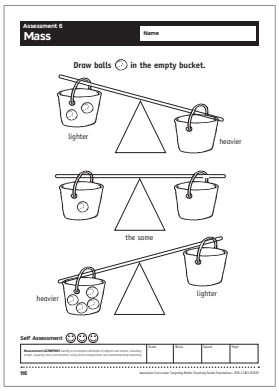
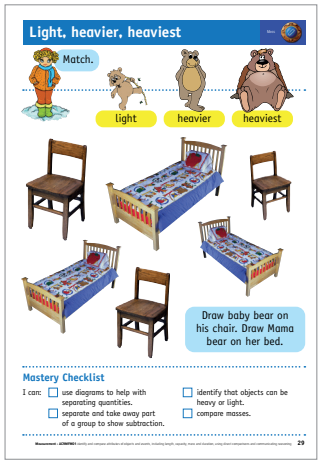
Mass

Assessment 6

page 116


Assessment 6
Mass
Name
Draw balls in the empty bucket.
lighter
heavier
the same
heavier
lighter
Self Assessment

Student book pages 28–29



Teach and discuss

Student page 28 Heavy and light

- Identify the heavy things and mark with a cross and circle the light things.
- Circle the heavier item of the two and then the lighter of the two.
- If children are unsure, have them heft the real objects to compare.
- *How do we tell what is heavier and what is lighter? Heavy things are hard to lift and lighter things are easy to lift.*
- *Do different people find the same things heavy? Let's think about what is heavy for us as children.*
- Role-play lifting heavy things and lifting light things. Notice the difference in actions.
- Model how we tell between two objects, just using our hands. *This is called hefting.*

Student page 29 Light, heavier, heaviest

- Draw lines to match with labels to identify light, heavier, heaviest.
- Draw bears.
- You need three identical boxes with lids, eg shoe boxes, and flashcards showing lighter, heavier, heaviest.
- Put three different materials (with different masses) in the boxes, eg blocks, feathers, a book.
- Ask children to identify the heaviest box. They heft the boxes to answer.
- Repeat using other materials in the boxes.
- Use hefting and other objects in twos and threes for children to identify lighter and heavier (two objects), lightest and heaviest (three objects).

Oral and mental strategies

Heavier and lighter

Gather groups of three objects from the classroom. Children match flashcards (lighter, heavier, heaviest) to the objects. Use the words in sentences. *My bag is heavier than my pencil.*

Activity bank

Mass

Provide opportunities for children to pull and push suitable objects so they get experience in noticing the difference in effort required to push and pull different masses. Provide opportunities for children to carry things of different masses.

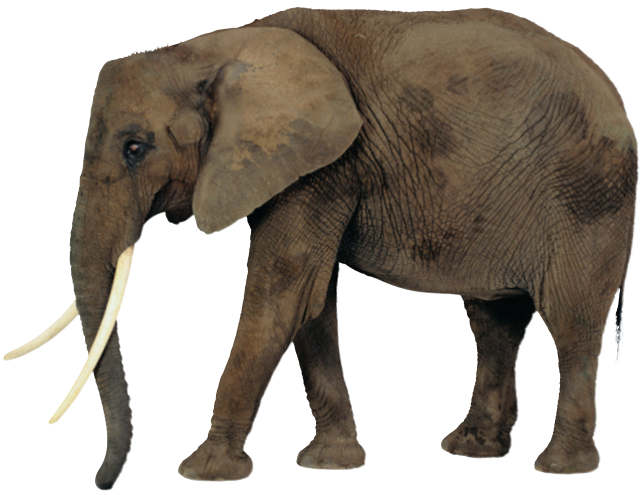
Same size, different mass

Fill identical containers, eg ice-cream containers, with different materials, eg sand, rice, feathers etc, so children can experience 'feeling' different masses.

Equal-arm balance

Children pack different sized boxes into large boxes. Discuss how goods are packaged, eg tins of soft drink, toilet rolls, packets of biscuits. Make the scales balance with different objects.

Have an equal-arm balance in the shop area of the classroom. Encourage its use when children are discussing mass.



Student book pages 30–31

Unit 7 Halves

Unit overview

Students are introduced to the concept of a part of a thing in this unit. The important understanding for the students to gain is that halves are two equal parts. Through real-life pictures of fruits and through diagrams as well, students practise identifying objects which are divided into halves and those which are not.

Foundation Content Descriptions

Number

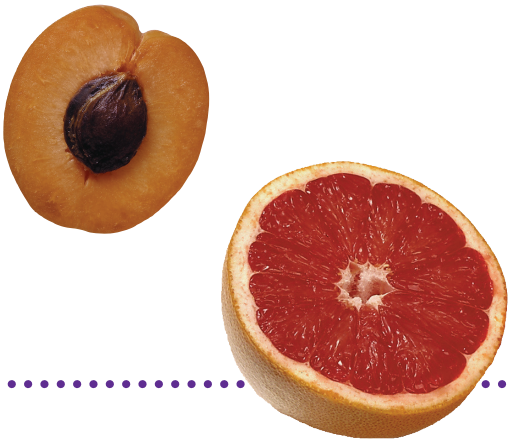
AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies

Key words

one half, each shape, half full, full, halves, equal parts

Resources

rubber bands, geoboards, a sandwich, an orange, an apple, sheets of paper of different sizes and shapes, images of party foods, paper plates



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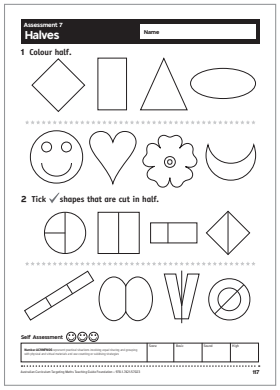
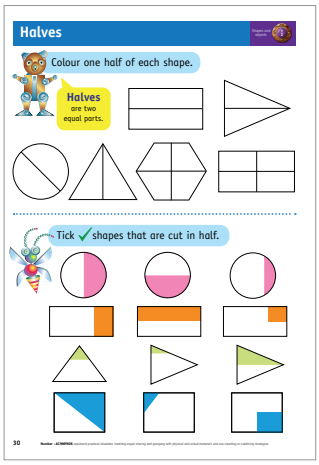
Fractions

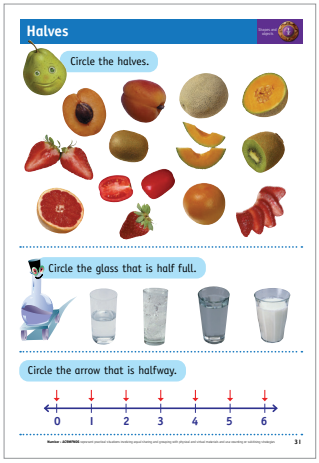
Assessment 7

page 117


Assessment 7
Halves
Name
1 Colour half.
2 Tick ✓ shapes that are cut in half.
Self Assessment

Student book pages 30–31





Teach and discuss

Student page 30 Halves

- Find and colour one half of each shape. Tick the shapes that are cut in half.
- You need an orange, an apple and two sandwiches.
- Cut the orange into two equal parts. *How many parts are there now?*
- Introduce the words half and halves. *We call each part one half. If we put the two halves together we have one whole.*
- Repeat with the apple.
- With the sandwiches, show that they can be cut in halves in different ways – across, down, diagonally.

Student page 31 Halves

- Circle the halves. Choose and circle the glass that is half full.
- *Gran gave me the bigger half! What is wrong with this?* Discuss that if you say half about one of two pieces, they are the same size.
- Talk about the ways we can check to see if the parts are equal.
- Putting one on top of the other or beside or measuring will work.
- *What things do we divide in half? Fruit, sandwiches, cheese blocks, loaves of bread. This is all … food.*
- *What things can't we divide in half? Beds, cars, people, houses.*

Oral and mental strategies

Halving shapes

You need large and small sheets of paper – all regular shapes. Children suggest how each sheet can be cut to divide it into two equal parts. They carry out the suggestions, place the two parts on top of each other and discuss whether they are equal parts.

Activity bank

Halves

Take every opportunity when working with fractions to emphasise one half, eg *We need half a page, so I will cut the page in two equal parts*.

Making halves

Give the children many pieces of paper of different shapes and sizes. They find as many ways as possible to cut the shapes into halves. Make sure that there are some shapes which cannot be halved. Come together and discuss the methods. Ask children to explain the shapes they could not halve. Paste findings onto a poster labelled Halves.

Geo boards

Children work in pairs. One makes a shape using a rubber band. The other then uses another rubber band to try to divide the shape in half. Swap roles.

Tea party for two

Provide for students a range of images of party foods to encourage discussion. Talk about parties and the foods which are eaten. Try to direct the conversation towards whole items, eg fruit, cupcakes, cakes, pizza, sandwiches, rather than multiple items such as lollies and chips.

Students are then put in pairs and given two paper plates. They are given a range of images of party food and need to cut the food evenly into two halves, sharing and gluing each section to a plate.

Students can label the foods and discuss in small groups which were easier/harder to divide into equal halves.

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Student book pages 32–33

Unit 8 Capacity

Unit overview

In this unit, students learn to match the terms full, half full and empty to containers of water or other materials. Also, they determine which container holds most and which holds least by looking at it and relying on past knowledge of these containers. By measuring with cups, students compare three containers' capacities.

Foundation Content Descriptions

Measurement

AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

empty, full, half full, holds more, holds most, holds less, holds least, cups, fill, capacity

Resources

plastic cups, water bottles, jugs, 2L milk containers for each set of three children, various empty containers, small buckets, items to fill containers, funnels, measuring cups, sand, small blocks, cereal boxes, egg cups, a collection of environmental containers some full, some empty, some half full, rice, cooking ingredients, water and dry items for measuring

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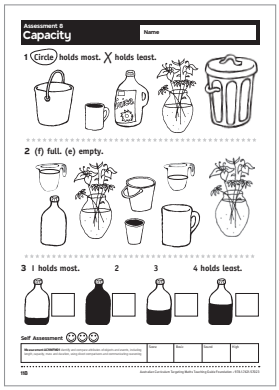
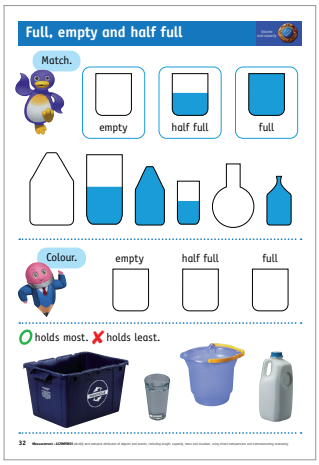
Volume and capacity

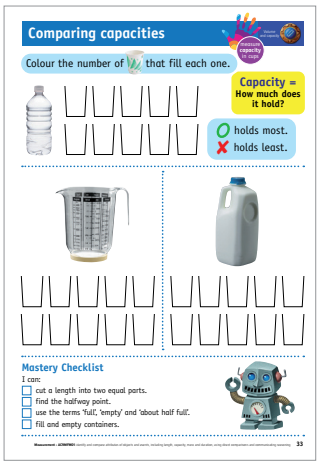
Assessment 8

page 118


Assessment 8
Capacity
Name
1 Circle holds most. X holds least.
2 (f) full. (e) empty.
3 1 holds most. 2 3 4 holds least.
Self Assessment

Student book pages 32–33





Teach and discuss

Student page 32 Full, empty and half full

- Match containers with words empty, half full, full.
- Identify which container holds more and which holds less.
- Have a collection of environmental materials, eg two tissue boxes (one full, one empty), three water bottles, (one full, one half full, one empty), two tins of baked beans (one empty, one full) etc.
- Discuss full/half full/empty.
- Link with mass.
- Choose a child to close their eyes. You put an item in their hands. They say if it is empty or full.

Student page 33 Comparing capacities

- Children in threes have empty milk cartons, empty juice and water bottles, jugs and plastic cups (the same for each group).
- They fill and count to find how many cups of water are needed to fill the different containers.
- Compare answers to their estimates.
- Introduce the word *capacity – how much something holds.*
- Have a 2 L empty milk container, a 1.25 L empty plastic bottle and a large jug to display.
- *We are going to fill these using cups of water*. Children estimate how many cups are needed.
- Record their estimates.

Oral and mental strategies

Teaming up

Practise using comparative language, eg *This jug is not quite full but this jug is full*. Do not use fuller. Children form teams. They put the same number of items, eg small blocks, into a container for each team, so each container is full. Place full containers a short distance away. Children in teams take turns to run back to an empty container and put the block in. First team to empty one container and fill the other container wins.

Activity bank

Capacity language

Model precise language when children are experimenting with capacity. This jug holds more than the bottle. The bottle holds less than the jug.

Estimation

Allow plenty of opportunities to estimate capacity. Hold team competitions. The closest estimate gains a point for the team, eg have four containers, an eggcup and a bag of rice. The teams work out their estimates for how many eggcups full of rice will fill each container. Then they count as they fill each container. This can be repeated with other 'fillers', eg yoghurt containers, and other substances, eg sand.

Sand hills

Children make sandhills using scoops of sand in plastic cups. *We made this sandhill using fourteen cups of sand*. For non-writers, write the sentence on cards and children fill in the number.

Cooking

Children cook using cup measurements for ingredients. eg To make dough, use 4 cups of plain flour and 2 cups of salt.

Capacity

Provide opportunities for children to develop a concept of capacity – provide a variety of materials, eg water, sugar, sand, dried peas, shells, rice, buttons, beads and a wide variety of containers for filling and emptying.

Have a discussion on filling and emptying things such as baths that are empty but that can be filled, things that are full and then you empty, eg orange juice, cartons of milk, washing powder. Make lists – children can illustrate.

Capacities

Children work in small groups. Each group needs a small bucket, an ice-cream container, an empty cereal box (425 g size) a yogurt container and items to fill the containers. Children work together to estimate the amount of items each container will hold, and how close or far they were from the actual amount.

Foundation

Term 2

Student book pages 36–39

Unit 9 Number

Unit overview

Students count forward to 20, matching with visual clues for each number. They then count backwards from 10 in many different settings. With visual clues of blocks, students order the numbers from 1 to 10. They write a jumbled set of four numbers in order, using no visual clues.

Foundation Content Descriptions

Number

AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

AC9MFN03 quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning

Key words

zero, one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, thirty, numerals, number, how many?, more than, less than, tens, ones, bundles of ten, numbers to fifty, fives, altogether, count in tens, total, guess, estimate, estimation, trial and error

Resources

flashcards 1–20, blocks, counters, BLM 4, cut out flowers, container, pop sticks, sticky tape, plastic cups, unifix cubes, 10 fish, dowel rod, string, magnet, teddy bears from BLM 5, 11 paper plates, paper clips

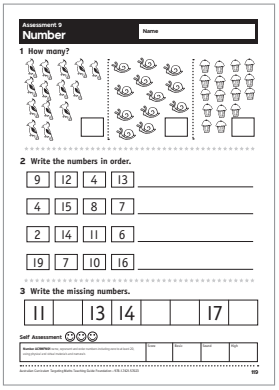
Targeting Maths app K

Numbers to 10

Numbers to 20

Assessment 9

page 119


Assessment 9
Number
Name

1 How many?

2 Write the numbers in order.

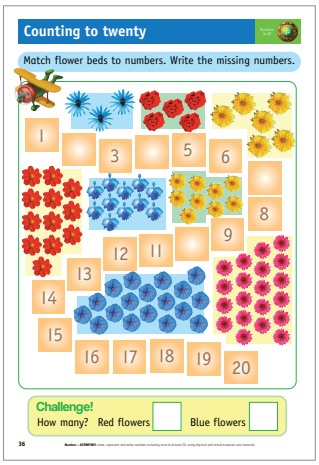
9	12	4	13	
4	15	8	7	
2	14	11	6	
19	7	10	16	

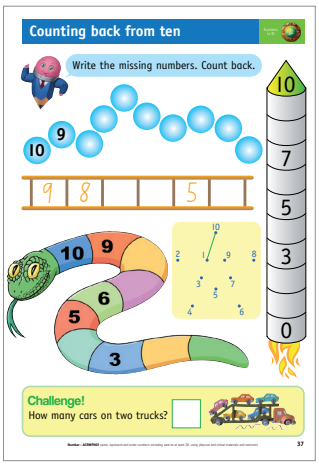
3 Write the missing numbers.

11		13	14			17	

Self Assessment

Student book pages 36–37





Teach and discuss

Student page 36 Counting to twenty

- Count groups and match to numbers.
- Discuss the number path with the children. Have them start from one and count as they follow the path to twenty.
- Count backwards to one.
- **Challenge!** Find how many by counting on.
- You need 20 flowers (see instructions below) and a set of numeral flashcards 1–20.
- Ask a child to put out one flower.
- Another child finds the correct numeral (from 1–10 cards) and puts it under the flower. Repeat to ten.
- Ask a child to put out one more. *How many flowers now?* Count with children to eleven.
- Put out flashcards. *Who knows which card says eleven?* A child finds the correct card.
- Put out one more flower. *How many now?*
- Go through the same procedure until there are twenty flowers.

Student page 37 Counting back from ten

- Review counting backwards using visuals with numbers.
- Remove the visuals and count backwards following numbers written on the board. Some children may wish to use their fingers, putting down one finger at a time.
- Have children try to count backwards on their own.
- In the book task, make sure children are writing the numbers going backwards, from highest to lowest, not from the lowest to highest from right to left or up the rocket.
- **Challenge!** Children should count the cars once then count them again, continuing on to the answer.

Oral and mental strategies

Action counting

Count forwards to 20. Do actions as you count, eg clap, stamp feet, click fingers, tap knees, tap head etc. *What number comes before/after …?* Count on from different starting numbers.

Count backwards from 10. Allow individual children to be challenged to count backwards from 10 on their own. Make a chart of successful children.

Activity bank

Counting skills

Make 1–20 of objects made for previous lessons, eg frogs, fish etc. and allow opportunities for children to practise counting skills.

Bingo

Use the 10 frame BLM 4. Reduce it in size using the photocopier and join two together to give a 20 frame. Make 4 or 5 different Bingo Cards with numbers to 20. Make a copy for each child. Provide children with counters. Children cover the number when it is called. The object of the game is to get a row of counters then call out BINGO!

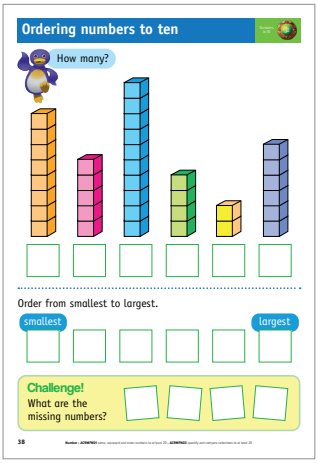
Listen and count

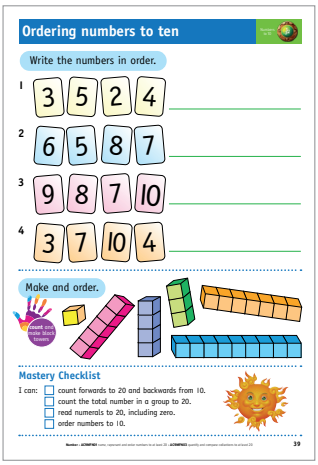
Children close their eyes while you drop a number of objects, eg blocks, into a container. Children listen and count backwards until you stop.

Pop stick flowers

Cut out pictures of flowers from magazines or old books. Have children stick them to pop sticks using sticky tape. Collect all the pop stick flowers. These flowers can be used later to help model addition, subtraction, sharing etc. Put out ten plastic cups, drawing a different number of dots (between 1–10) on each cup. Choose children to come up and place the correct number of pop stick flowers in each cup.

Student book pages 38–39





Teach and discuss

Student page 38 Ordering numbers to ten

- Ask children to make different random towers of blocks with a partner.
- On a signal to stop building, have children put the towers in order from smallest to largest.
- Make a set of towers yourself and display them so all can see. Muddle up their order. Have an individual child come and put them in order.
- Have children count the towers in order to check.
- *Close your eyes*. Take away a block and muddle the rest. *Which tower is missing?*
- Count the towers of blocks in their books and write the totals under the towers.
- Write the numbers in order from smallest to largest
- **Challenge!** Write those numbers that are missing from the towers.

Student page 39 Ordering numbers to ten

- Make ten fish and label the fish 1 to 10.
- Put a paper clip on each fish.
- Make a simple fishing rod out of dowel, string and a magnet.
- Jumble the fish on the floor.
- Children take turns to catch the fish in number order, eg Start from one. Start from three.
- Make it more difficult. Put out fish 9, 3, 6 or 2, 8, 8, 10. Ask children to catch the fish in correct order.
- Write the numbers in order.
- Children need unifix blocks to make towers, then order them.

Oral and mental strategies

Finger counting

Make a fist. Hold up a number of fingers, eg three. Children copy and then count on to 10. Ask children to suggest what to count on from.

Activity bank

What's my number?

Pin a numeral 1–10 on a child's back. The child has to ask questions to find out what the numeral is. eg *Is it less than five?* Other children can only answer 'yes' or 'no'.

Caterpillar

You need eleven paper plates. Draw a face on one plate and number the other plates 1–10. Jumble the plates. Children reassemble the caterpillar.

Divide children into small groups and give each group a set of cards 1–10. Children put out numbers as you call them, eg 3, 1, 4, 2, 5 or 9, 6, 8, and have to put the numbers in order. Ask children to put them in order backwards.

Teddy bear concentration

Use the teddy bears from BLM 5. Put the teddy bears face down on the floor. Ask a child to turn over a teddy bear, eg 6. The child then turns over another teddy bear. If a 6 is turned, it is left showing. If not, it is turned back and another child tries to find the 6.

Songs

Teach and sing songs about number including *This Old Man*.

I spy a number

Ask students to look for different numbers around the classroom between 0–10, eg. classroom points, reading levels, etc. For students that need more assistance, point out specific points before commencing the game. Choose a student to be in and ask them to find a number around the room. The student then needs to answer yes/no questions from students to direct them towards the correct answer. *Is the number more than 2? Is the number less than 8? Does the number start with a 't'?* If need be, a number line or hundreds chart can be used at the front of the room to assist with guesses.

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Student book pages 40–43

Unit 10 Addition

Unit overview

Students begin with pictorial representations to assist with counting a total, writing addition sentences to match, eg 4 and 2 makes 6. They find many ways to make ten using ten frames. In a problem solving task, they study the number of legs on an animal and clues about where they live to solve the counting task.

Foundation Content Descriptions

Number

AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts

AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies

Key words

count, makes, adding, counting, how much altogether?, numeral, number, one to ten, counting on, count forwards, group, altogether, not enough, too many, add, addition, more, less, 10 frame, combinations

Resources

groups of objects to count such as toy fish, flowers, frogs, cars, dinosaurs, robots, counters, dot pattern cards 1–10, cards, 10 frames, blocks, dice, BLM 4, containers, dominoes, snakes and ladders, number bears (BLM 5), numeral cards 1–10

Targeting Maths app K

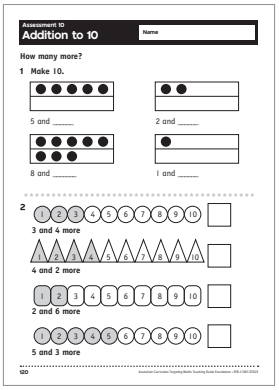
Add to 10

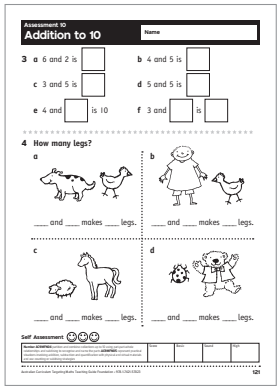
Count on

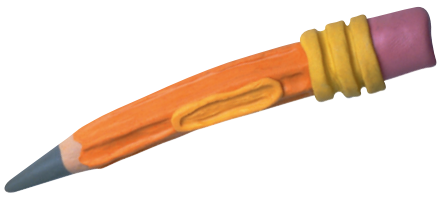
Ten frames

Assessment 10

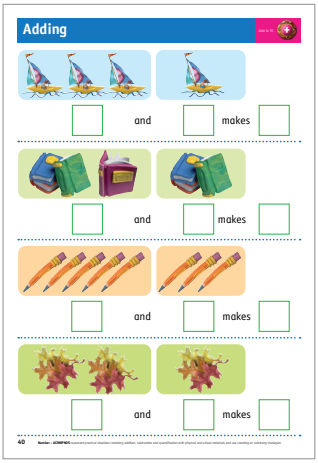
pages 120–121

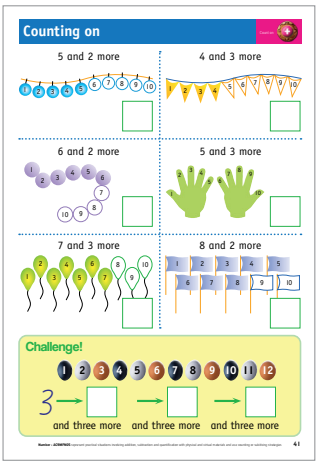






Student book pages 40–41





Teach and discuss

Student page 40 Adding

- Place small groups of objects on the floor.
- Have a child choose two groups of objects.
- The class counts the first group, then counts on to make a total with the second group.
- Continue until all groups have been counted in some way.
- In their books, children will write numbers for each group in the answer boxes first.
- Then by counting the first group and counting on to the second group, they find and write the answer for the total.

Student page 41 Counting on

- Children need their number bears 1–10 from BLM 5 and ten counters.
- Ask children to count to five. They put a counter on each bear 1 to 5. *What number are you on? Add two more.*
- *What number are you on now? What have you found?*
- *Five bears and two more make seven bears altogether.*
- Count on to find answers.
- **Challenge!** Use objects to count on in threes.

Oral and mental strategies

Dot counting

Flash a dot pattern card 1–10. Ask what number it was, eg five. Ask children to count to, eg six, seven, eight, nine, ten.

Flash a dot pattern card. Children put out that number of counters, eg four. Ask children to put out more counters to make, eg six. *How many more counters did you need?*

Activity bank

Problem solving

Divide children into small groups and give them the objects you have photocopied, eg frogs, flowers, fish etc. Children can make up and solve simple addition problems, eg *There are five fish. If two more fish swim up, how many fish are there?* Children solve the problems with the use of the objects. They record their findings then report back to the whole class to discuss findings. Encourage children to make up problems that involve counting on. You scribe, they illustrate.

Dominoes

Children work in small groups. Provide each group with a set of dominoes. Children take a domino and write down the two numbers. They add them together to find how many. Findings can be recorded and then discussed as a whole group.

Stop go

You start counting to ten. When you clap your hands, children continue counting. eg *1, 2*, clap – children *3, 4, 5, 6, 7, 8, 9, 10*.

Games

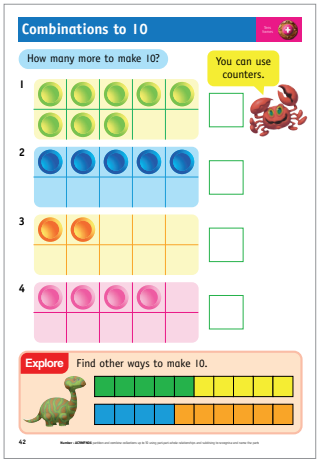
Provide dice games such as *Snakes and Ladders* which involve counting on for the children to play in small groups.

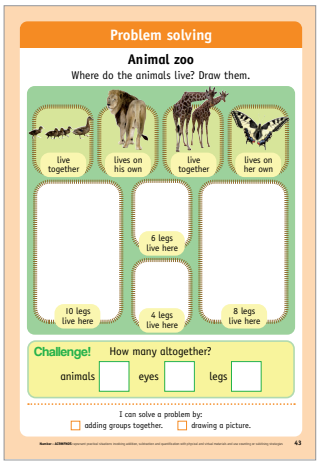
Children can use a 10 frame and a die with numbers 0, 1, 2, 3, 4, 5. Throw the die and put out that number of counters. Roll the die again and put out the counters. *How many now?* Work in pairs so work can be checked.

Buzz

Children sit in a circle and count from one to ten. The child whose turn it is to say *ten* says *buzz* and stands up. Continue until everyone is standing.

Student book pages 42–43





Teach and discuss

Student page 42 Combinations to 10

- Tell children to show combinations of ten with their fingers. *Put up 10 fingers. Now put down three*. Say *That means 7 up and 3 down is 10 fingers altogether*.
- Repeat with different combinations. Have children repeat the number story at the end.
- Children demonstrate combinations of ten on their desks with counters of different colours.
- Use 10 frames and counters to find how many more are needed to make ten. Use counters to find other ways to make ten.

Student page 43 Animal zoo

Problem solving

- Study the page and ask questions about the number of legs on each animal.
- *How many legs altogether on the ducks? or the giraffes? or the butterfly?*
- *If two lions lived in a house, how many legs would there be?*
- *If two ducks lived in a pen, how many legs would there be?*
- *How many legs live in your house?*
- Choose places around the class and put up a large label for the number of legs to go there. Tell some children to go and stand in the right place showing the right number of legs. Say: *There are 6 legs living in the corner, 8 legs living at the front of the room*.
- Have children point to each space where animals live in the book and tell you how many legs live in each.
- Children draw the right number of animals in each place.
- They should check their answers by counting all the legs in each space and checking if that is how many they were told should be in that place.

Oral and mental strategies

How many more make ten?

Call out a number to ten, eg 9. Children tell how many more will make ten, eg 1.

Use fingers to model my story in pairs. 6 + 4 = 10. One child shows 6, the other 4.

Activity bank

10 frame

Children need a tens frame (BLM 4) and counters. Have children put out a number of counters, eg two. *How many more to make ten?* Children put more counters on the 10 frame to find out.

Make ten

Children form teams of four. Each team needs a container, fifteen blocks and a set of cards showing numerals 1, 2, 3 and 4. Cards are jumbled, face down next to the containers and the piles of blocks. Children take turns to run to the container, take a card and put the card and the correct number of blocks into their team container. They then run back and the next person goes. When all the cards are used, the children check by counting to see if there are ten blocks in each container.

Addition stories

Encourage children to make up addition stories involving combinations to 10, based on real life. Write the stories down and have children illustrate them. Encourage the class to look at the stories. *One orange, two apples, four bananas and three strawberries. There are ten pieces of fruit*.

Addition counters

Working in pairs give each child 10 counters (5 in two different colours) and a die with the 6 blacked out. Children take it in turns to roll the die. On each throw, the child puts out counters to match the number they rolled. First throw in one counter colour, the second in the other. At the end of both throws the child gets their partner to solve the addition problem they have created and vice versa. eg *5 red counters and 2 blue counters equals how many?*

Student book pages 44–47

Unit 11 Length

Unit overview

Students judge the tallest and shortest, the highest and lowest of three objects. They draw a deeper, thicker, thinner and wider space on an object. They also judge things which are longer or shorter in length than their pencil before going on to show a taller and a shorter person in height.

Foundation Content Descriptions

Measurement

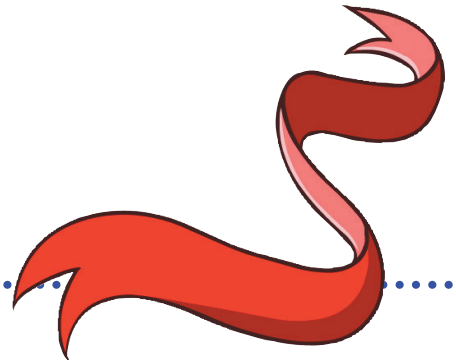
AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

taller, tallest, highest, lowest, shorter, shortest, compare, shorter than, longer than, length, thinner, thicker, deeper, wider

Resources

counters, unifix cubes, blocks, streamers, playdough, wool in various colours, books about size, leaves, ropes, clay, cotton, string, fishing line, ruler, pencil, paintbrush, paint, paper

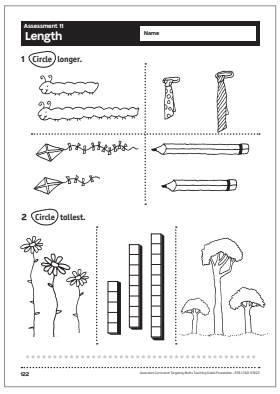


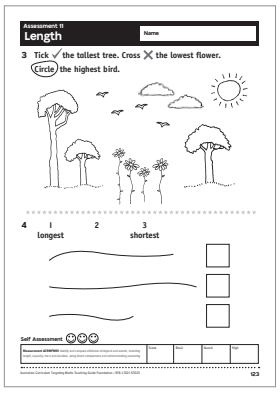
Targeting Maths app K

Length

Assessment 11

pages 122–123





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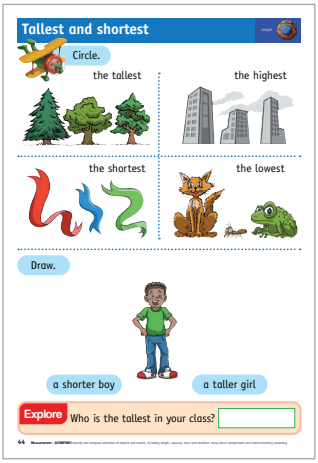
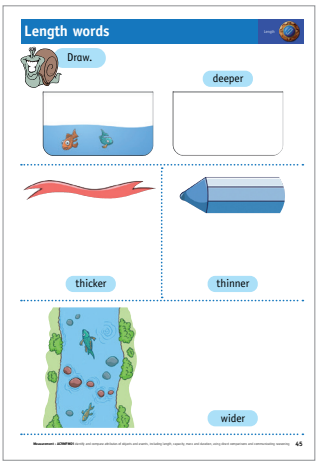
Student book pages 44–45





Teach and discuss

Student page 44 Tallest and shortest

- Children work in pairs. Give each child about twenty blocks or unifix cubes. Ask them to make a tower using any number of blocks.
- Ask the children to compare their two towers. *Who made a taller tower?*
- For the class ask, *Who made the tallest tower? … the shortest tower?* Discuss.
- Children put three blocks together to make a caterpillar then add blocks to make a longer caterpillar. Compare and discuss.
- Find comparisons and circle. Draw taller/shorter children.

  Explore: Find the tallest person in the class.

Student page 45 Length words

- You need streamers, string, wool in various colours.
- Cut them into different lengths.
- Put two in the middle of the circle.
- Children say which is thinner/thicker.
- Two children compare the items.
- Repeat using different items for depth, width etc.
- Draw pictures to show length words.
- Practise using these words.

Oral and mental strategies

Counting counters

Give each child a counter. Children with black hair put their counters in a column. Then children with other coloured hair put their counters into columns. Which column is the tallest?

Use length words to compare items in the classroom. *Mary's ribbon is* ***wider*** *than Jane's. The new book is* ***thicker*** *than Spot's Journey.*

Activity bank

Finger plays

Do finger plays, eg *Where is Thumbkin?*, *Tommy Thumb*.

Towers

Children have piles of blocks. They make towers. How many blocks in a tower before it falls?

Storybooks

Read *Jack and the Beanstalk*. Draw around the shortest person for Jack and the tallest adult in the school for the giant. Measure everyone in the class using paper streamers. Label and display.

Read books about size, eg *The Very Hungry Caterpillar* by Eric Carle; *Alfie's Feet* by Shirley Hughes; *Titch, You'll Soon Grow Into Them, Happy Birthday Sam* all written by Pat Hutchins.

Craft

Children explore lengths using dough or clay, making sausages or snakes of different thicknesses and widths.

Jump the river

Make a river using two ropes. Children jump the river. If we widen the river, can they still jump it?

Long Jump – measure children's jumps.

Measure reach

Children make four handprints and cut them out. Attach a large sheet of paper to the wall. Children see how high the four hands can reach and how wide they can stretch. Label prints and paste them onto the paper.

Compare and order

Everyone makes a tower of 10 unifix cubes. Children estimate in the playground how long the line would be if all the towers were joined together.

Children collect leaves of different lengths. Paste them onto cardboard. Label the longest, shortest, thinnest, thickest, widest, narrowest.

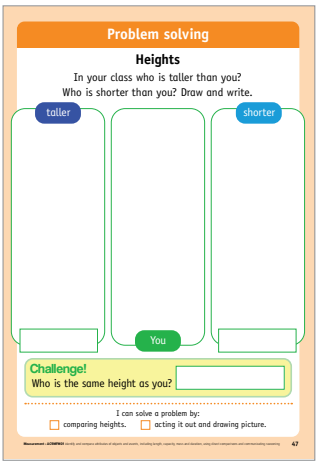
Student book pages 46–47


Comparing lengths

Draw your pencil.

Circle 0 things **shorter** than your pencil.
Tick ✓ things that are **longer**.

Mastery Checklist
I can:
- combine two or more groups of objects.
- use diagrams to help with combining quantities.
- count by ones to find the total.
- use comparing words to describe length.


Problem solving

Heights

In your class who is taller than you?
Who is shorter than you? Draw and write.

taller
shorter
You

Challenge!
Who is the same height as you?

I can solve a problem by:
- comparing heights.
- acting it out and drawing picture.

Teach and discuss

Student page 46 Comparing lengths

- Assemble a ruler, a length of string, a pencil, a paintbrush, some paper tape.
- Choose two items and place them in the middle of the space.
- Children say which is longer, which is shorter.
- Choose another two items; have children compare by laying them side by side.
- Say which is longer or shorter.
- Some children could tell you which is the longest item of all or the shortest item of all.
- In their books, children circle things shorter and tick things longer than their pencil.
- This may mean that there are different answers as children's pencils may be different lengths.

Student page 47 Heights

Problem solving

- Talk about the words height and length, high and long. Height goes up into the air, length usually lies down on the floor or table or ground.
- *What things do we measure for length?*
- *What things do we measure for height?*
- Practise using these words correctly.
- *More height means taller or tallest.*
- *Less height means shorter or shortest.*
- *Who is taller than you? Who is shorter than you?*
- Draw results in their books with names under the pictures.

Oral and mental strategies

Length mime

State a word, eg *deeper*, and children have to use it in a sentence.

Children mime words such as deeper, longer, higher etc. in whole class groups.

Explain and put into words the way to tell which is longer or longest, taller or tallest. *This is longer because it reaches further or it measures more*.

Activity bank

Thickness

In the playground, hug trees. *Can you get your arms round all the trees? How many children are needed to hug a thick trunk?*

Children compare thicknesses of items, eg rope, string, cotton, fishing line.

Standing jump

Children stand on a spot and take a jump with both feet together. Mark the spot at the back of their foot where they land. Compare longest jumps, etc. Again, work through the class in groups of ten for each day.

Heights

In groups of ten each day, have each child come to stand with back to the board, head against the board and mark their height. Label it and talk about taller, tallest, shorter and shortest.

Animal heights

Discuss students' favourite animals, focusing on getting a range of heights from their responses. As a class, ask students to sort the animals into taller than a student and shorter than a student. Students are then asked to paint a picture of themselves and some of the animals from the list in their painting. Children then explain to a partner the animals in their picture which are shorter than them and those which are taller than them. This could be built upon for a story writing task eg longest, shortest, thinnest, thickest, widest, narrowest.

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Student book pages 48–51

Unit 12 Take Away

Unit overview

Students learn four ways to work subtraction. Using 10 fingers, they put a given number down so they count how many are left up. Using different starting numbers with no fingers illustrated, they learn that another way to take away is to cross off some of the pictures and count those not crossed off. They write the beginning number and the number of those left. As well as crossing off, students learn to cover up to take away and then they learn to count back on a number line to subtract.

Foundation Content Descriptions

Number

AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising

AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies

Key words

cover up, how many left?, count, count forwards, count backwards, take away, more than, less than

Resources

teddy bear number line 1–10, blocks, 10 identical plastic bottles, ball, dice, flashcards 1–10, counters, container, cord, beads, A4 paper, blocks, pop sticks, ice-cream container, objects to count, numeral cards, ten green frogs and a lily pad (green pillow)

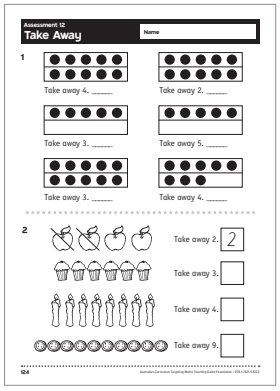
Targeting Maths app K

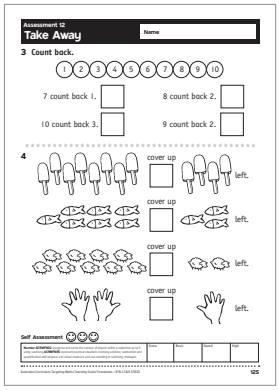
Subtract to 10

Number line –

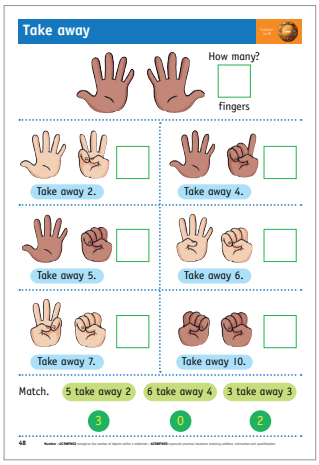
Assessment 12

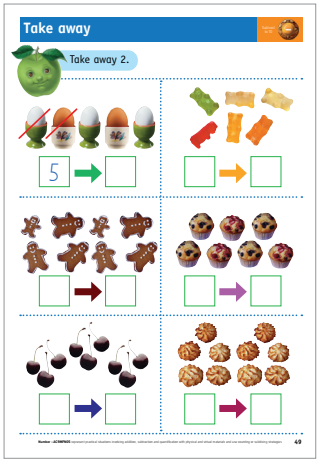
pages 124–125


Assessment 12
Take Away
Name
1
Take away 4. _____
Take away 2. _____
Take away 3. _____
Take away 5. _____
Take away 3. _____
Take away 4. _____
2
Take away 2. 2
Take away 3.
Take away 4.
Take away 9.
124


Assessment 12
Take Away
Name
3 Count back.
1 2 3 4 5 6 7 8 9 10
7 count back 1.
8 count back 2.
10 count back 3.
9 count back 2.
4
cover up
left.
cover up
left.
cover up
left.
cover up
left.
Self Assessment
125

Student book pages 48–49





Teach and discuss

Student page 48 Take away

- Use the ten frogs and lily pad.
- Ask children to count frogs as they jump onto the lily pad.
- *If one frog jumped off, how many would be left?* Count.
- Keep taking one frog off at a time and counting how many are left.
- Put ten frogs back on the lily pad and take two frogs off at a time. Discuss.
- Put any number to ten on the lily pad. *How many would be left if five frogs jumped off the lily pad?* Count.
- Take away using fingers.
- Match written problems to answers.

Student page 49 Take away

- Show ten frogs and how to work out how many left by crossing them out. *Here are ten frogs. 7 hop away, how many left?*
- Cross off 7 and count the remaining frogs to solve the problem.
- In their books, children count the objects and write how many in the first answer box.
- Then they cross out two.
- Next count how many are not crossed out and write that answer in the second answer box.
- Say, *five take away two leaves three. Check!*

Oral and mental strategies

Teddy bear count

Use the teddy bear number line 1–10. Start from any number and count back one or two. *How many are left?*

Activity bank

Never empty

The object of the game is to always have at least one block in the container. Start with one block in the container. Choose a child to put a number of blocks into the container, eg five. Children can either put in or take out. They must state what they are going to do before they do it. Ask if they can tell how many are in the container by working it out.

Games

Children work in pairs. They take turns to throw two dice. The smaller number is taken from the larger number. Use counters to check.

Children work in pairs. One takes a flashcard 1–10, eg five, but does not show the other child. He says a problem about *five*. *10 take away 5*. The other child has to work out what number was on the card.

Skittles

You need ten identical plastic bottles and a ball. Line them up in a group. Children take turns to knock them down. Discuss. *Liam knocked down two skittles. How many are left? Let's count them. There are eight left.*

Ten

Children form small groups. Give each group 10 objects, eg teddy bears, frogs, cakes, fish. Practise taking different numbers from ten. Have children record findings and later share with whole group.

Threading beads

Children work in pairs. Each pair needs a threading cord, beads, a die and a flashcard with 'take away' on one side and 'count on' on the reverse. Children take turns throwing the die and either putting beads on or taking them off the cord. The flashcard is turned after both children have thrown the die. When all beads are used, measure the length of each. *Whose is the longest?*

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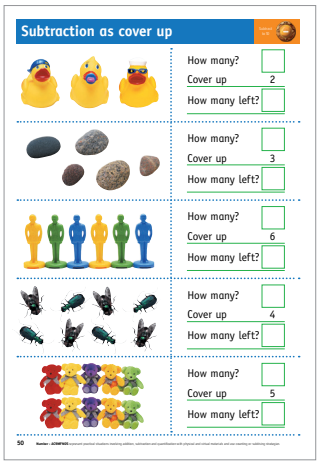
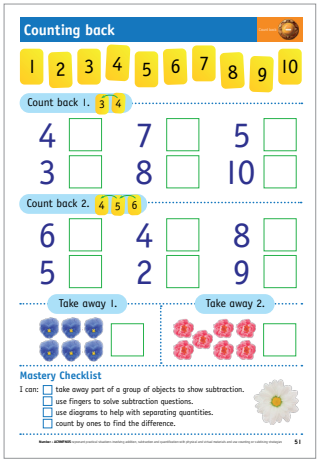
Student book pages 50–51





Teach and discuss

Student page 50 Subtraction as cover up

- Place some items in a group on the floor.
- Ask a child to say how many you should take away.
- Show 'take away' by covering up the number suggested with an ice-cream container. Children count how many are left outside the container. Tell the story.
- Children put out 7 counters in front of them. Ask them to take away 4 by covering 4 with their hands. *How many left?*
- Put the words 'How many?' 'Cover up' and 'How many left?' on the board and practise reading these terms as they are found on page 50.
- Children count how many.
- Cover up the number there.
- Count how many left.

Student page 51 Counting back

- Put out cards in the form of a number line as shown on page 51
- Make up a take away, eg 6 take away 3. Cover the part of the line that has 7, 8, 9 and 10.
- Have a child show how that is done by crossing off. Use a pop-stick placed across the card instead of a line across the card.
- *Yes, that says 6 take away 3 and there are 3 left.*
- *Now can anyone show me 6 take away 3 by covering up?*
- Have a child use a piece of paper or the ice-cream container to cover up 3 to take away from 6.
- Now model counting back from 3 from 6. Get the children to chant 1, 2, 3 as you point to the numbers counting back from 6.
- Discuss how these ways are much the same.
- Refer to the number line in the book and tell children they may use it to count back.
- They take away 1s and 2s. Write answers in answer boxes.
- To take away at the bottom of the page, they can cross off or cover up.
- Review and discuss.

Oral and mental strategies

Count back

Have children hold up ten fingers. *Take two away, how many left?* Repeat for other numbers. Count backwards from ten by ones. Count forwards by twos. For more able children, count backwards by twos.

Activity bank

Gone missing

The children are in pairs. One child has 6 counters and a small ice-cream container. While their partner closes their eyes, they put some of the counters under the ice-cream container leaving the rest of the six on top. The other child must try to work out how many counters were put under the container. They can then say 6 take away 4 leaves 2. If correct they change places, if not they remain the same and repeat the task.

Number line

Use a large number line 1–10. Ask a child to stand on a number, eg ten. Ask the child to go back a number of places, eg three. *What number are you on now?*

Dropping off

Take 10 blocks in your hand and audibly drop some into a container while children are not looking but listening. They know how many you started with and after you stop dropping them, ask how many are left in your hand.

Toys in the bed

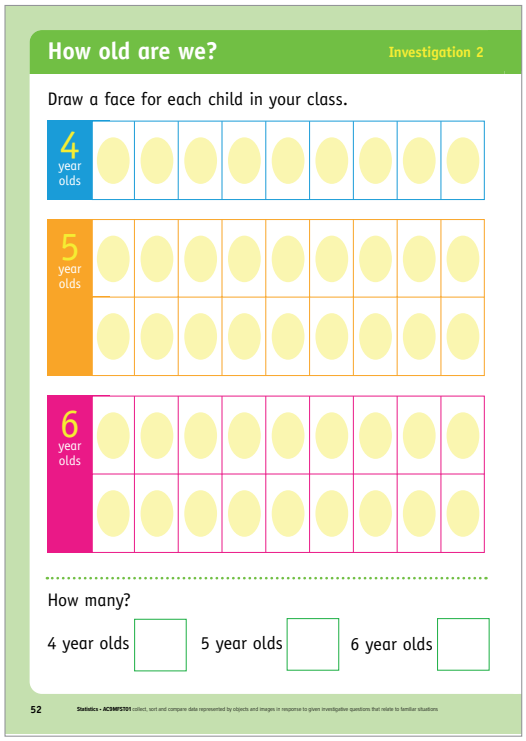
Use toys or the teddy bears from BLM 5. Arrange ten at the front of the class. Have the class count them with you. Sing the *Ten in the bed* song with the children and move the toys out of the bed as you do. For more able children ask, *How many bears are out of bed now? How many bears are in bed?*

Student book pages 52–53

Investigation 2 How old are we?

Overview

Students gather data and make a picture graph to show the ages of the children in the class. They count and find out how many 4-year-olds, how many 5-year-olds and how many 6-year-olds there are. Then turning to themselves, they draw a birthday cake for each year of their life and count up the candles altogether.


How old are we? Investigation 2

Draw a face for each child in your class.

4 year olds

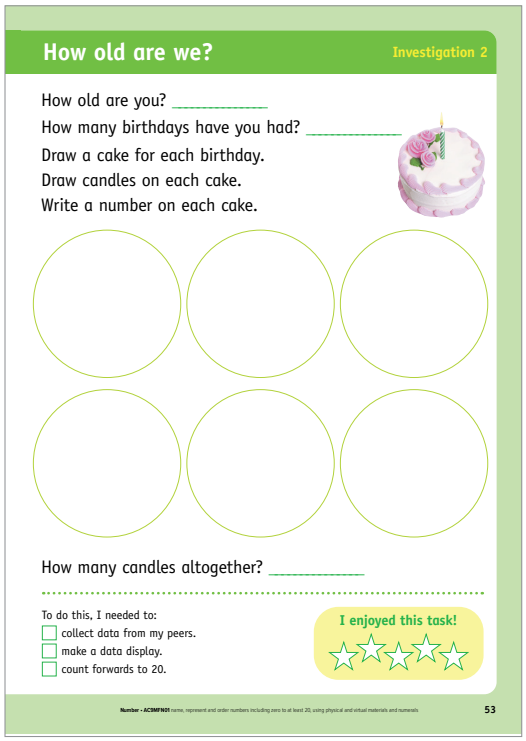
5 year olds

6 year olds

How many?

4 year olds ☐ 5 year olds ☐ 6 year olds ☐

52 Statistics - AC9MFST01 collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations


How old are we? Investigation 2

How old are you? _____

How many birthdays have you had? _____

Draw a cake for each birthday.

Draw candles on each cake.

Write a number on each cake.

How many candles altogether? _____

To do this, I needed to:

- ☐ collect data from my peers.
- ☐ make a data display.
- ☐ count forwards to 20.

I enjoyed this task!

Number - AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals 53

Foundation Content Descriptions

Number

AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

Statistics

AC9MFST01 collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations

Key words

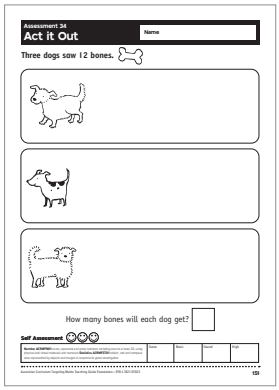
age, birthdays, 4-year-olds, 5-years-olds, 6-year-olds

Resources

age list for the class, BLM 4, counters

Assessment 34

page 151


Assessment 34

Act it Out

Name

Three dogs saw 12 bones.

How many bones will each dog get? ☐

Self Assessment

Student book pages 52–53

Investigate

Ages of children in the class, total candles for birthdays.

Skills

Recording and counting children in groups, counting on to find a total and drawing a diagram.

Teach and discuss

Student page 52 How old are we?

- *How old are you?*
- *Hands up all the four-year-olds. Hands up all the five-year-olds, etc*. Look around and check that children all know their age.
- Line up the children in age lines. Have them 'number off' each line, record the number.
- Discuss the length of the lines.
- Sit children down. One by one, they call out their age and the rest of the class will colour in a face in the correct line, according to the age called.
- Monitor the pace and make sure all children can keep up. Too fast? Slow down and draw the face carefully. Too slow? Draw just the mouth and be ready to move on.
- Children count each row of faces and enter the totals. They can finish any unfinished faces.
- Check by counting all the faces. There should be the same number of faces as there are children in the class.

Student page 53 How old are we?

- Talk about age and birthdays and the purpose of candles on the cake.
- Be aware that there may be children in the class who do not celebrate birthdays, have birthday cakes or have candles. Talk about different ways of celebrating birthdays.
- Children will design the top of the cake from above.
- They may choose any method to show the candles on the cake. All efforts encouraged.
- Have children count up all candles and record the total.
- Children evaluate their enjoyment of these tasks by colouring the stars; 5 stars for the most enjoyment; 1 star for the least enjoyment. Discuss.

Oral and mental strategies

Counting off

Practise counting off around the classroom, when the children are in teams or other group situations.

Activity bank

Different groups

Make up names of groups to which you know the children will belong, eg all the oldest in the family, all the youngest, all the rest. Count the groups. Ask the children to suggest different groups.

Bingo number after

Make 5 different bingo cards using BLM 4 and a selection of numerals 1–20. Distribute bingo cards to students, trying not to give students sitting side by side the same bingo card. Put counters numbered to 19 in a cup. Draw one out and call the number on it. Children think of the number after the one you have called and if that is on their card, they cover it with a counter. Children are trying to cover all their numbers on the Bingo card.

Teen dot patterns

Children design new dot patterns for numbers greater than 10. What attractive patterns can be made with these numbers? Fifteen could be made in the shape of a triangle. This could be an ongoing task as children should keep trialling new ideas.

How old are we?

Discuss ages now and how old children will be next birthday. Use A3 paper to draw three large cakes. Label one cake '4' the other '5' and the last '6'. Have children come up one by one and place a sticker on the cake that shows how old they are. When finished as a class, count how many stickers on each cake.

Student book pages 56–57

Unit 13 3D Objects

Unit overview

Students begin by using informal names, box shape and ball shape for 3D objects. From realistic pictures of everyday objects, they determine which ones belong to each category. The concept that round things roll is reinforced by working out which objects have the shape to roll and which do not. They work out which shapes stack and which do not stack. Various attributes about 3D objects can be discussed with the children.

Foundation Content Descriptions

Space

AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons

Key words

box, ball, shape, round, curved, objects, shapes, roll, not roll, stack, not stack

Resources

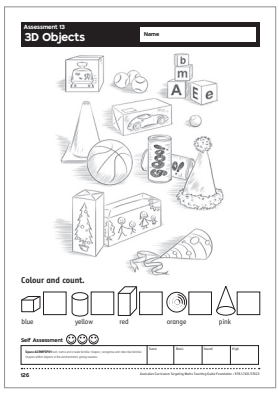
blocks, boxes, *Lego*, balls, 3D shapes, toys, containers, feely bag, empty plastic bottles, mini whiteboards, balls in different shapes and sizes, pages of pictures, construction toys, junk materials, flat blocks or sheets of cardboard for ramps

Targeting Maths app K

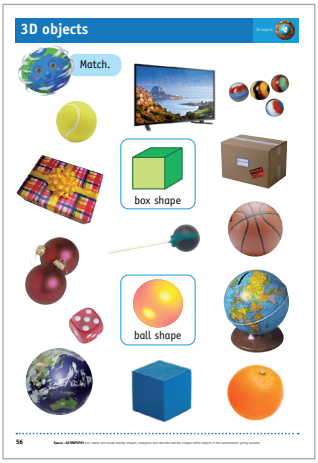
3D objects

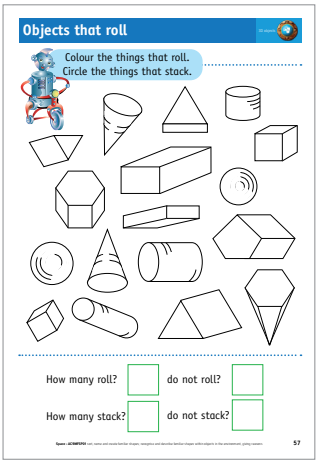
Assessment 13

page 126



Student book pages 56–57





Teach and discuss

Student page 56 3D objects

- Hold up a ball and ask children to describe its shape. Try to get words such as round and curved. Ask children to think of other things that are shaped like a ball.
- Show the box and repeat the above exercise. Ask children to find objects in the room that are a box or a ball shape.
- Children draw lines to match the pictures with either the cube or the sphere.

Student page 57 Objects that roll

- *What does it mean when an object rolls? Will everything roll? Why?*
- In small groups, children conduct a trial and error investigation where they try to roll certain objects. They can make a record on paper of things which roll and things which do not.
- Learn the word 'curved' to describe the side of something which rolls.
- *Which objects roll best? Why?* Discuss during a review of the investigation.
- In books, children colour the things that roll.
- Repeat the sequence with things that stack.
- Review: *What did you notice about the picture of every object that rolls?* There are marks on the drawings that show the object has a curved surface.
- On mini whiteboards, have children draw a round object using similar marks.

Oral and mental strategies

Which will fit?

Have different sized balls and boxes. *Without moving any of them, can you tell me which ball could fit inside this box?*

Talk about all the important ways we use objects that roll – wheels and balls.

Activity bank

Boxes and balls

Provide experiences with a variety of real objects and shapes, regular and irregular. Feel the shape.

Place a box shape in one bag and a ball shape in another. Children feel the shape and tell whether it's a box or a ball.

Build it

Let children build with blocks, construction toys such as *Lego* and junk materials. Allow them to play with boxes of different shapes and sizes to explore shape, space and position. Allow time for children to describe what they have made.

Roller ball

Make a collection of balls of different shapes and sizes. In the playground, have children predict which ones will roll best and furthest. *What makes that happen?* Check on size and weight of balls and their surface as well as the surface over which they roll. Work with ramps as well. *How can we tell when an object will not roll?*

Rolling races

Each child has an empty soft drink bottle. The bottles are rolled down a ramp to see how far each bottle will roll. Ramps can be flat blocks or cardboard.

Things that roll

Give children pages of images and ask them to cut out all the things that roll. Have them work in groups to make posters of the rolling items they have found. Have the groups share their findings with the class. Allow time for children to play with various items, discussing with them why some items will roll and why others won't.

Things that stack

Repeat the above activity for things that stack.

Student book pages 58–60

Unit 14 Time

Unit overview

Students move from the days of the week and putting them in order to telling time on the clock in full hours. They learn about what they do during the day and what hour it is. They choose a favourite time based on what they like to do. Drawing hands on clocks to tell the exact hour gives students experience with the moving hands and the message this gives.

Foundation Content Descriptions

Measurement

AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions

Key words

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, clock, o'clock, hour hand, shorter, longer, face, minute hand, what is the time?

Resources

days of week flashcards, pictures of time pieces, teaching clock, cut-out clock, pop sticks, books about time, analogue clock faces

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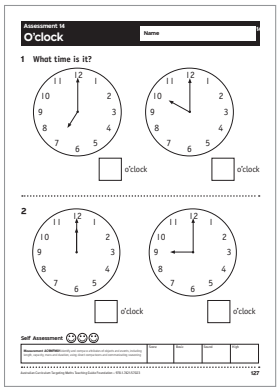
Time

Assessment 14

page 127



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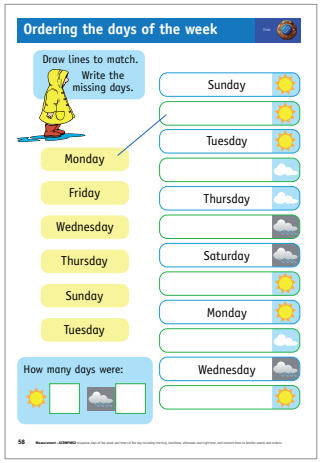
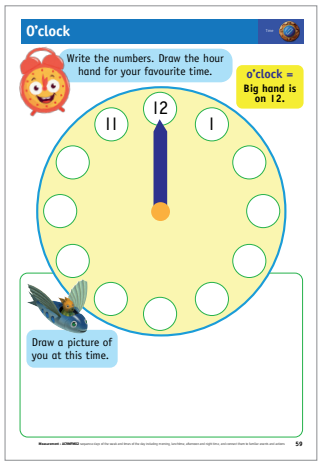
Student book pages 58–59





Teach and discuss

Student page 58 Ordering the days of the week

- You need days of the week flashcards.
- Start with Monday. Children chant the days as you flash them.
- Put flashcards face down. A child turns one card over, eg Tuesday. Ask which day comes before Tuesday and which day comes after Tuesday.
- Children turn cards over until they have ordered all the cards in the correct sequence.
- Draw lines to match so that the days of the week are ordered. Count how many days were sunny and how many were wet.
- Talk about time of day. *What do we do at 9 o'clock, 10 o'clock?* and on through the day.
- Put the teaching clock on a particular time and ask what is happening at that time.
- Repeat with various times where children can identify important actions, such as dinner, playtime, lunchtime, maths time etc.

Student page 59 O'clock

- Complete the missing numbers on the clock face.
- Draw a favourite time and a picture associated with it.
- Make sure they understand that two things are required – a favourite time and the clock reading for that time.

Oral and mental strategies

Days of the week

Recite the days of the week in order starting on any day.

Which day comes before/after Tuesday? On which day do we go to the library?

Which days are weekend days? etc.

The clock face

Hour hands on the clock – 1 o'clock points to 1, two o'clock points to 2, etc.

How far does the hour hand go in one hour? How long does it take to go around the clock? Discuss the workings of a clock.

Have a cut-out clock with no numerals. Children tell where the numbers go.

Activity bank

Pictures

Find pictures of time pieces online and print them out. Children cut out the pictures and paste them in a book about time. *Brainstorm: Where do we find clocks? Why do we have clocks?*

Jobs of the week

Talk about how long ago, people carried out certain activities on certain days.

Monday: Wash Day, Tuesday: Ironing Day, Wednesday: Sewing Day, Thursday: Market Day, Friday: Cleaning Day, Saturday: Baking Day, Sunday: Day of Rest. Have children make up a similar chant about school days or the way they see the days of the week.

Make-a-day book

Make a clock face on each page. Start at 12 o'clock (midnight). Children draw hands on the clocks and illustrate the pages after discussion about what they do on a typical day.

Monday's child

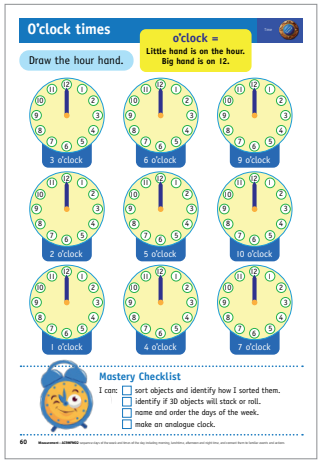
From a traditional poem, children born on certain days were supposed to have a certain personality.

Monday's child is fair of face, Tuesday's child is full of grace, Wednesday's child is full of woe, Thursday's child has far to go, Friday's child is loving and giving, Saturday's child works hard for his living.

Sunday's child is …… (Children can make up an appropriate description.)

Have children find out the day they were born. Discuss. Remember that some religions will have different practices for Friday, Saturday and Sunday when you discuss days of the week.

Student book page 60



Teach and discuss

Student page 60 O'clock times

- You need a teaching clock. Look at the clock with the children and brainstorm what they can tell you about clocks.
- Talk about numerals 1–12, position of numbers, two hands – one longer, one shorter, hour hand, minute hand.
- *The shorter hand is the hour hand and tells us what hour it is.*
- *If the minute hand is on twelve it means o'clock.*
- Show one o'clock and ask what the time is. Children use a short pop stick and make the time on the clock on page 59, student book.
- Repeat with other times.
- Draw hour hands to match the times given.

Oral and mental strategies

Where do the hands go?

Ask where the hands should go for three o'clock etc. Children make the time on the teaching clock.

Make times on the teaching clock. Children call out the time.

Show students a variety of analogue clock faces with different times. Be sure to include a range of rectangular, square, oval and circular faces.

Activity bank

Class times

Regularly talk about time. *We go to the library at two o'clock. In ten minutes we have to pack up.*

Find books about time in the library, eg *Time*, *Henry Pluckrose*, *Time* Science in our World series, Macmillan.

Songs

Sing rhymes about time, eg *Hickory Dickory Dock*.

Games

Play *What's the time Mr Wolf?*

What's the time? Divide children into teams. Make an o'clock time and 'flash' it for the first members of each team. First team to correctly state the time wins a point.

A minute

Discuss with children how long they think a minute is. Have children stand then sit when they think a minute has passed. *Who estimated the closest?*

Children think of actions to do in a minute, eg jump, hop. Count to see how many can be done.

Clock faces

Photocopy an analogue clock face. Tell the children four different o'clock times and have them draw them on their clock face in different colours.

Student book pages 61–64

Unit 15 Patterns

Unit overview

Students must be able to see what is a pattern and what is not a pattern. They will work with shapes, colours and numbers, identifying and completing patterns and making some of their own.

Foundation Content Descriptions

Algebra

AC9MFA01 recognise, copy and continue repeating patterns represented in different ways

Number

AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies

Key words

shape, pattern, lines, zigzag, number, triangle, circle, rectangle, square, repeat, continue, match, next to, copy, before, beginning, middle, first, last, the same as, complete

Resources

Mr Mistake puppet, beads, blocks, buttons, Lego, counters, small cards with 1, 2 or 3 shapes (squares, triangles, circle etc.) in different colours, multi-attribute coloured blocks, items for patterning, bead pattern cards, flashcards showing number combinations, coloured paper, calculators, cotton reels, Lego, scissors, small cards with 1, 2 or 3 shapes (squares, triangles, circle etc.) in different colours, multi-attribute coloured blocks, coloured felt balls, large initials of each student, counters, items for patterning, wool, hole punch, printing materials

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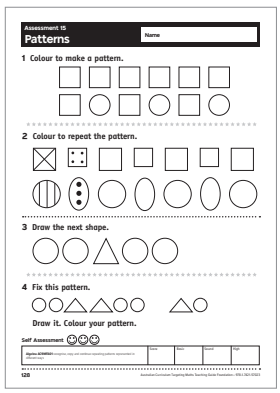
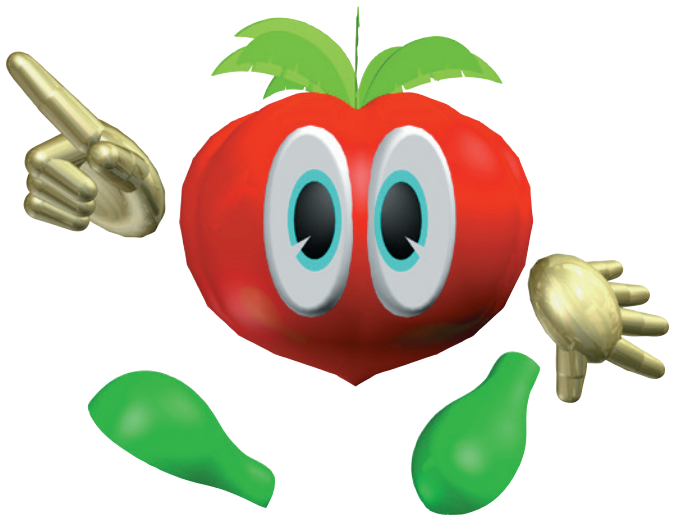
Patterns

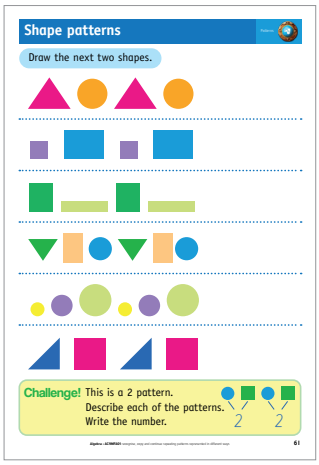
Assessment 15

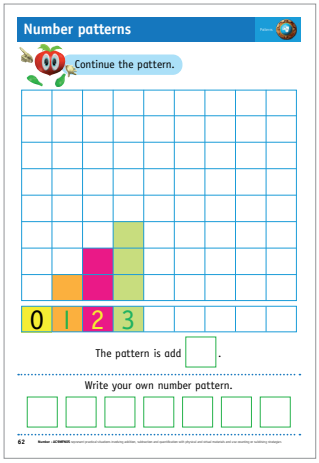
page 128


Assessment 15
Patterns
Name
1 Colour to make a pattern.
2 Colour to repeat the pattern.
3 Draw the next shape.
4 Fix this pattern.
Draw it. Colour your pattern.
Self Assessment
128



Student book pages 61–62





Teach and discuss

Student page 61 Shape patterns

- Ask students to work in small groups and for each group to choose two different items to be used for a patterning activity. Encourage them to use a range of resources in the classroom, eg. toys, pencils, balls, musical instruments, shells, pattern blocks, etc.
- As a group, they need to work together to make a pattern with the objects.
- One student in each group needs to be the representative to report to the class about the pattern they have made.
- Together the students record their pattern.
- Ask them to repeat different patterns.
- As a class, go through the student page tasks together, explaining what is expected at each question. Be sure to provide multi-attribute blocks for students who need more assistance to allow them to build on from each pattern before drawing it on their page.
- After completing the page, come together for a sharing circle where students can explain their process and present outstanding work efforts.

Student page 62 Number patterns

- Show how a number pattern is made with squares, adding 1 each time.
- *What shape are we making? It's a staircase.*
- Make part of it wrongly, eg using the wrong number of blocks and ask *Is this a pattern? What is wrong? Why?* or *Why not?*
- *When we are adding one at a time and the shape is growing taller, the pattern is 'add 1'.*
- Ask for another pattern idea. Make it in front of the children. Check. *Is this a pattern? Why?*
- Have the children make a staircase pattern to represent the pattern made by counting to 8. They write the numerals and count on to 8.

Oral and mental strategies

Patterns are everywhere

Make a sound pattern, eg two fast claps, one slow clap. Children copy. Make other sound patterns. Make action patterns, eg two hops, two jumps.

Have *Mr Mistake* continue a pattern by putting down too many cards or the wrong shapes. Children identify the mistake.

Draw patterns on the board. Children draw the next item.

Activity bank

Kids' shapes

Children work in pairs using 'kid shapes' cards. They make patterns for each other to copy. More able children explain and label the pattern.

Dance

Encourage the children to make dance patterns, eg three steps back, one step forward.

Children's patterns

Ask the children to make patterns with other children standing in order in a space, with their clothing, with their hair colour or other attributes, eg jumper, no jumper, jumper, no jumper; brown hair, black hair, blonde, etc. Make patterns and have children describe them or have children make the patterns and tell what they are.

Making patterns

Show children how to make paper cut-outs that make patterns.

Provide materials such as beads, Lego, blocks, counters, buttons. Children can make patterns working by themselves or in pairs having their partner copy their pattern.

Bead patterns

Make bead pattern cards. Have children make pattern cards for other children to follow.

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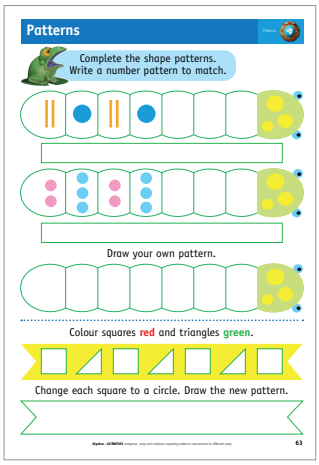
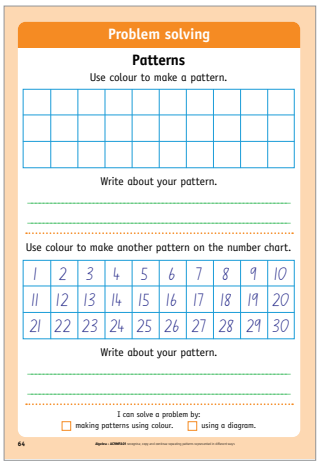
Student book pages 63–64





Teach and discuss

Student page 63 Patterns

- Arrange shape cards into patterns, eg three circles, two squares, three circles etc. Ask the children to describe the patterns.
- Under each shape card write the number of items on it. This will form a number pattern; 3, 2, 3, 2 …
- Make a number pattern and ask how the children could express it as a shape pattern or a colour pattern. *How could you make this into a people pattern?* eg 3 boys, 2 girls, 3 boys, 2 girls.

Student page 64 Patterns

Problem solving

- Review all that has been learned about patterns.
- Show children a line of coloured shapes that is not in a pattern and ask *Is this a pattern? If not what would make it into a pattern?*
- Talk about the three ways they have made patterns – with colours, with shapes and with numbers.
- On this page, you will make a colour pattern that turns into a number pattern. Magic!
- Review the patterns and have children show them to each other in a group. Report back. They should explain how their pattern works.

Oral and mental strategies

Flash numbers

Flash a card quickly (start with easy ones). Children recognise the numbers represented. If this is too difficult, use half a flashcard by folding the other one back.

Activity bank

Mobiles

Cut (get children to help) geometric shapes out of coloured paper using shape blocks as templates. Working in small groups, children can use a hole punch and tie them with wool to make mobiles using repeat patterns. These can be hung from the ceiling.

Calculators

In pairs or small groups, children create number patterns using calculators. Record and share findings with the class.

Using counters

Pairs of children are given different coloured counters. They see how many different combinations they can make. Record by tracing around the counters and colouring them.

At end of lesson, come together and discuss findings.

Pattern printing

Provide children with items such as cotton reels, Lego or small blocks to print patterns with. Display.

Patterned names

Provide students with an outline of their initials and a selection of large coloured felt balls. Students then choose to make a coloured felt ball pattern to cover their initials. Ask students to cover their initials first and then after checking and discussions with individual students, ask them to glue their patterns onto their initials. Afterwards in a sharing circle, ask students to explain their coloured pattern used for their initials. Discuss any modifications they would make if they completed a patterning task again to encourage critical thinking.

Student book pages 65–67

Unit 16 Position

Unit overview

Students learn to identify and name the position of objects in relation to other objects, firstly in a grid, eg above the teddy. With visuals depicting scenes, they use other position words such as between, inside, beside, under etc. and place new objects according to those directions. They also identify the position of objects in a picture using a word bank of position words.

Foundation Content Descriptions

Space

AC9MFSP02 describe the position and location of themselves and objects in relation to other people and objects within a familiar space

Key words

above, below, inside, outside, between, on top, beside, under, in front of, behind, left, right, far, up, near

Resources

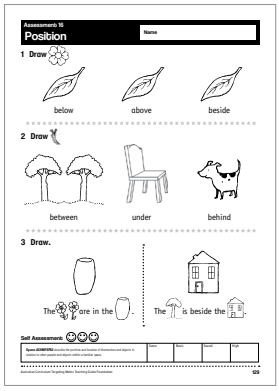
objects to move around, toys, *Mr Mistake*, beanbags, containers, teddy bear, hoops, bucket, A4 paper, masking tape, objects to position

Targeting Maths app K

Data

Assessment 16

page 129


Assessment 16
Position
Name
1 Draw
below
above
beside
2 Draw
between
under
behind
3 Draw.
The are in the .
The is beside the .
Self Assessment

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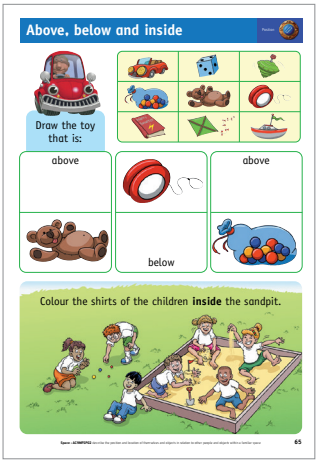
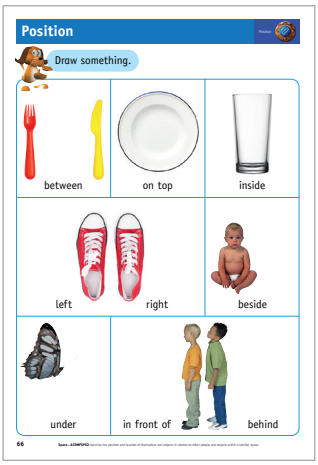
Student book pages 65–66





Teach and discuss

Student page 65 Above, below and inside

- Play the position game. Each child needs a chair and a container. *Hold your book above your desk. Put your foot below your chair. Put your pencil inside your container. What is outside our room?*
- Make a list on the board of things inside the classroom and things outside the classroom.
- Use position words in sentences.
- Look at the nine pictures at the top of the page. Children draw the objects in the blank boxes according to directions.
- Study the picture at the bottom of the page and have children colour the shirts of those inside the sandpit.
- Use *inside* and *outside* in sentences. *The eggs are inside the nest*.
- Match pictures with labels *inside*, *outside*. Ensure children can read the words.

Student page 66 Position

- Each child has a toy.
- Direct children to put the toy in various places in the classroom using position language, eg *beside, on, under, in front of, behind* etc.
- Study the pictures on page 66. Ask the children to tell where these items probably are located, eg on the table, on the floor, in the playground. Say these phrases and have the children point to the picture of it.
- Talk about what is also around these objects so that children understand what is normally found near these objects. You want them to be appropriate for the situation.
- Children draw something appropriate in each space according to the direction.

Oral and mental strategies

Imagine this

Play the visualisation game, I'm thinking of. *I'm thinking of something that grows on top of your head. I'm thinking of something that flows under a bridge*.

Activity bank

Games

Play *The Hokey Pokey* and *Looby Loo*.

Make an obstacle course indoors or outdoors. Children go under tables and over a row of chairs. Label the obstacle course under, over.

In the circle, out of the circle

Draw a circle in the playground. Children move quickly on your command. If they step the wrong way ,they are out.

Use hoops in the playground. Children form teams, each member of which has a beanbag. They take turns to stand on a line and throw their beanbags into the hoop.

Toy box

Bring out your class toy box. Place some toys on the floor around the toy box, leaving the rest inside. Have children sit in a circle around the toy box. Ask the children, *Which toys can you see inside the box? Which toys can you see outside the box? What toy is in-between … and … ? What is beside … ? Are all the toys the same?* Identify groups and count how many in each group.

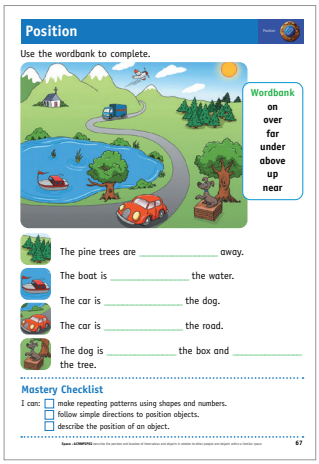
Ahoy!

Explain to students that they are deckhands on a ship and you are their captain. Mark out with masking tape (or chalk if outdoors) the space of the boat making sure to leave enough room for students to safely move together. Demonstrate the front and the back of the boat and make a masking tape line on the floor for the sails. Explain the rules of the game. When you call *above, below, in front* or *behind* students need to complete their jobs:

- above – stand on your tippy-toes to see out to sea
- below – scrub the decks
- in front – move in front of the sails to look for sharks
- behind – move behind the sails to clean the buckets
- outside – all children jump overboard

Students who don't complete the correct activity need to sit out until the next round begins. Award prizes for 'Perfect Positional Pirates'.

Student book page 67


Position

Use the wordbank to complete.

Wordbank
on
over
far
under
above
up
near

The pine trees are _____ away.

The boat is _____ the water.

The car is _____ the dog.

The car is _____ the road.

The dog is _____ the box and _____ the tree.

Mastery Checklist

I can:
- make repeating patterns using shapes and numbers.
- follow simple directions to position objects.
- describe the position of an object.

67

Teach and discuss

Student book page 67 Position

- Talk about how objects can be in two positions, eg under the table near the door.
- Have a child demonstrate where that would be.
- Choose different children and give them instructions about where something is hidden and ask them to find it, eg the pencil on the ledge under the board. Give many children a chance at this activity.
- Put a copy of the picture on the board (IWB). Ask the children to read the words from the list as you point to them.
- Have children come to the board and write a word from the list on the appropriate part of the picture, eg 'on' – near the car, as it is 'on' the road. Note 'on' is used twice.
- Children may now use the clues on the picture to complete the sentences. Assist where necessary.

Oral and mental strategies

Moving Teddy

Mr Mistake is told to place Teddy somewhere. Use position language, eg, above, inside, near etc. He sometimes puts it in the wrong place. Children identify the mistakes.

Activity bank

Where is Teddy?

The teddy bear is in a bucket, next to a book, in front of a table. Ask *Where's the teddy? Where's the bucket?, Where's the book?* (You could go on and on!) While children have their eyes closed, change the positions and when they open their eyes, they tell you what has changed.

Role plays

Gather the children in a group, standing with a little space around each one. Have them role play position words with their arms, legs etc. *Up!* – everyone reaches up. *Beside!* – they all stand beside someone or something.

Where are they?

Have a child stand in a certain place in the room, of their own choosing. They must have an idea in their head about how the class should describe their position. Have the other children guess where they think they are. *Are you beside the door? Are you under the table?* The child who guesses correctly has the next turn.

Children draw

Give children similar instructions to draw on a sheet of A4 paper. You draw your version as you give instructions. At the end, show your drawing and let children compare it with their own. Were they successful?

Mr Mistake draws

Have the children tell *Mr Mistake* one instruction at a time to draw a picture on the IWB or board. *Draw a tree in the middle of the board. Put a rabbit beside the tree. Put a hole under the tree. Put another rabbit's face coming out of the hole.* Sometimes, *Mr Mistake* does it wrongly and children must remind him where an object goes to be correct. Save the drawing and print it out for all to colour.

Position stories

Put the children in pairs, give each pair a collection of objects. Have one child make up a position story about the objects they have been given eg The ball is above the book. Their partner then has to place the objects in the correct position to match the story. If they are correct, then it is their turn to make up a position story.

Foundation

Term 3

Student book pages 70–77

Unit 17 Numbers to 30

Unit overview

Students consolidate counting to 20, learn the names of the numbers to 20, put the numbers to 20 in order, make groups of objects that belong between 10 and 20 and compare numbers, deciding which are larger and which are smaller. They will learn to count to 30 and using this ability count coins to 30c and make different combinations to 30c using the three different coins.

Foundation Content Descriptions

Number

AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

AC9MFN03 quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning

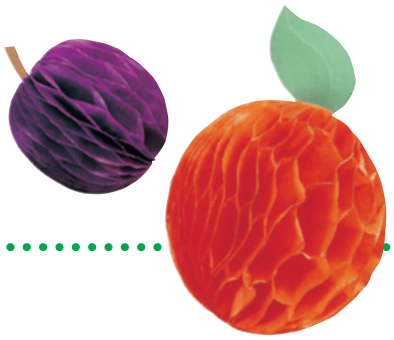
AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies

Key words

eleven to twenty, counting forwards, counting backwards, numbers, match, next, before, after, between, more than, less than, order, smallest, largest, twenty-one to thirty, coins, five cents, ten cents, twenty cents

Resources

A3 paper, A4 paper, numeral and word flashcards 1–20, counters, dance music, dot to dot, spiral book, 10 paper plates, pop sticks, coloured paper, tissue paper, magazines, 20 teddy bears from BLM 5, 30 ice-cream containers and lids, 30 plastic cups, buttons, cupcake ingredients, 30 balloons, play money coins, price tags, real coins, enlarged photocopy of BLM 3, ten frames, class shop



Targeting Maths app K

Numbers to 10

Numbers to 20

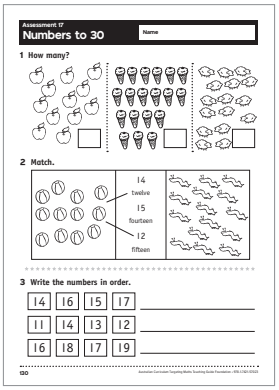
Numbers to 30

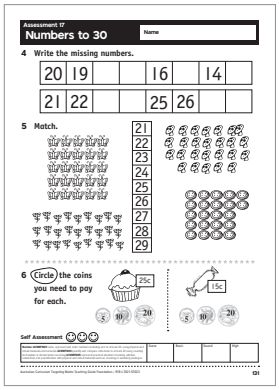
Number sense

Coins

Assessment 17

pages 130–131


Assessment 17
Numbers to 30
Name
1 How many?
2 Match.
14 twelve
15 fourteen
12 fifteen
3 Write the numbers in order.
14 16 15 17
11 14 13 12
16 18 17 19


Assessment 17
Numbers to 30
Name
4 Write the missing numbers.
20 19 16 14
21 22 25 26
5 Match.
21 22 23 24 25 26 27 28 29
6 Circle the coins you need to pay for each.
25c
15c
Self Assessment

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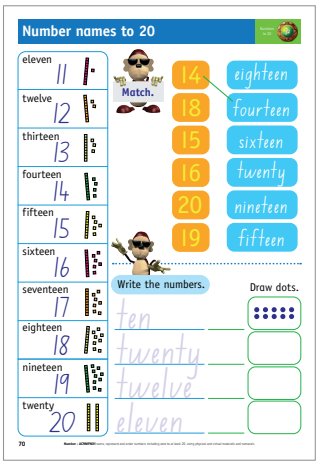
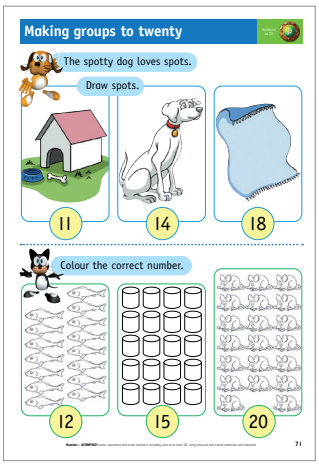
Student book pages 70–71





Teach and discuss

Student page 70 Number names to 20

- Make a set of stepping stones out of A3 paper.
- Have children recognise the numbers 1–10 on flashcards.
- Show children word flashcards 1–10. Show them one at a time. Have children match a numeral with a number word.
- Write the number words on the stepping stones as recognised.
- Repeat for numbers eleven to twenty.
- Children help to put the stepping stones in correct sequence.
- Children walk across the river and then back again counting each stepping stone forwards and backwards.
- Join numerals to their number words. Trace the words, write the numerals, draw the dots.

Student page 71 Making groups to twenty

- Use objects to count and numeral flashcards 1–20.
- Ask a child to count out 11 objects.
- Ask another to find the '11' flashcard and place it with the objects.
- Repeat through the numbers to 20.
- Take up all the flashcards and leave the groups of objects.
- Hand two cards each to various children.
- Ask them to place the cards with the correct group of objects.
- Have other children check and see if all are correctly placed.
- In the book, children draw spots to match numerals.
- Colour objects to match the numbers.

Oral and mental strategies

Counting

Count forwards and backwards 1–20. Start at different numbers and continue on. *What number is before/after?* Place groups of objects on the floor. Children estimate the number and then count.

Activity bank

What's my number?

Write number names one to twenty on sheets of A4 paper. Pin one card on a child's back. The child has to guess what number it is by asking yes/no questions. eg *Is it between ten and fifteen?*

Guess a number

Provide each child with twenty counters. Children put out a group of counters. Teacher shows a numeral card 1–20. Children count their counters and the closest number wins.

Numbers in order

You need sets of numeral flashcards 1–20. Jumble them. Children race each other to see who can put the cards in correct order first. Make a simple dot to dot 1–20 for the children to complete.

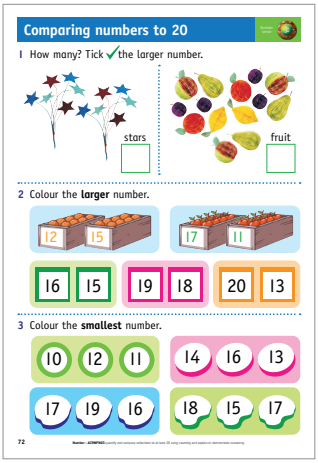
Music

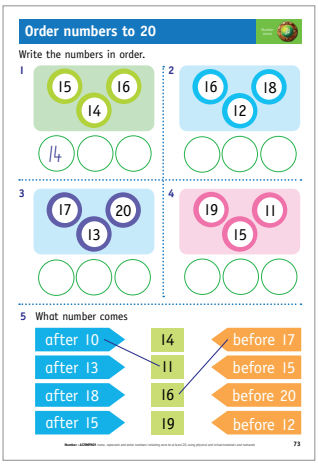
Choose some dance music which has a good 4/4 beat. Work out actions to do with the children and dance as you count, eg Count 1, 2, 3, 4 as you walk on the spot; 5, 6, 7, 8 as you take four steps back; 9, 10, 11, 12 as you take four steps forward; 13, 14, 15, 16 as you take four steps back; 17, 18, 19, 20 as you take four steps forward. Start again.

Numerals and number words for 11–20

Divide the class into small groups. Give each group two sets of 11–20 flashcards in numerals and number words. Have the children work as a group to match up all the numerals to their number words. When complete, give the groups flashcards that show collections of objects from 11–20 and have them match those to their correct numbers.

Student book pages 72–73





Teach and discuss

Student page 72 Comparing numbers to 20

- Make some pop sticks flowers with the class, using coloured paper, tissue paper or cut out pictures from magazines.
- Count how many flowers there are altogether.
- Ask a child to make a group of flowers. Child counts how many there are, eg ten.
- Ask another child to make a group of flowers, eg eight.
- Ask the children which group is the largest.
- Repeat with other groups of flowers. Give specific instructions, eg Put out a larger/smaller group. Put out a group with one more/less.
- Find how many in each group and then find the larger group.
- Find largest numbers. Find smallest numbers.

Student page 73 Order numbers to 20

- Use the pop stick flowers you made for page 72.
- Ask children to hold a secret number of flowers 1–20 in one hand.
- Call out the numbers 1–20 and have the child who is holding that number of flowers come to stand in a row.
- Continue through to 20. When there is more than 1 child with a called number, allow them to stand together.
- Leave spaces where no child has that number.
- When finished, have each group call out their number in order, counting across the row.
- Ask for children with numbers less than or more than, before or after to put their hands up, eg numbers before 12, numbers more than 14.
- In their books, children write the numbers in order.
- Find the numbers that come before and after given numbers.

Oral and mental strategies

Which number is the largest?

You need twenty assembled teddy bears (BLM 5), numbered one to twenty. Show two teddy bears, eg eleven and nine. Ask which number is the largest? … smallest? Have three teddy bears. Ask children to arrange them in correct order. Ask children what number comes before or after certain numbers.

Activity bank

Spiral book

You need a spiral book with large numbers written in order on the pages. Open to a page. Children say what number it is. What number comes before? What number comes after? Turn the page to see.

Class numbers

Use the children to compare numbers, eg hair colour, eye colour. Have children draw and colour their eyes. Put the same colours together and paste them in lines in groups. Count how many in each group. What colour do most children have?

Caterpillar

You need ten paper plates numbered from 11 to 20. Draw a caterpillar head on a piece of A3 paper. Jumble the plates. Children reassemble the caterpillar in correct numerical order. Ask *What number is between fourteen and sixteen?*

Concentration

You need a set of 1–20 flash cards. Jumble and then scatter them face down on the floor. Ask a child to turn over a card, eg 6. The next child has a turn and picks up a card. If it's a 7 they have another go. If not a 7 they put the card face down and the next person has a turn to find the next card 7. Continue until children get to twenty.

Cups in order

You need twenty identical plastic cups labelled 1 to 20. Ask children to put them in numerical order. Have children close their eyes while a child covers a cup. Another child has to identify which cup is covered. How did you know which one was missing?

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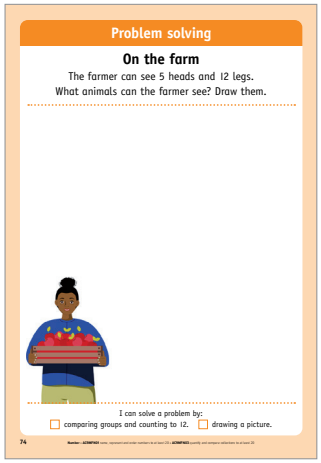
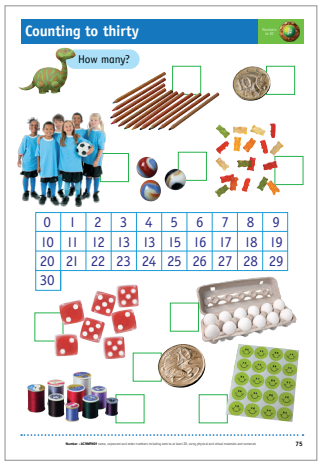
Student book pages 74–75


Problem solving

On the farm

The farmer can see 5 heads and 12 legs.
What animals can the farmer see? Draw them.

I can solve a problem by:
comparing groups and counting to 12. drawing a picture.


Counting to thirty

How many?

0	1	2	3	4	5	6	7	8	9
10	11	12	13	13	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30									

Teach and discuss

Student page 74 On the farm

Problem solving

- Match numeral and number group by counting.
- Talk about the animals a farmer might be able to see, eg cows, sheep, hens, turkeys, horses. Draw them on the board or show an illustration.
- Say what features each has that makes them easily recognisable as that animal, eg sheep are woolly, cows have horns, etc.
- Label each picture with the number of legs the animal has. (Stress that each animal will have one head, so number of animals is the same as heads).
- Less able children could draw the 5 heads and the 5 bodies (any shape) with teacher assistance.
- Allow the children to work on numbers of legs, remembering that no animal has three legs. They draw legs on the bodies and count up 12 legs.
- Ask the children to check their work by counting again and making sure there are 12 legs.
- When they are happy that the right number of legs and heads are drawn, children complete the drawings of the animals to be sure that they are easily recognisable. See features discussed earlier.
- Review: Discuss all the different types and numbers of animals the farmer can see. Were there some very original answers? Make sure children understand that this problem has many correct answers.

Student page 75 Counting to thirty

- Find the missing numbers.
- You need thirty ice-cream containers and lids.
- Label the lids one to thirty.
- Give each child a container (some children may have to have two).
- Children put objects, eg buttons, counters into their container to match its number.
- When the containers are filled the class counts the contents of each in numerical order. One. One, two. One, two, three. etc.
- Keep the containers with their contents.

Oral and mental strategies

Finger counting to 30

Count forwards and backwards to thirty. Ask children to hold up fingers and count together pointing to each finger. When you reach thirty, ask how many hands they had to use to count to thirty. Keep counting to thirty until every child's fingers have been counted.

Activity bank

One to thirty

Bring out the 1–10 containers and have children order them. Now bring out 11–20 and have children order them. Count the objects in the twenty container. Put them back and put the lid on. *If we want one more, how many would we have?* Twenty-one. Ask a child to count out twenty-one objects. *Which one says twenty-one?* Go through procedure to thirty.

Counting cupcakes

Make thirty cupcakes with the children. Count them and then eat them. Were there enough for everyone?

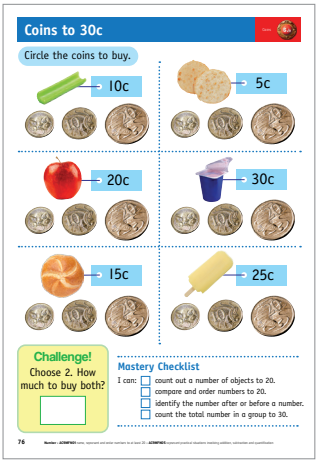
Balloons

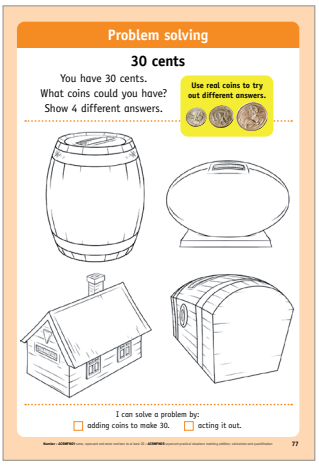
Label thirty deflated balloons one to thirty. Inflate them and put them into groups 1–10, 11–20, 21–30 and hang them up.

Missing numbers

You need thirty identical plastic cups labelled 1–30. Children put them into numerical order. Ask a child to cover one cup while other children have their eyes shut. Children open their eyes and say what number is missing.

Student book pages 76–77





Teach and discuss

Student page 76 Coins to 30c

- Find the correct coin to buy items costing 5c, 10c, 20c, 30c. **Challenge!** Find the cost of two items by counting on.
- Hold up 5, 10, 20 cent coins one at a time.
- Ask children to recognise them. See if children can describe what each looks like.
- Enlarge 5, 10, 20 cent coins from BLM 3, and use to discuss shape, size and the pictures on each. Leave coins on show.
- Pick up an object, eg a pencil. *If I wanted to buy the pencil and it cost 5c, what coin would I use?* If another coin is suggested, talk about getting change as it would be too much.
- Show a book and say it costs 10 cents. Ask children what coins they could use to pay for it. Ask if there is another way to pay for it.
- Repeat with 20c.

Student page 77 30 cents

Problem solving

- Practise counting to 30 using counters or counting objects.
- Practise counting to 30 starting at 20.
- Separate the first 20 from the next 10 and see how the 10 are added on.
- Separate the 30 counters into 5s. Count from 5 to 10 then to 20 and then to 30.
- Using large copies of the coins, put out several coins and have children count on as you point, to see how much you put out.
- Ask several children to put out coins to the value of 30c. Other children count and check.
- In their books, children draw different sets of coins to the value of 30c, checking by recounting.

Oral and mental strategies

Estimate groups

Use a variety of objects. Put out a number up to twenty and ask children to estimate how many in the group. Have them write their answer down. Count and check. *Who was correct? How did you do it?*

Repeat often using different groups of objects.

Activity bank

Shop

Set up a shop with the children's help. Label all the goods with prices eg 5, 10 or 20 cents. Make multiple photocopies of 5, 10, 20 cent coins on BLM 3. Copy onto cardboard and have children help to cut out the coins. Provide them for shop play. Children can be allowed time in small groups to purchase items. Discuss their experiences.

Guess my number

I have three coins. What could they be and what is their total? Have children use their own supply of coins to model with three coins then guess if their number is the same as yours. *Is your money a ten cent and two five cents, 20c?* Three coins can have many totals, from 3 five cent coins to 1 twenty cent and 2 ten cent coins.

Ten frames for thirty

Use enlarged ten frames or ten frames on the IWB. Colour dots for numbers 20–30. Ask children how we count them quickly. Count by 10s then ones, eg two frames and 3 more would be: ten, twenty, twenty-one, twenty-two, twenty-three.

Money

Discuss money and how we exchange money for goods and services. Have children think of as many different ways as possible how we spend money, eg food, entertainment, rent, travel, furniture etc.

Provide pairs of children with a 5c, 10c and 20c coin and have them make rubbings. Find out as a class about the lyrebird, the echidna and the platypus.

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Student book pages 78–80

Unit 18 Area

Unit overview

The main aim of this unit is for students to be familiar with comparing sizes of objects according to their areas. They measure area with informal units and count the squares in shapes to determine which has the largest area.

Foundation Content Descriptions

Measurement

AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

bigger than, same size, smaller than, biggest, cover, area, shape

Resources

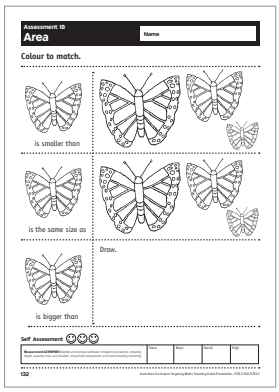
junk materials, maths book, blocks, books of different areas, ingredients for pikelets, sticky notes, blocks, books of different areas, 100 square, 20 × 20 cm squares of white paper, 2 × 2 cm of coloured paper, glue, objects to sort according to area

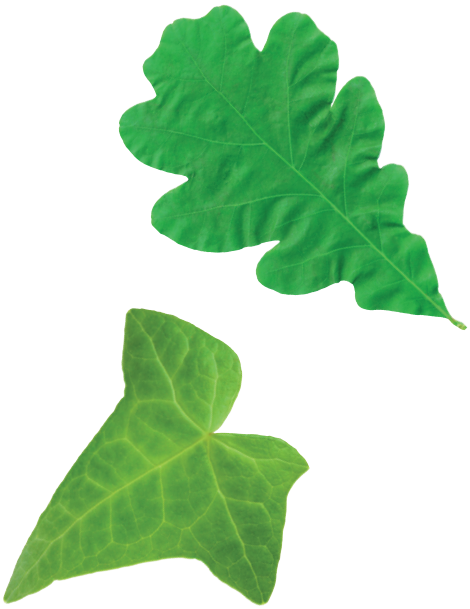
Targeting Maths app K

Area

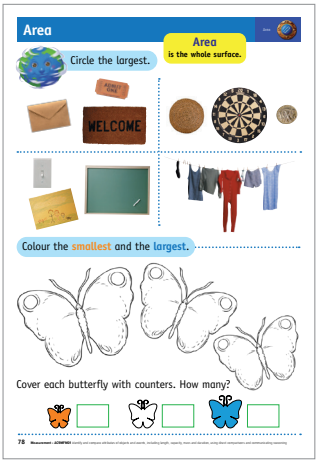
Assessment 18

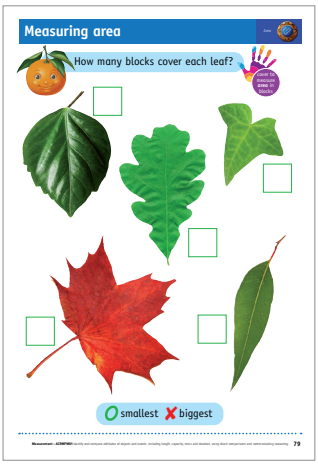
page 132


Assessment 18
Area
Name
Colour to match.
is smaller than
is the same size as
Draw.
is bigger than
Self Assessment



Student book pages 78–79





Teach and discuss

Student page 78 Area

- Put children into groups of 4 or 5 sitting around a maths book.
- Ask them to use their hands to cover one page of the book.
- They should not overlap hands or leave large spaces.
- *How many hands covered a book page? Does it matter which way you put the hands? Is the area still the same?*
- Now have them cover half the page of the book and count the hands that cover it.
- Introduce the word 'Area' as the measurement we use to talk about the space that is covered by a shape.
- *The area of the whole page is larger than the area of the half page. Why? It takes fewer hands to cover it.*
- Discuss what we can use to measure area, eg counters, paper squares, blocks, hands. *We must use the same thing to measure objects we are comparing.*
- Children see which objects are largest and circle them.
- They measure using counters, identify the smallest and largest and colour accordingly.

Student page 79 Measuring area

- Choose some items in the classroom and spread them out in front of the children eg different sized books, pencils cases, pad of sticky notes, pieces of paper. *Which of these covers the largest area? Which of these covers the smallest area? How could we check if you are right? What could we use to measure their area?*
- Have children in small groups measure the area of the items using blocks. They should leave not gaps and not have any blocks overlapping. Record the number of blocks used to measure the area of each item on a sticky note and place it beside the item.
- Arrange the numbers and items in order from smallest to largest.
- Children use blocks to measure the leaves on page 79 of their books.

Oral and mental strategies

Smaller/bigger area

Take opportunities to talk about the area taken up by something. Talk about the two meanings of 'area' as a place and a measurement. Using shape blocks, show a simple picture for a short time. Cover the picture and children copy it. Say two items, eg a book cover and a card. Children say which has the bigger/smaller area. You say one item, eg the desk top, and children have to state items that are bigger/smaller in area.

Activity bank

Clues for area

Place several picture books of different sizes on a table so children can see them. *I am about to pick up a book. It covers 5 hands of space. Which book is it?* Children guess which book you are about to pick up.

Playground area

Look at the area taken up by certain features of the playground, eg the eating place, the lining up place. (Be careful not to confuse children about the use of the word 'area' as a place as well as a measurement.) Discuss *Which place has the largest area in the playground? Is your backyard larger or smaller than the playground?*

Cooking

Make pikelets, big and small. Find the biggest and smallest pikelets. Have fun eating the pikelets.

Junk buildings

Children make constructions out of junk materials (boxes, toilet rolls) to develop ideas of area being the surface covered.

Use incidental events of the day to develop ideas of area eg Define areas like 'craft area', 'reading area', 'language area'. *Do we have enough paper to cover the table?*

Hand sizes

Encourage children to have their carer draw around everyone's hands in their household. Children can bring the outlines to class. As a class, look at the different hands. Cut them out, label and put on a wall chart labelled 'Our Hands'. Identify the biggest and smallest and label. Tell the story of the *Three Bears*. Try to find props to visualise the different sizes.

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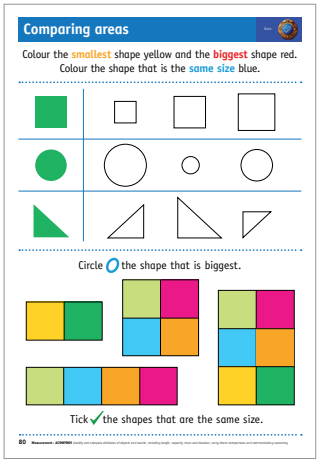
Student book page 80



Teach and discuss

Student page 80 Comparing areas

- Children circle the biggest shape.
- You need two books with covers of different areas, eg a telephone directory and a small reader or a 'big' book.
- Children run their hands over the front covers.
- *Which book cover has the bigger/smaller area?*
- Have children cover both books with identical blocks.
- Count the blocks. *Which cover had the most blocks on it?* That is the bigger area.
- Repeat using two other items.

Oral and mental strategies

Square it

Display a blank 100 square (BLM 6) on the IWB. *A farmer has 4 sheep. Each sheep needs one square paddock. The paddocks need to be connected to each other. How could the farmer arrange the sheep?* Have children colour different ways the paddocks could be arranged. *Although the paddocks may be arranged in different shapes, they have the same area.*

Repeat with different scenarios and numbers.

Activity bank

Different shape, same area

In small groups, children use six similar blocks to make different shapes using all six blocks. Compare the shapes when finished. *Although these shapes are different, they all have the same area.*

Cover it

Children need a 20 × 20 cm square of white paper and 2 × 2 cm squares of paper in a variety of colours. They paste the coloured squares onto the white square to make a colourful design, ensuring they do not overlap any pieces or leave any gaps.

Sorting

Provide children with opportunities to sort a range of objects according to their area eg paper in the scrap paper box, leaves collected from outside, books in the reading corner. Once sorted, children can arrange from smallest to largest.

Larger areas

Look for larger areas in the classroom and school grounds that have been covered and discuss their area eg tiles on the ceiling or floor, sheets of paper or paintings to cover a display board, concrete blocks in a path or the eating area, bricks in the wall. Children can look at home for areas that have been covered with tiles or boards.

Student book pages 81–83

Unit 19 2D Shapes

Unit overview

In pattern making, students see these shapes in different positions, forming patterns by alternating. They make their own shape pattern using colour as well as shape. Students use their knowledge of key features of 2D shapes and identify different orientations and sizes from a group. Through the problem solving page, students can show their understanding of different lines and corners that come together to form shapes.

Foundation Content Descriptions

Space

AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons

Algebra

AC9MFA01 recognise, copy and continue repeating patterns represented in different ways

Key words

shape, triangle, square, rectangle, oval, circle

Resources

2D shapes, coloured paper, *Mr Mistake*, multi-attribute blocks, pattern blocks, paper shapes, mini whiteboards, large paper, ingredients for cooking, tangram sets

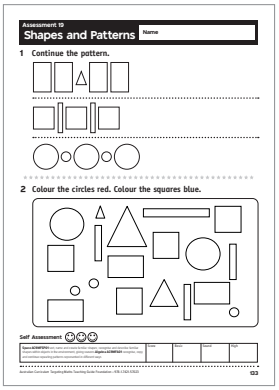
Targeting Maths app K

Patterns

Sorting

Assessment 19

page 133

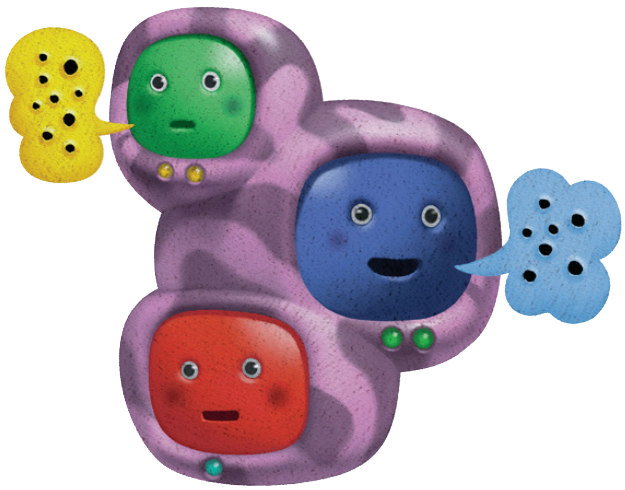

Assessment 19

Shapes and Patterns Name

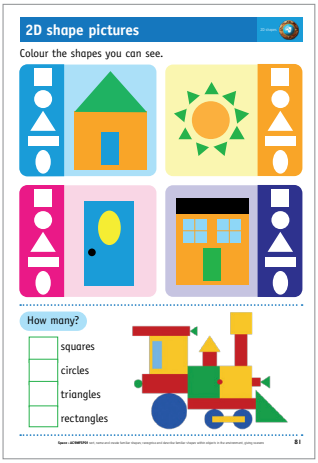
1 Continue the pattern.

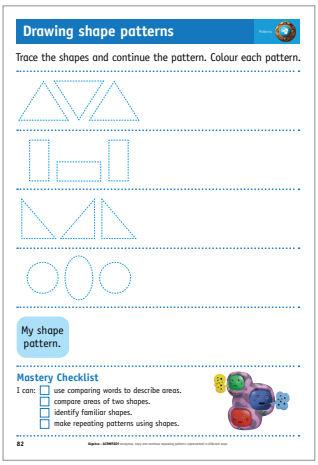
2 Colour the circles red. Colour the squares blue.

Self Assessment



Student book pages 81–82





Teach and discuss

Student page 81 2D shape pictures

- Make a shape using a variety of 2D multi-attribute blocks. *Look at my … (flower). What shapes did I use to make my flower? How many circles did I use? How many ovals? How many rectangles? How many triangles?*
- Repeat with another shape.
- *Who can make a car using these shapes?* Choose a child to make a car. Have others describe the car according to the number of and shapes used.
- Children look for and identify the shapes used in the 2D pictures.

Student page 82 Drawing shape patterns

- Identify shapes and the pattern. Repeat it by tracing around the shapes. Colour each pattern.
- You need multi-attribute blocks. Children sort the blocks according to shape and name the different shapes.
- Lay out ten shapes, eg two small blue circles, three big blue circles, five red squares.
- Children count them.
- Children describe how the shapes are different.
- Children sort the blocks according to their shape..

Oral and mental strategies

Picture this

Using shape blocks, show a simple picture for a short time. Cover the picture and children copy it.

Activity bank

Silent shapes

Students sit in pairs with Student A sitting directly behind Student B. Student A draws a shape using their finger on Student B's back. Student B then needs to guess the shape Student A has drawn.

Cook

Cook shapes – square and rectangular biscuits, round pizzas.

Grouping shapes

Put students into small groups and allocate each group a 2D shape. Students need to explain the key features of each shape and then use photographs, pictures found in magazines or online, drawings, paintings and craft objects to build a poster to tell the class about their shape. Students work in groups to create the A3 poster and then take turns to explain their poster to the class. If technology is available, get students to use different computer programs to create their posters.

Pattern making

Children draw around geometric shapes onto sheets of coloured paper. Cut out the shapes and paste them on paper to make a repeating pattern. Different children describe the patterns made, eg blue square, yellow circle, red square. It is a three pattern.

Shape pictures

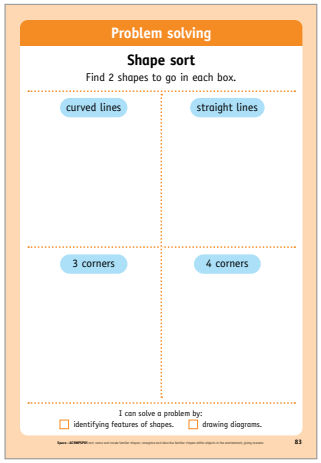
Children use multi-attribute 2D blocks to make pictures. They describe their pictures according to the number of and shapes used.

If coloured paper shapes are available, children can make pictures using the shapes then paste them onto white paper and draw in additional features.

Tangrams

Provide children with opportunities to complete easy tangram pictures.

Student book page 83


Problem solving

Shape sort

Find 2 shapes to go in each box.

curved lines | straight lines

3 corners | 4 corners

I can solve a problem by:

☐ identifying features of shapes. ☐ drawing diagrams.

83

Teach and discuss

Student page 83 Shape sort

Problem solving

- Put out pattern blocks, multi-attribute blocks and paper shapes including the 5 different shapes.
- Place the shapes in different groups chosen for having curved lines, straight lines, 3 corners or 4 corners. Put all others in another group.
- *What other groups could you form from the shapes? 6 sides? 8 sides?*
- Give the children a handful of pattern blocks and counters and ovals. Have them put them on their page according to the groups to which they belong.
- Ask them to draw shapes for each group.
- Discuss the results. *Did everyone have the same shapes?* What differences were there?
- Children will then go on to draw 2 shapes that go into each group on their page.

Oral and mental strategies

Shape search

Find 2D shapes in the classroom. Name them. Play *I am thinking of a shape*. Children ask questions, eg Does it have straight sides? The child who guesses 'thinks' of the next shape.

Mr Mistake puts blocks into wrong categories. Children discuss his mistakes.

Activity bank

Tracing shapes in the air

Children trace shape patterns which you have drawn on the board with their finger in the air. Try to make them draw accurately.

Drawing blind

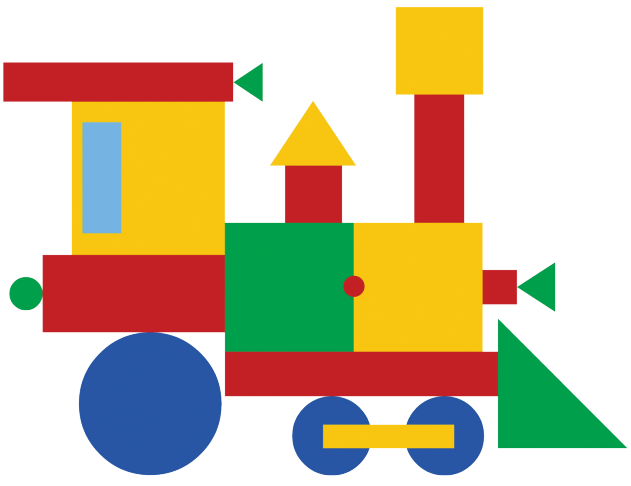
Have children close their eyes and draw on either mini whiteboards or large paper shape patterns which you announce. Say three shapes in a row and possibly increase the number to remember and draw as the session goes on.

A 2D body

Children draw body shapes of either creatures or people only using known 2D shapes, such as rectangles, squares, circles, triangles. Discuss which shapes worked best for particular parts of bodies.

New patterns

Hand out about 10 2D shapes on paper to 10 children. Each group should only get 2 to 3 different shapes in their group. The children arrange themselves into a pattern if they can, using those shapes. They hold the shapes in front of themselves for the others to see if they made a pattern.



Student book pages 84–89

Unit 20 Groups

Unit overview

Students judge the tallest and shortest, the highest and lowest of three objects. They draw a deeper, thicker, thinner and wider space on an object. They also judge things which are longer or shorter in length than their pencil before going on to show a taller and a shorter person in height.

Foundation Content Descriptions

Number

AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies

Key words

count, how many?, group, row, different, equal, unequal, match, equal shares, shared between

Resources

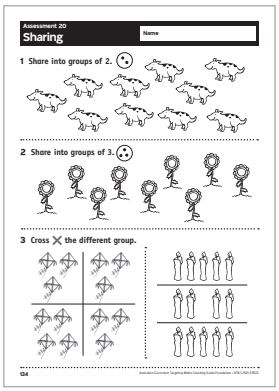
popstick flowers, counters, flashcards 1–20, toys, magazines, plastic animals, *When the Doorbell Rang* by Pat Hutchins, cupcake ingredients, A4 and A3 paper, Oz tag equipment, muffin trays, egg cartons, counters, toys, Mr Mistake puppet, objects for counting, sand, fish bowl, shells, toy fish, sharks, turtles and dinosaurs, counters, toys, Mr Mistake puppet, blocks, objects for counting, A4 and A3 paper, voice recording equipment

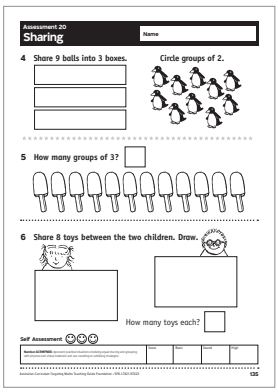
Targeting Maths app K

Group

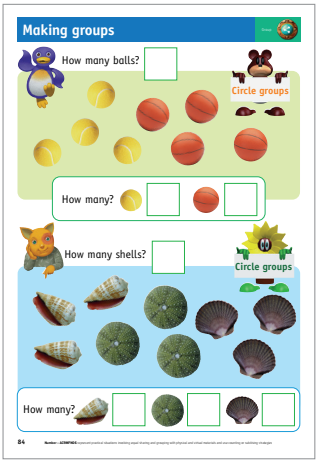
Assessment 20

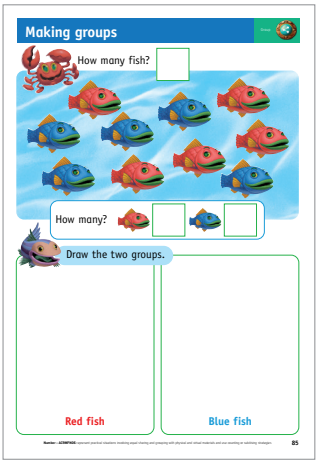
pages 134–135


Assessment 20
Sharing
Name
1 Share into groups of 2.
2 Share into groups of 3.
3 Cross ✕ the different group.
134


Assessment 20
Sharing
Name
4 Share 9 balls into 3 boxes.
Circle groups of 2.
5 How many groups of 3?
6 Share 8 toys between the two children. Draw.
How many toys each?
Self Assessment
135

Student book pages 84–85





Teach and discuss

Student page 84 Making groups

- Count how many, circle the groups, then state how many in each group.
- You need the pop stick flowers from page 29.
- Put out a number of flowers in two colours, eg three yellow and three purple.
- Tell the children you have made a group of flowers.
- Ask them to count how many flowers.
- Ask a child to make two groups – one of yellow flowers and one of purple flowers.
- Count how many in each group.
- Ask children to put out other groups using two colours and then make them into two groups.
- Use three colours, three groups, then four colours, four groups. Make more flowers for larger groups.

Student page 85 Making groups

- Discuss sharing. *Who do we share with? Why do we share? Why is it important to share?*
- *Counting is an important part of sharing. We need to count carefully to make sure we know how many items we have to share.*
- Practise counting 0–20.
- Show a group of 8 toys to the students and invite them to count the objects with emphasis on one-to-one correspondence for accurate counting.
- *How can we record the number of toys we have?* Encourage students to think about drawing items, using numerals, symbols and words to describe the group.
- Split the group into two equal groups. *How can we record the two equal groups of toys now?*
- Together, brainstorm ideas for displaying the information taking each suggestion and demonstrating how this would be recorded to reaffirm diverse mathematical thinking processes.
- Talk through the page with students and allow sufficient time to complete. Provide helpful hints for less able students, such as marking off the fish as they are drawn to avoid them being counted more than once.
- Bring the students together on the floor for a sharing circle. Students with commendable work explain to their peers how they completed the page.

Oral and mental strategies

Making two groups

Give children twenty counters each. Flash a numeral card 1–20, eg 14. Children put out that number of counters. Tell them to make two equal groups. Ask how many in each group. NB: Only use numbers 2, 4, 6, 8, 10, 12, 14, 16, 18, 20.

Activity bank

Magazines

Provide old magazines and catalogues or print pages from online catalogues for children to cut up. Divide children into small groups and give each group a theme, eg people, animals, food, transport. Children select pictures about their theme and then put them into groups. Children can paste their pictures onto sheets of paper. Discuss.

Animals

Provide small plastic animals for children to play with and put into groups. Discuss numbers made, eg *There are fifteen horses. Five are white, five are brown and five are black. Share them into three groups.*

Book reading

Read *When the Doorbell Rang* by Pat Hutchins. It is about sharing.

Cooking

Make cupcakes with the children. Count the cupcakes altogether, and then share into four groups. Each group a different colour. *How many of each colour?*

How many altogether?

Take the children out into the playground. You can either use Oz tag belts or ribbons. Give half the class one colour, say pink belts or ribbons, and the other half yellow belts or ribbons. Ask the two colours to stand in separate groups. *How many pinks? How many yellows?*

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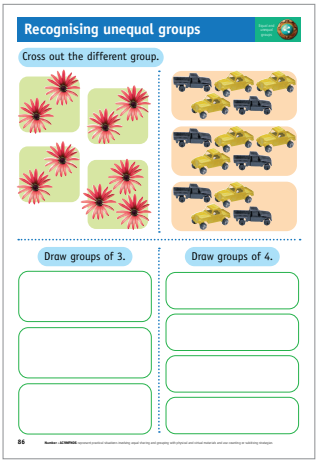
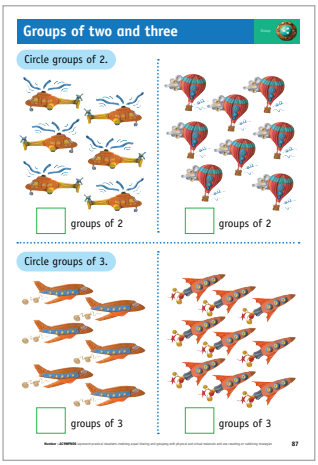
Student book pages 86–87





Teach and discuss

Student page 86 Recognising unequal groups

- Remind students about the sharing discussion from page 85, revising the concepts of one-to-one correspondence for counting to allow for accurate recordings of sharing.
- Show students 8 toys. Share the toys unequally into two groups by placing 2 toys in one group and 6 toys in the other. *Which group of toys would you prefer? Are the toys shared equally? How could we share the toys equally between the two groups?*
- As a class, discuss how we share objects equally, emphasise counting and re-counting to ensure accurate descriptions.
- Talk through the page with students and allow sufficient time to complete. Provide helpful hints for less able students, such as using counters to mark out on the page the groups of 3 and 4 to help with accurately recording numbers.
- Bring the students together on the floor for a sharing circle. Students with commendable work explain to their peers how they completed the page.

Student page 87 Groups of two and three

- Make groups of two from a larger group. Make groups of three from a larger group.
- You need a group of toys, use all of the toys. Same type of toy, eg cars. Put out an even number of toys. Ask a child to make groups of two. *How many groups do we have?* Choose other even numbers and repeat.
- Explain the meaning of rows.
- Put out other numbers, eg nine, and ask a child to put them into three rows.
- Put out other numbers and have children make rows of equal numbers.
- Put out a group, eg nine, and make three groups of two and one group of three. Ask why it is different.

Oral and mental strategies

Equal and unequal groups

Put out six toys and ask *Mr Mistake* to share them equally between two people. *Mr Mistake* shares unequally. Children say what mistake has been made and correct it. Make other mistakes for children to explain.

Activity bank

Groups and rows

Provide opportunities for children to explore making groups and rows. eg Provide small groups of children with frogs, flowers, fish, plastic farm or zoo animals etc. that can be grouped or formed into rows. They tell a story to the class about their groupings.

Encourage incidental experiences throughout the day. Walk in twos to the library. We need groups of three for this activity. We need five chairs at each table.

Sharing shells

Using an even group of shells demonstrate to students sharing equally between a pile of sand and a bowl of water. Count the shells before you begin sharing them. Ask students to make an estimate. *How many shells will be on the sand? How many shells will be in the bowl of water?* Repeat with toy fish, sharks, dinosaurs, turtles, etc. Discuss with students the best way of recording this information using pictures, photographs, numerals and words.

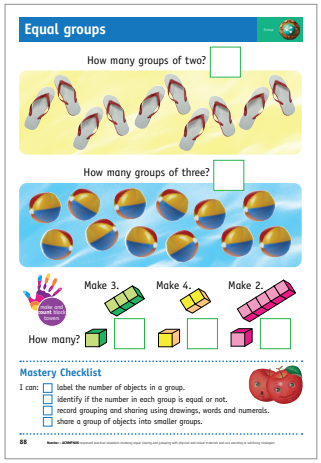
Rows

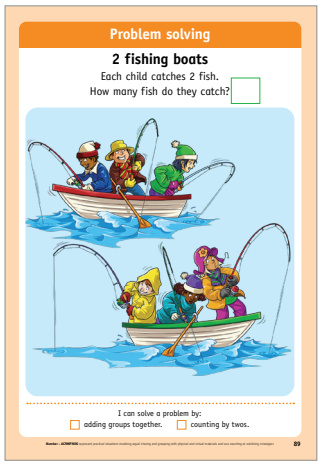
Have a discussion about items that have rows, eg egg cartons, muffin trays, cupcake cooking trays, toilet paper packs. Have some items for the children to look at. Count the number of rows and the number of items in each row. Put them on display. Make a chart and encourage children to suggest more items for it. Play some music. Children dance in rows (or groups) of 2, 3 etc.

The beehive

Have 12 children come to the front of the class, two are to be the beehives and the rest are to be the bees. Have your bees hide behind one of the two beehives. Starting with one beehive sing the rhyme, *Here is a beehive, but where are all the bees? They are hiding away where nobody sees. Watch them as they come out 1, 2, 3.* Count all the bees that come out from behind the first beehive. Ask, *How many bees were hiding in the beehive?* Repeat for the second beehive. *How many bees were hiding in the second beehive? How many bees are there altogether?*

Student book pages 88–89





Teach and discuss

Student page 88 Equal groups

- Children count the objects then make equal groups of two or three. Explore: Children make the block towers in groups and then count the number of blocks needed.
- Use the flowers from page 29.
- Put out a number of flowers, eg 12. Children estimate how many there are.
- Repeat many times. Also use other objects for estimation practice.
- Use the flowers then to make groups. Make three equal groups. How many groups? How many in each group?
- Children make groups. Make three groups of three.
- The class counts how many altogether.

Student page 89 2 fishing boats

Problem solving

- Put out a teddy bear, a doll and another toy animal.
- You are to give each toy 2 blocks.
- Have a child model giving two to each.
- Ask how many altogether. Have a child count how many.
- Repeat by giving the toys 3 of something each.
- Count again.
- Sit the toys on A3 sheets of paper. This time give them 3 of something by just drawing them on the paper.
- Count up the total given out altogether.
- At their seats, have the children draw two fish for every child and count how many fish they caught altogether.

Oral and mental strategies

Sharing

Mr Mistake is asked to make groups of two/three/four and makes mistakes sometimes. Children correct his errors. Hold up or display some items. Children mentally must group them into given numbers. Encourage children to ask questions. *I share 8 oranges between four children. How many each?*

Activity bank

Copy my groups plus some

In pairs, one child makes a grouping of up to 15 counters. Their partner must make the same grouping plus 1 in each group.

Listen, think, solve

Ask students about problem solving tasks they like. *What makes these tasks enjoyable?* Explain that students are going to voice record their own problem solving tasks for other students to solve. Give groups of students different topics and provide examples of how these questions could be phrased. Ask students to draft their ideas and correct to ensure punctuation and grammar are consistent throughout. Give students the opportunity to record their problem solving tasks. Play a problem solving task before/after each maths lesson, and after students have the opportunity to solve the task, get the writer to explain to their peers how to get the correct answer.

Copy my groups

In pairs, children model groups with up to 12 counters. They make sure they have placed the groups obviously, with space around them. They do not have to use all 12 counters. Allow the partner to see the group for a few seconds. Their partner then has to make the same groups without seeing the original.

Groups into rows

Have children take a grouping of say, 3 groups of 3 and make it into 3 rows of 3. They say '3 rows of 3 makes 9'. A partner can dictate the other to make, say, 4 rows of 2 and it must be made correctly. The partner checks and both agree when it is correct.

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Make a Picture Ruler

You will need:

- scissors
- coloured pens
- laminator
- one long strip of paper (one A4 sheet of paper will make 8 long strips)

What you do:

1. Fold your strip in half and in half again.
2. Fold it in half one more time. When you open it up, you should have 8 rectangles that are the same size.
3. Draw a picture in the first rectangle. See if you can make your picture fill up the whole rectangle.
4. Draw the SAME picture in the next 7 rectangles.
5. Write your name on the back of your picture ruler.
6. If you can laminate your picture ruler, it will last a long time.

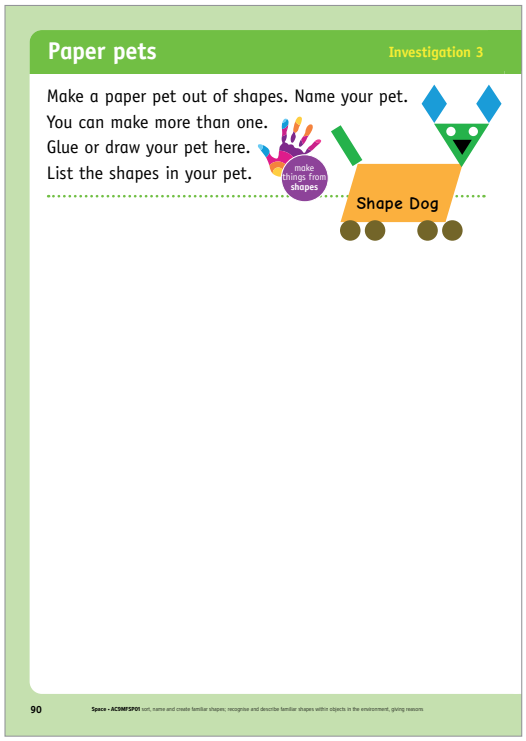
Note: It may be necessary to outline the rectangles with a black marker.

Student book pages 90–91

Investigation 3 Paper pets

Overview

Students work with a range of shapes. They may be creative and invent shapes such as the rhombus. They will make a paper pet and a house for it to go into. While the picture is of a dog, they are not restricted and can make a purely imaginary pet, providing they are using 2D shapes which they can name or learn to name. They glue shapes into place or draw their pet made of shapes.



Foundation Content Descriptions

Space

AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons

Key words

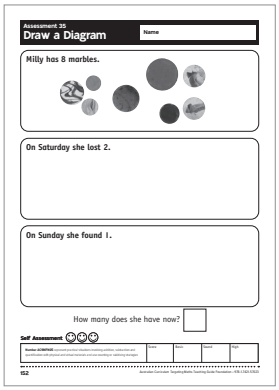
square, rectangle, circle, triangle, oval, large, small

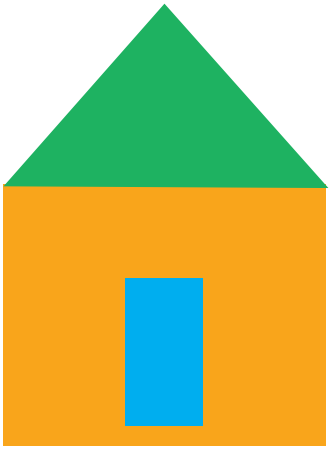
Resources

coloured paper shapes ready cut, scissors, glue, pattern blocks

Assessment 35

page 152





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Student book pages 90–91

Investigate

How can we use the 2D shapes to go together to make pleasing pictures?

Skills

Identifying, cutting, assembling and naming 2D shapes.

Teach and discuss

Student page 90 Paper pets

- Review the shapes of squares, triangles, rectangles, circles and ovals.
- Review their attributes of sides and corners, straight or curved.
- Point out how the pet must be made of shapes that are neatly cut with straight lines where there are supposed to be straight lines.
- Ask the children to make a pet animal from pattern blocks first.
- They may keep this model if they wish to copy it with paper shapes.
- They may use ready cut paper shapes or cut shapes themselves or some of each method as they please.
- Don't forget the naming of the pet.

Student page 91 Paper pets

- Using similar methods to the previous lesson, discuss the shapes to be used.
- *Which shapes might you use more in this task than in the last task?*
- Have the children make a house for their pet in the same way as they did the pet.
- Have children explain their house shapes and how they went together. *Did some sides match?*
- Children may wish to explain certain features of their pet's house, eg the door is very wide because he is very fat.
- Children evaluate their enjoyment of these tasks by colouring the stars; 5 stars for the most enjoyment; 1 star for the least enjoyment. Discuss.

Oral and mental strategies

What can you see?

Visualisation games: Can the children remember and see a 4-sided shape in their minds? Can they see a curved shape in their minds? *What colour is your shape? Where is your shape?* What else can they tell about the shape they see in their mind's eye?

Activity bank

Pattern blocks

Children are challenged to make a pattern or a picture using only 1 or 2 different pattern blocks or using a set number of blocks. They can also make designs using as many different blocks as they like.

Block patterns

Call out a series of blocks, eg 'triangle, square, square, triangle' and have the children make it without having you repeat the instruction at all.

Barrier game

With the children in pairs, have them choose 3 pattern blocks only. They should not all be different blocks. Children should not see each others' patterns, but have to identify how many of each shape has been chosen by their partner. Each child asks yes/no questions to identify what blocks are in the other's pattern. When they get a yes answer, they have another turn. The first to identify all of their partner's blocks is the winner.

Treasure hunt for shapes

Make a list of shapes around the room and have fast finishers find the shapes you have listed, eg 3 rectangles, (a window pane, a book cover, a teacher's box) 2 squares, 2 circles. The children can draw the objects or write their names depending on ability.

Outdoor shapes search

On a walk to or from an outside activity, stop and observe 2D shapes used in the environment, especially on buildings. Children can observe how the view of the shape changes with our different perspective.

Unit 21 Addition

Unit overview

Students add to make ten using different coloured counters. They use money amounts adding on from ten as well. Using colour, they show the addition of three numbers on a line. They solve the problem of which three numbers can add to a dozen.

Foundation Content Descriptions

Number

AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising

AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts

AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies

Key words

numeral, number, one to ten, and more, make, counting on, count forwards, group, altogether, not enough, too many, add, addition, more, less, makes, adding, money, how much altogether?, coin, dollar, equal to, spend, cost

Resources

counters, dot pattern cards 0–10, numeral and word cards zero to ten, real money, photocopies of $5 notes, toys, BLM 3, cardboard, price tags, items for shop, A4 paper, + and = cards, dice, blocks, bucket

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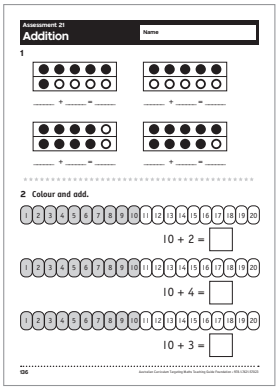
Tens frames

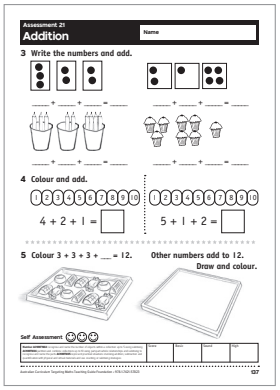
Count on

Add to 10

Assessment 21

pages 136–137


Assessment 21
Addition
Name
1
2 Colour and add.
10 + 2 =
10 + 4 =
10 + 3 =
126


Assessment 21
Addition
Name
3 Write the numbers and add.
4 Colour and add.
4 + 2 + 1 =
5 + 1 + 2 =
5 Colour 3 + 3 + ___ = 12.
Other numbers add to 12. Draw and colour.
Self Assessment
127

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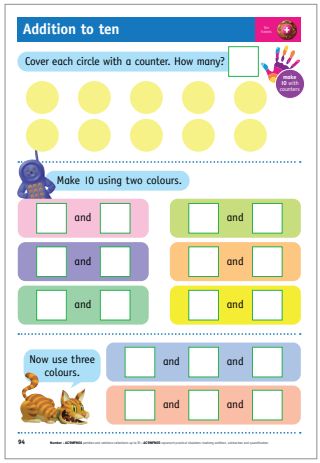
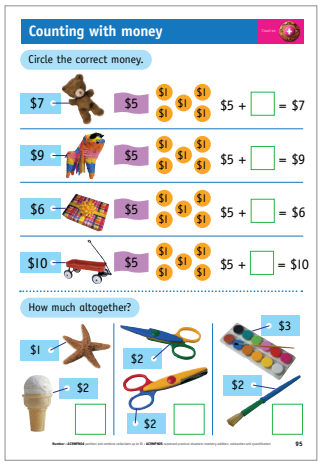
Student book pages 94–95





Teach and discuss

Student page 94 Addition to ten

- Use counters in two and three colours to find combinations to ten by counting on.
- Children need their number bears and ten counters.
- Ask children to count to five. They put a counter on each bear 1 to 5. *What number are you on? Add two more bears.*
- *What number are you on now? What have you found?*
- Five bears and two more make seven bears altogether.

Student page 95 Counting with money

- Show children a $1 coin. Enlarge $1 coin from BLM 3 and talk about what the coin looks like.
- Show a $5 note and talk about it.
- Make five $1 coins using BLM 3.
- Ask the children how many $1 coins would be needed if something cost $5. Have a child take 5 $1 coins. Ask for other amounts to $10.
- Ask children why they think there is a $5 note.
- Ask children what money they could use if an item cost $8.
- Repeat for another amount between $5 and $10. Encourage children to use the $5 note and count on with $1 coins.
- Circle the correct money to buy items by counting on.
- Find how much altogether by adding two money values.

Oral and mental strategies

How many more?

Flash a dot pattern card. Children put out that number of counters, eg six. Ask children to put out more counters to make, eg nine. *How many more counters did you need?*

Make a fist with one hand and then show, eg three fingers. Have children copy. *How many fingers?* Now make a fist with the other hand and show four fingers. *How many fingers altogether?* Count on 1, 2, 3, 4, 5, 6, 7. Repeat for other numbers.

Say a starting number and then give a count-on number. Children count as a class. Discuss the workings of a clock. Have a cut-out clock with no numerals. Children tell where the numbers go.

Activity bank

Game shop

Make multiple photocopies of $1 from BLM 3. Copy onto cardboard and have children cut out the money. With the help of the children, make a shop, eg a game shop. Put price tags of $1 or more (only whole dollar amounts) on items. Children can practise buying goods for money. Discuss with children what they bought, how much it cost, and what money they used to pay for it.

Flashcards

Flash either a dot, word or numeral flashcard for zero to nine. Children put out the correct number of counters. Then ask them to add one more. *How many now?* Extend children by saying two more, three more.

Addition stories

Encourage children to make up simple addition stories using two numbers, eg *David has two pencils and Vanessa has six pencils. How many pencils altogether?* Children can use counters to help solve the problems.

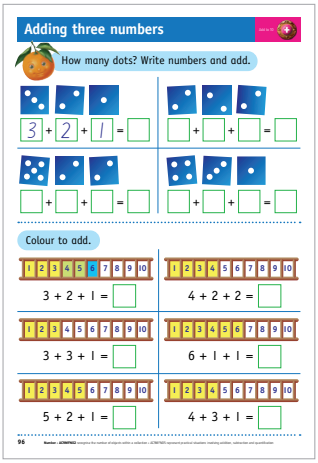
10 in a bed

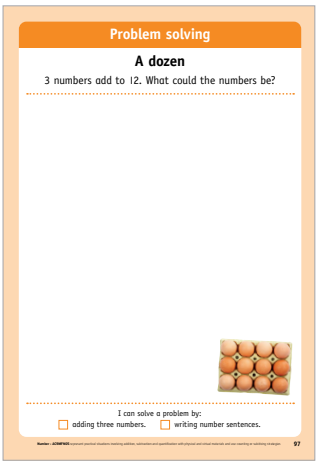
Using the box bed from the 'Ten in a bed' activity and 10 toys, have one child come up and place a number of toys in the bed. As a class, count the toys in the bed. Keep putting toys in the bed and counting on with the class. You could even count in twos, discussing with the class as you go the number of toys in the bed, and number of toys out of the bed. You can repeat this activity with a different number of toys in the bed to start off with each time.

Counting book

Give each child some A4 pieces of paper and show them how to fold and cut their paper to make a small book. Make sure each child's book has 10 pages. Then have them write a number from 1–10 at the bottom of each page. Then have them draw or stick the correct number of objects onto each page.

Student book pages 96–97





Teach and discuss

Student page 96 Adding three numbers

- Put out three dot cards of numbers less than 6.
- Have children identify the numbers of the three cards, eg 4 and 3 and 2.
- Children count up the dots or have one child count up the dots carefully.
- Put numeral cards under the dot cards and 'plus' and 'equals' signs in place.
- Show on the board how this will look in their books when written.
- Place numeral cards in a row like a number line.
- Model how to colour numbers to show an addition, eg 3 + 2 + 1 =
- Children will complete their page using the two strategies. Leave the evidence of your work for them to see as they work.

Student page 97 A dozen

Problem solving

- Review the work done on page 96.
- Practise adding two and three numbers using materials – dot cards and numeral cards in a number line.
- Point out that children can choose any number combination to add to twelve, but they must show it with dots or with number cards. They are to write a number sentence as on page 96.
- More able children can find many different ways to add to 12. *How many can you get?*
- Less able children will require some scaffolding, eg _____ + _____ + _____ = 12

Oral and mental strategies

How many ways can we add to a number?

How many ways can we add to make 6? to make 8? etc. Make sure children realise that there are many ways we can add to make numbers. Practise counting by counting off the whole class as they line up for an activity.

Activity bank

Buzz counting

Children will say Buzz on every 5 number. If necessary, hold up the numbers, 5, 10, 15, 20, 25, 30 to remind the children these are the Buzz numbers. At 30 start again. Buzzed children keep playing normally. Do not change the counting.

Body counting

Decide on a pattern of body percussion to use for various numbers, eg clapping on knees and hands for counting twos. Knees are slapped on every second number and it is stressed at the same time. One, two, three, four, five, six … etc up to 30. Try three patterns with a suitable clapping/slapping pattern.

Count on

Place a given number of blocks in a bucket. Have children close eyes and listen as you drop more blocks into the bucket. They count on from the starting number and tell how many are in the bucket at the end. You could continue counting on up to 30.

Die addition in fours

Make groups of 4 children. Three children roll one die each. The fourth child has to write down the numbers of each roll and add them up, using any materials necessary. They give the answer and it is checked by the others in the group. Change tasks. Play so that each child has to do the adding twice. See who gets the largest/smallest addition answer.

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Student book pages 98–99

Unit 22 Time

Unit overview

Students learn the seasons of the year, their order and the months which are associated with those seasons in Australia. Children tell o'clock times on an analogue clock.

Foundation Content Descriptions

Measurement

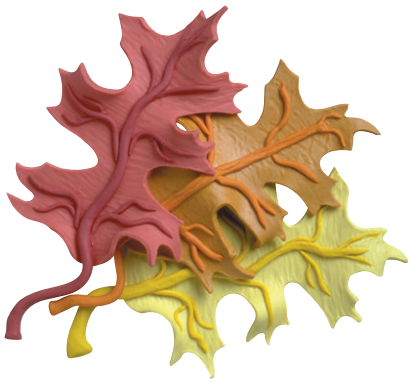
AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions

Key words

season, spring, summer, autumn, winter, before, after, o'clock, morning, afternoon

Resources

teaching clock, pictures to illustrate the four seasons, season flashcards, books about seasons, magazines, paper, coloured pencils, crayons, textas



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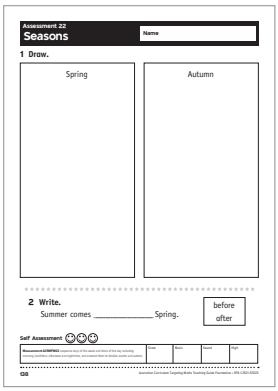
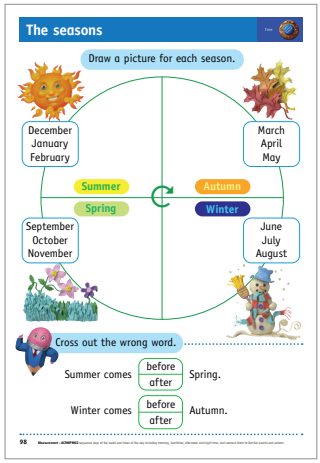
Time

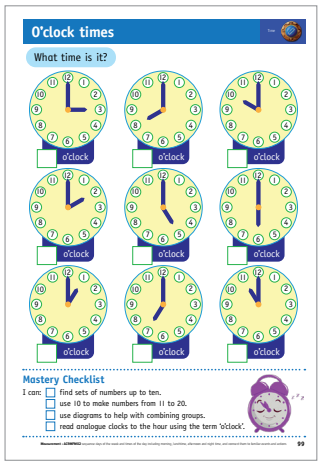
Assessment 22

page 138


Assessment 22
Seasons
Name
1 Draw.
Spring
Autumn
2 Write.
Summer comes _____ Spring.
before
after
Self Assessment

Student book pages 98–99





Teach and discuss

Student page 98 The seasons

- Draw pictures of the seasons.
- Recognise words and identify which season comes before and after.
- Find pictures that illustrate the four seasons in library books.
- Brainstorm with children about the different seasons.
- Discuss the season that you are now in. *What are its characteristics?*
- *What season came before/after this one?* Discuss the features of each.

Student page 99 O'clock times

- Use a teaching clock and review the times on the clock.
- Review what are important times during the day and what the clock shows then.
- As you move the hands of the clock around, ask the children to count the hours going by.
- Talk about afternoon times and morning times.

Oral and mental strategies

Order the seasons

Have one flashcard for each season. Children put them in order. Talk about which season comes before and after another. Talk about the type of weather in each season.

Activity bank

Seasons and weather

From picture books, take notice of the weather in certain seasons, eg cold, icy, frosty in winter; hot, humid in summer. Talk about what clothes we wear in different seasons.

My favourite season

After talking about activities and clothing during the seasons, have children illustrate themselves carrying out their favourite activity in their favourite season.

Colours of the seasons collage

From the pictures on page 98 of their books, discuss the colours that appear in each season. *If we chose one colour, what would it be?* Collect pictures from magazines or online sources that illustrate a season using those colours. Make a collage for the classroom.

What's the time Mr Wolf?

Play the game where children are chased by a child when they decide it is dinner time. The players are all chased until one is caught to be Mr Wolf next time.

Seasons

Give out paper and coloured pencils, crayons or textas. Have everyone draw something that reminds them of summer, spring, autumn and winter. When everyone has finished, cut out all the drawings and use them to make a collage for each season. Display them in the classroom.

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Student book pages 100–101

Unit 23 Half a Length

Unit overview

Children explore half a length by cutting lengths of ribbon and patterns in half. They identify the halfway point on number lines and locate about halfway and more and less than halfway on a path.

Foundation Content Descriptions

Measurement

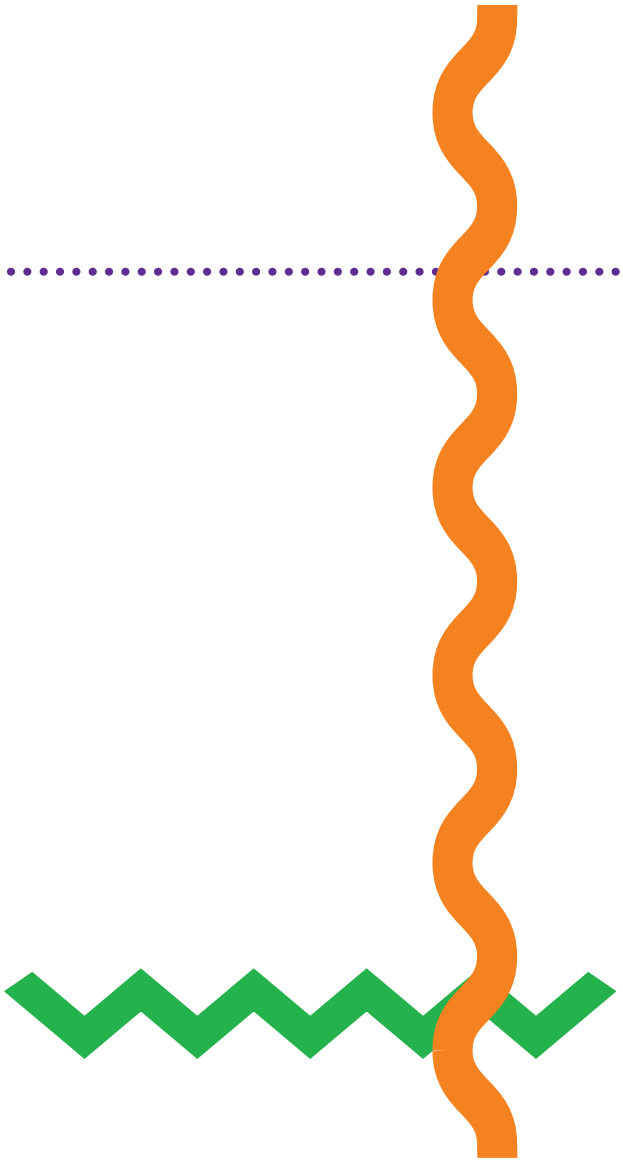
AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

half, halves, equal parts, halfway, halfway point, about halfway, more than halfway, less than halfway

Resources

lengths of ribbons, wool and paper, scissors, A3 paper, stamps, playdough



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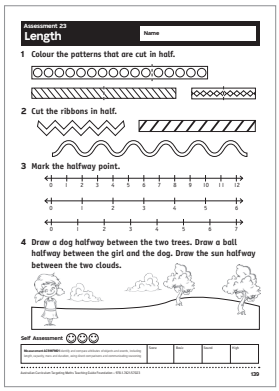
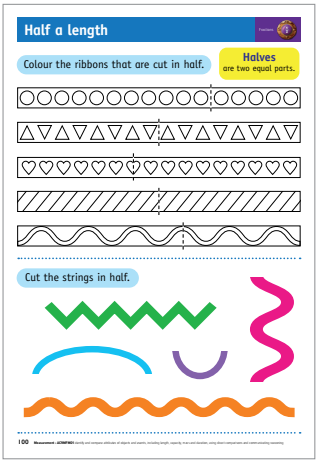
Fractions

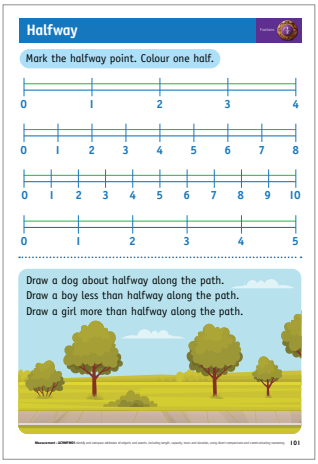
Assessment 23

page 139


Assessment 23
Length
Name
1 Colour the patterns that are cut in half.
2 Cut the ribbons in half.
3 Mark the halfway point.
4 Draw a dog halfway between the two trees. Draw a ball halfway between the girl and the dog. Draw the sun halfway between the two clouds.
Self Assessment

Student book pages 100–101





Teach and discuss

Student page 100 Half a length

- Hold up a length of ribbon. *I want to cut this ribbon in half so I can tie two bows the same size. What can you tell me about halves? How will I know where to cut the ribbon to be sure the pieces are the same size?* Demonstrate folding and then cutting the ribbon in half. Show that the halves are the same length.
- Hold up some other lengths of ribbon, wool or paper. Do not fold the length in half but hold the scissors at a random place along the length. *If I cut here, will that cut the ribbon in half?* Discuss. Repeat for other places. Have children show how/where to cut the lengths in half.
- Draw a length of patterned ribbon, similar to those on page 100, on the board. *We can't fold this pattern in half. How could we find where half is?* Point to different random places along the pattern. *Will this cut the pattern in half? How do you know? How can we check that both parts are equal?* Demonstrate counting the parts of the pattern if children haven't suggested it.
- Repeat with other patterns.

Student page 101 Halfway

- Draw a length of patterned ribbon, similar to those on page 100, on the board. *Remember how we cut a pattern like this in half. Where can we cut this pattern in half?* Point to different random places along the pattern? *Will this cut the pattern in half? How do you know?* Have a child demonstrate cutting the pattern in half. *How can we check that both parts are equal? This point, where we cut the ribbon in half, is called the halfway point. It is halfway from one end to the other.*
- Draw a number line on the board with numbers 0–6. *How could we find halfway along this number line?* Point to different places along the number line? *Is this halfway? How do we know? How can we check it is halfway?*
- Repeat with other number lines, including an odd number eg 7.

Oral and mental strategies

Halfway

Provide opportunities throughout the day for children to show halfway eg halfway from your chair to the door, halfway up the door, halfway along the windows, halfway along the table, halfway in your book.

Activity bank

Finding halfway

Go outside and look for halfway points eg half way across the playground, halfway across the basketball court, halfway to the tuckshop. Children could count the steps across the playground, and then determine how many steps would be halfway. Children could start at opposite sides of the playground and meet halfway.

Half a length

Children have strips of paper in various colours and lengths up to 60 cm and an A3 sheet of paper. They fold and cut the strips of paper in half and paste the two halves under each other to compare lengths on the A3 sheet of paper.

Half a pattern

Children create a repeating pattern using stamps along a strip of paper. They swap with a friend who marks halfway, then checks by folding in half.

Equal halves

Children need a long strip of paper which they fold in half to mark halfway. They draw a pattern on or colour each half differently.

Playdough halves

Children roll long snakes out of playdough. They cut the snakes in half, then compare the lengths to ensure they have cut halfway.

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Student book pages 102–103

Unit 24 Data

Unit overview

In this unit, students sort objects into groups which they will show on a picture graph. They learn to group things and count according to particular characteristics. They count 2D shapes in different colours at first and go on to record weather on 10 days and group sunny, cloudy and rainy days. They count the totals for each weather type.

Foundation Content Descriptions

Space

AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons

Statistics

AC9MFST01 collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations

Key words

triangle, rectangle, oval, circles, squares, stars large, small, pink, blue, green, yellow, groups, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, weather, sun, rain, cloud, sunny, rainy, cloudy, weather chart, graph, picture graph

Resources

multi-attribute blocks, days of week flashcards, magazines, books, toys, *Mrs Mopple's Washing Line* by Anita Hewett and *Spot Looks at the Weather* by Eric Hill

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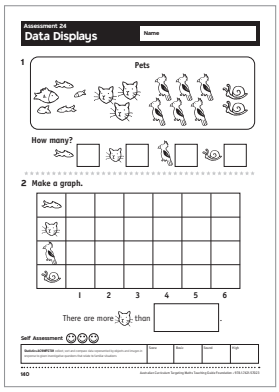
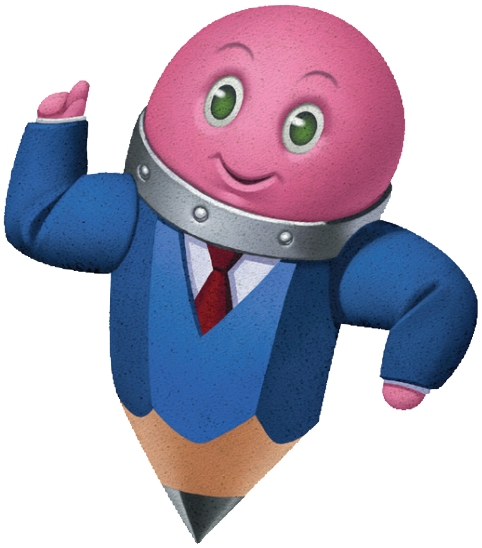
Data

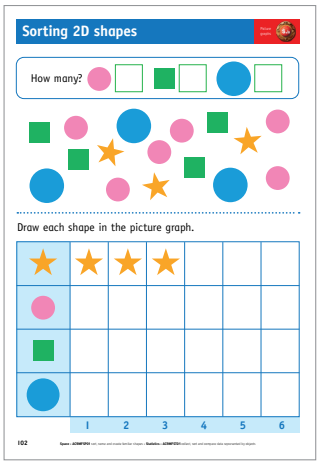
Assessment 24

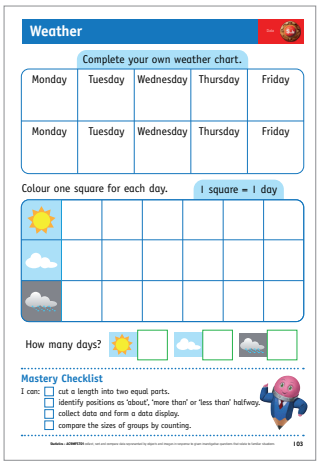
page 140


Assessment 24
Data Displays
Name:
1
Pets
How many?
2 Make a graph.
1 2 3 4 5 6
There are more than .
Self Assessment



Student book pages 102–103





Teach and discuss

Student page 102 Sorting 2D shapes

- Place a collection of multi-attribute and pattern blocks in front of the children.
- Find how many of each shape or colour. Identify groups of up to 20 shapes.
- Lay out ten shapes, eg two small blue circles, three big blue circles, five red squares.
- Children count them.
- Children describe how some shapes are different and some are the same.
- Practise the work page by having children pretend to drag the shapes from the top half of the page to their correct 'family' at the bottom of the page with their finger-tip.
- Children sort the blocks according to their shape, draw them and colour them appropriately to show the groups.

Student book page 103 Weather

- You need days of the week flashcards.
- Start with Monday. Children chant the days as you flash them.
- Put flashcards face down. A child turns one card over, eg Tuesday. *Which day comes before Tuesday and which day comes after Tuesday?*
- Children turn cards over until they have ordered all the cards in the correct sequence.
- Look at page 103. Discuss the keeping of weather records.
- This data is recorded by filling in the type of weather for each day for two school weeks.
- When the data is complete, return to the page to complete the exercises.

Oral and mental strategies

I am thinking of a shape

Find 2D shapes in the classroom. Name them. Play *I am thinking of a shape*. Children ask questions, eg *Does it have straight sides?* The child who guesses 'thinks' of the next shape.

Days of the week

Recite the days of the week in order starting on any day. *Which day comes before/after Tuesday? On which day do we go to the library?* etc. Relate weather to recent work on Seasons.

Activity bank

Toys to sort

Have children bring one toy each to school. Put them all in one group and have children study them. Decide on what 4 groups they could be sorted into and what would you call each group. Place labels on the floor and have children put their toy into the right group. Make the toys sit in a line. See if the line up of toys looks like a picture graph.

Books to sort

Collect a number of books from the library – fiction, nonfiction and picture books. As with the toys, ask the children to see what groups they could be sorted into. What would you call the groups? Make them into a picture graph on the floor. *Which group has the most books?*

Pictures

Find magazine pictures or print pictures from online sources that depict weather, eg raincoats, fan, swimming costumes. Children cut out, group and paste into books.

Stories and songs

Sing weather songs, eg *I Hear Thunder, Incy Wincy Spider*.

Read *Mrs Mopple's Washing Line*, Anita Hewett and *Spot Looks at the Weather*, Eric Hill.

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Foundation

Term 4

Student book pages 106–113

Unit 25 Numbers

Unit overview

Students work with ordinal numbers from first to fifth then up to tenth. They study the number names to thirty and count forwards and backwards to thirty. Using Base 10 materials, they recognise numbers in tens and ones up to thirty and use a number line to locate numbers up to 20. Using fingers and therefore groups of five, children count and write numbers. They use a number line to solve problems and identify numbers that are more than and less than a given number.

Foundation Content Descriptions

Number

AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising

Key words

eleven to twenty, counting forwards, counting backwards, numbers, match, next, before, after, between, more than, less than, order, smallest, largest, twenty-one to thirty, coins, five cents, ten cents, twenty cents

Resources

ten small cars, flashcards 1st–10th and first to tenth, opaque plastic cups, paper stepping stones, counters, bears from BLM 5, art supplies, string, scissors, sticky tape, ice-cream containers, sets of number cards to 30, flashcards with number words twenty to thirty, Mr Mistake puppet, base 10 materials, blank number lines for the IWB, paper plates, Snakes and Ladders, a set of cards marked ‘safe’, ‘one more’ and ‘one less’

Targeting Maths app K

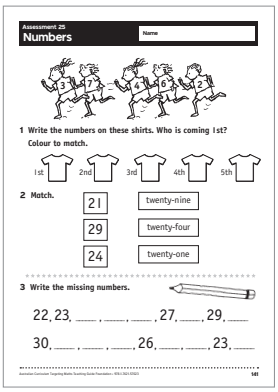
Number sense

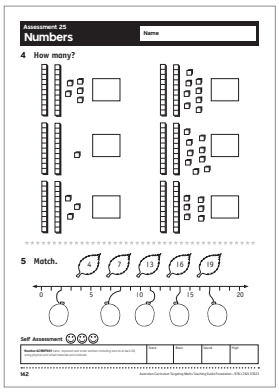
Numbers to 30

Number lines

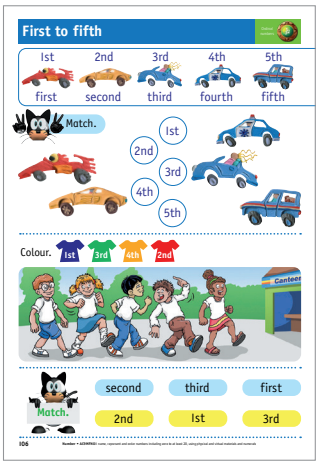
Assessment 25

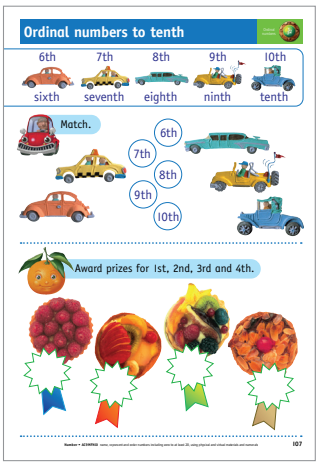
pages 141–142


Assessment 25
Numbers
Name
1 Write the numbers on these shirts. Who is coming 1st?
Colour to match.
1st 2nd 3rd 4th 5th
2 Match.
21 twenty-nine
29 twenty-four
24 twenty-one
3 Write the missing numbers.
22, 23, ____, ____, ____, 27, ____, 29, ____
30, ____, ____, ____, ____, 26, ____, ____, 23, ____
141


Assessment 25
Numbers
Name
4 How many?
5 Match.
0 5 10 15 20
Self Assessment
142

Student book pages 106–107





Teach and discuss

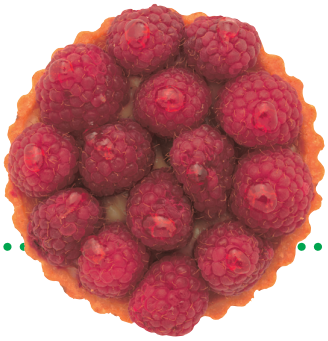
Student pages: 106 First to fifth and 107 Ordinal numbers to tenth

- The Race – You need ten small cars, flash cards with 1st to 10th and first to tenth written on them.
- Discuss each flashcard. Ensure that children can read them.
- Choose ten children to push cars off. Watch where they stop.
- Talk about which car came first, second etc. Children put the flashcards 1st etc. on the cars.
- Have more races and repeat. Then introduce word cards and place the word card as well as the numeral card on each car.
- Match cars to ordinal numbers 1st to 5th. Colour match ordinals 1st to 4th. Match ordinal numbers and ordinal words.
- Match cars to ordinal numbers 6th to 10th. Award prizes 1st to 4th.

Oral and mental strategies

Where in the row?

You need ten children and ordinal flash cards. Stand children in a row with a card each. Ask other children *Where is Alex in the row?* (*He is sixth*.) *Where is Annie?* etc. Ask children to do actions. The fourth person has to jump on the spot. The first and fifth children have to clap hands.



Activity bank

Cross the river

Draw stepping stones labelled 1st to 10th with chalk in the playground. Children cross the river stepping on the stones in order. Ask children to stand on specific stones. *Amy, stand on the fifth stepping stone*.

Choose your seat

Have a row of chairs. Give children directions. *Billy, sit on the second chair*.

Children sit on the chairs. *Who is sitting on the 5th chair?*

Where is it?

Put out ten identical opaque plastic cups. Children close their eyes while you put a counter under a cup. Ask a child to find the counter from your description. It is under the second cup from this end. If children are familiar with left and right, you could say *It is under the cup second from the right*.

In order

Jumble ordinal cards and give them out to up to ten children. Ask them to stand in the correct order, either starting from the left or starting from the right.

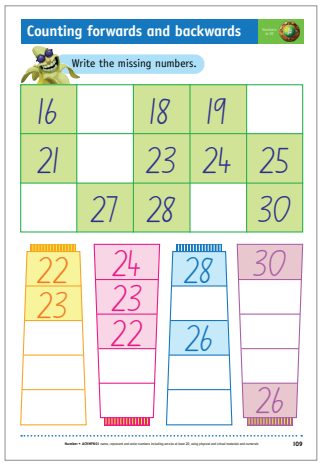
The train

Ask the children to bring in 10 small boxes or containers from home. Provide them with art supplies, string, scissors and sticky tape. Children are to draw or paint numbers from 1–10 on each box. Have them arrange their boxes in correct numerical order before using string and sticky tape to connect all the boxes together, creating their own number line train. Give children time to decorate their trains, display them around the classroom. Also give children the opportunities to use their trains to help them with counting, addition, subtraction and other number activities.

Teddy bears

You need ten assembled teddy bears from BLM 5. Label them 1st to 10th. Ask a child to find the ninth teddy bear and move his legs so he is sitting down or find the first bear and make him sit down with his arms out. Describe a teddy bear and children have to tell you its ordinal number. Do this after making sure all teddies are doing different things.

Student book pages 108–109



Teach and discuss

Student page 108 Number names to thirty

- You need stepping stones twenty to thirty and flashcards with number words twenty to thirty.
- Have children put the stepping stones into order.
- Jumble the number words and introduce them one at a time.
- Children read each card.
- They match the cards with the numerals.
- Ask a child to stand on a stepping stone, eg twenty-three. Walk on two steps. *Where are you now?*
- Point out the reference panel on the side that shows words and numerals 21 to 30.
- Match numerals with number words. Trace the words and write the numerals.

Student page 109 Counting forwards and backwards

- Practise counting backwards and forwards, from any number up to thirty. *Is the total the same?*
- In their books, find the missing numbers from each set.
- Check by counting forwards, moving in the opposite direction.

Oral and mental strategies

Counting to 30

Count to thirty. Start at various numbers and count on. Have *Mr Mistake* counting, eg 20, 30, 21, 22. Children say what mistake he has made.

Activity bank

Real life

Go for a walk. Find numbers to count, eg thirty cars, thirty wheels. Look at different configurations of thirty in paving, brickwork, fences etc.

Record and draw when you return to the classroom.

Numbers to 30

Using the labelled containers of objects from Unit 17, have children place them in order and check that the correct numbers of objects are still inside each. Hold up a number word flashcard, eg twenty-five, and ask children to tell you which container it is. With the containers in order, turn them around so children can't see the label and ask them to find the container with 27 objects in it.

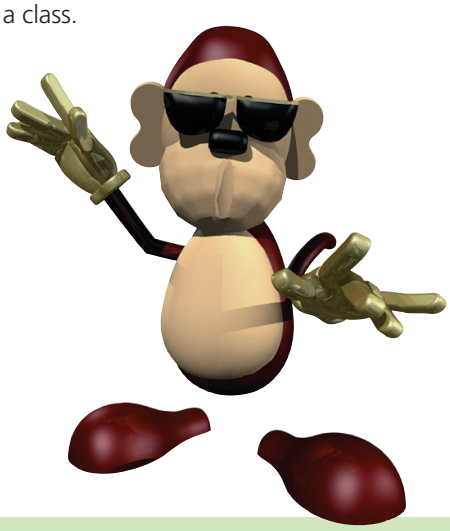
Counting

Make a circle, walk clockwise while clapping and counting to ten, turn and go the other way, counting on to thirty.

Make ten more stepping stones. Have children put them in the correct order. Children 'cross the river' by walking on the stepping stones counting to thirty.

Number names to thirty

Give ten children a flash card showing 21–30 in numerals, and another ten children flashcards showing 21–30 in number words, have these children stand at the front of the class holding their flash cards face out. With the rest of the class work, one numeral at a time, pairing up numerals to their number words. The children holding the flashcards can also help in the pairing. When all the pairs are matched, count all together as a class.



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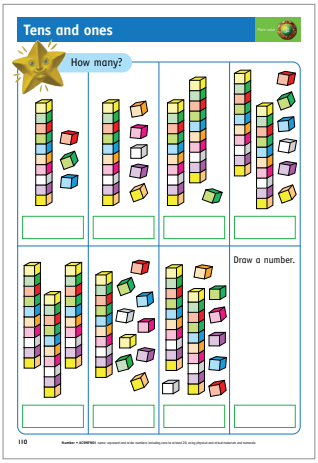
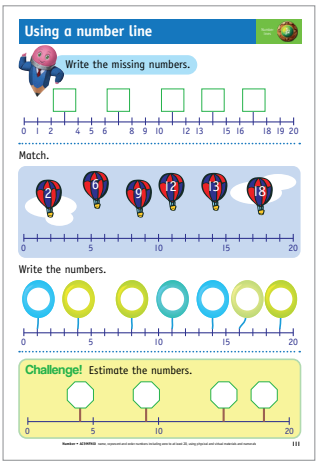
Student book pages 110–111





Teach and discuss

Student page 110 Tens and ones

- Put out tens from the set of Base 10 materials.
- Have children count by tens up to thirty to name a number you are modelling.
- Add some ones and count on from the tens – *ten, twenty, twenty-one, twenty-two, twenty-three, etc*. Label the model with a numeral card and a number name card.
- Give a handful of materials to each child and tell half of them to model numbers in the teens and the others to model numbers in the twenties, placing them in front of themselves on the floor. The teens modellers should be sitting together and the twenty-something modellers will be together.
- Have each group put their models in order and change seating accordingly.
- The class should be able to count the models in order.
- Complete the labels for the models in their books and draw their own number as well.

Student page 111 Using a number line

- Display number lines with 0, 5, 10, 15 and 20 shown.
- Write in about half of the numbers as children dictate to you.
- Choose children to come to the board and fill in the missing numbers on the line.
- Have everyone count the line forwards and backwards to check.
- Show only a blank number line with 0, 5, 10, 15 and 20 shown. Have one child call a number and another child come to the board to write it on the line in the correct place.
- Have children fill in the number lines in their books accordingly. Be sure that they count the line to check before leaving the task.

Oral and mental strategies

Counting with fingers to 30

Count forwards and backwards to thirty. Ask children to hold up fingers and count together pointing to each finger. When you reach thirty, ask how many hands they had to use to count to thirty. Keep counting to thirty until every child's fingers have been counted.

Activity bank

Caterpillar

Add and label ten more paper plates so you have 1–30. Jumble the caterpillar and have children reassemble it in correct numerical order. Ask children to find numbers. *What number is after twenty and before twenty-two?*

Change direction

Count forwards from a given number and at a sign, say clapping of your hands, have the children reverse direction and count backwards. Then have them change direction at a sign again … and again!

Ordering

You need numeral flashcards one to thirty. Turn them face down. Choose three children to choose a card each. They decide who has the smallest, largest card.

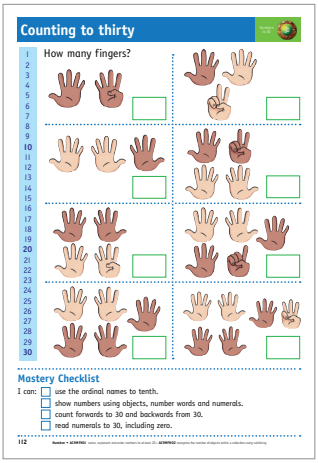
The children then order the cards.

Children can also be asked what number comes before and after their number.

Blind grab

Put a number of Base 10 tens and ones in an ice-cream container. Ask a child to draw out a single handful and show the class what they drew out. Show the tens first and then the ones and count it up to gain a result. Record this number on the board. Repeat with other children and continue to record each one beside the child's name. If you have magnetic Base 10 materials you could display what each child has drawn out and leave them on the board.

Student book pages 112–113

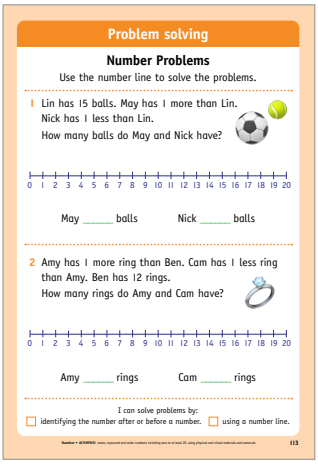

Counting to thirty

How many fingers?

Mastery Checklist

I can:
- use the ordinal names to tenth.
- show numbers using objects, number words and numerals.
- count forwards to 30 and backwards from 30.
- read numerals to 30, including zero.

112


Problem solving

Number Problems

Use the number line to solve the problems.

1 Lin has 15 balls. May has 1 more than Lin. Nick has 1 less than Lin. How many balls do May and Nick have?

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

May _____ balls Nick _____ balls

2 Amy has 1 more ring than Ben. Cam has 1 less ring than Amy. Ben has 12 rings. How many rings do Amy and Cam have?

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Amy _____ rings Cam _____ rings

I can solve problems by:
- identifying the number after or before a number.
- using a number line.

113

Teach and discuss

Student page 112 Counting to thirty

- Practise counting by 5s to 30. Children may use hands to model the counting as they go.
- With the children seated in a circle, progress around the circle counting by 5s to 40.
- Give certain children a counter placed on the floor in front of them. Children without a counter will count in fives putting up 5 fingers. The others will put up 1, 2, 3 or 4 fingers for the rest to count after the last 5.
- Thus the counting may go 5, 10, 15, 20 as children show 5 fingers each. Then a child with a special counter will hold up just 3 fingers and the counting will go 21, 22, 23.
- Continue around the circle, beginning from zero after the last count was achieved.
- Ask children to show you with fingers – 18. They flash 5 fingers 3 times then 3 fingers. Count as they do so, 5, 10, 15, 16, 17, 18.
- Complete page 112 by labelling each of the diagrams correctly.

Student page 113 Number Problems

Problem solving

- Display a number line with all numbers marked from 0–20 on the IWB. *Tema has scored 17 points in the competition.* Choose a child to show how many points Tema has scored on the number line. *Si scored one less than Tema. How many did Si score?* Choose a child to show the points that Si scored on the number line. *Trang scored one more than Tema? How many points did Trang score?* Choose a child to show.
- *Listen to this story. David has one more marble than Mai. Cam has one less than Mai. Mai has thirteen marbles. How many marbles do David and Cam have? How can we work it out? What do we know? Listen again.* Repeat the information. Ensure children know to start with how many marbles Mai has. Ask a child to show it on the number line. Repeat the other information and step through how to work out the problem.
- Read through the problems on page 113 to ensure children understand. Children solve the problems using the number lines. If required, they may also use counters.

Oral and mental strategies

Number lines

Use the blank number line often and review where certain numbers would lie on it, even if no other numbers are placed on it, except 0 and 30.

Activity bank

Races

Judge the order in which children perform certain tasks – putting on a jumper, hanging their school bag, coming to sit on the floor etc. Remark on who came first, second, third etc.

Concentration to 30

Place the cards 0 to 30 on the floor face down for each group of 4 children. They take turns in turning over two cards and if the second card is one more or one less than the first and they are able to say this, they get to keep the cards and have another turn.

Groups for thirty

With thirty counters to each pair of children, have them record some ways to make thirty in groups. Write 'groups of' on the board and they can use it to write their findings, '5 groups of 4 and 10 more'. Discuss findings.

Ordinal pairs

Hand out the ordinal number and word flashcards in random order from first to tenth. Children find their partner without speaking. When they have found their partner, they sit. Children who don't have a card can check for correctness and hand out other ordinal cards to tell the order in which the pairs were formed. Collect the cards and repeat the activity, ensuring everyone has an opportunity of making an ordinal pair.

One more, one less

Play games like Snakes and Ladders. After each turn, children turn over a card from a pile of cards labelled 'safe', 'one more' and 'one less'. They extend their move according to the direction on the card.

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Student book pages 114–115

Unit 26 Time

Unit overview

Students progress to telling digital time and matching it with analogue time. They see what activities are being done at a particular time and see it written in two ways.

Foundation Content Descriptions

Measurement

AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions

Key words

digital, analogue, time, o'clock, Saturday

Resources

magazines, class analogue and digital clocks, flashcards, computers, teaching clock

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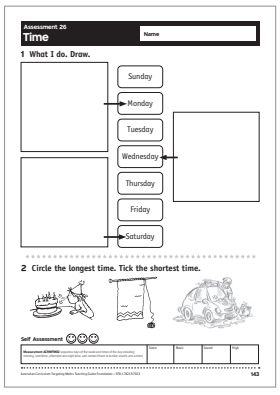
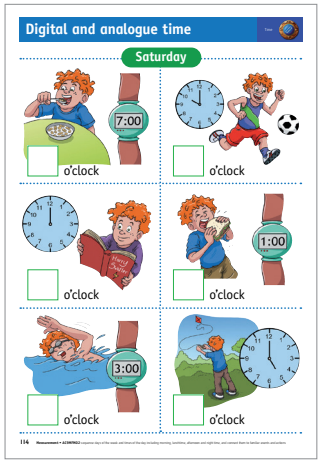
Time

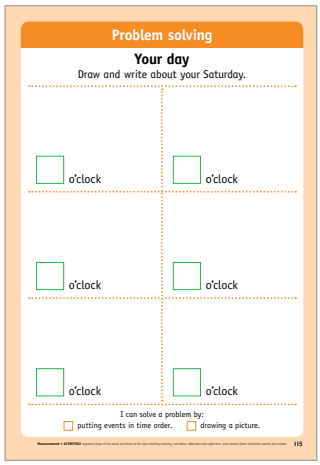
Assessment 26

page 143


Assessment 26
Time
Name
1 What I do. Draw.
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
2 Circle the longest time. Tick the shortest time.
Self Assessment

Student book pages 114–115





Teach and discuss

Student page 114 Digital and analogue time

- Recognise o'clock digital and analogue times related to activities on a Saturday.
- You need a teaching analogue clock face and a digital clock face. If you haven't got a digital clock, make o'clock digital time flashcards.
- If children are not familiar with digital displays, show and discuss what they look like.
- Start with 1:00 and children identify the different o'clock displays.
- Ask a child to make an o'clock with the analogue clock, eg 10 o'clock. Another child finds that time on digital flashcards.

Student page 115 Your day

Problem solving

- Review the activity on page 114.
- Discuss children's timetables for Saturdays.
- Discuss the times at which they do activities on a Saturday.
- Using children's clocks, make a time and ask all children to say what they do at that time. Write some of them on the board beside that clock. Choose another clock and repeat until all children have had at least one of their times recorded.
- Children then draw six things that they do on a Saturday and label it with the time at which it happens.

Oral and mental strategies

Making time

Have digital o'clock display flashcards face down. Make an o'clock time with the analogue clock, eg two o'clock. Children take turns to turn up the digital time (2:00) flashcard. Make other o'clock times.

Activity bank

How long does it take?

Have children guess how long an activity will take, eg completing a lesson – more than an hour, less than an hour, about an hour. Time the activity and discuss the guess.

What are they doing?

Reading the time, guess what other members of their family may be doing. Draw pictures to illustrate and either place a clock on the picture or write the o'clock time.

Timepiece chart

Children look online to find pictures of time pieces. These are printed out. They cut out the pictures and paste them on a chart. Discuss where digital clocks can be found.

Time displays

Have a digital clock in the classroom for children to familiarise themselves with digital displays.

Make stand-up cards in analogue and digital times showing what time certain things are done in the classroom, eg We have library at 10 o'clock, 10:00.

Time for work and play

Have children sit in a circle on the floor. With a teaching clock show the children an o'clock time and have the children correctly identify the time on the clock. Then ask, *What are some things we would do at this time?* Have children either volunteer answers, or choose particular children to answer. Repeat with different times.

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Student book pages 116–117

Unit 27 Volume and Capacity

Unit overview

In this unit, students become familiar with the concept of space and how much is taken up by objects around them. Also, they develop a sense of measuring the capacity of a container using cups of water and counting them. They are presented with the situation where the level of water rises when an object is submerged in a container of water.

Foundation Content Descriptions

Measurement

AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

capacity, stack, pack, how many?, less space, more space, about the same, almost full, greater capacity, less capacity, more, less, holds more, holds less

Resources

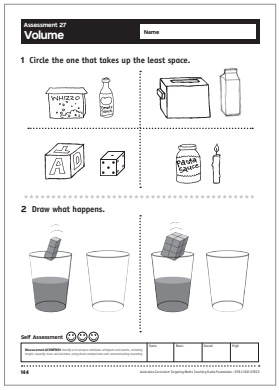
Mr Archimedes' Bath by Pamela Allen, small bucket, containers of various size, rice, sand, seeds, water

Targeting Maths app K

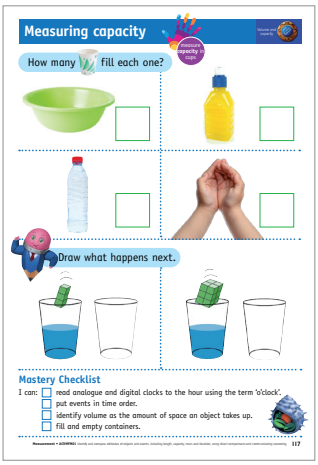
Volume and Capacity

Assessment 27

page 144



Student book pages 116–117



Teach and discuss

Student page 116 Volume

- Look about the classroom and ask small numbers of children to try to hug the cupboard, the teacher's desk, a school bag, a pencil case. Can they feel the difference in the size of the volume of these objects?
- Ask the children who did this to explain and describe what they felt.
- *There are different ways you have to measure a cupboard. It goes up and down, across and through (It has 3 dimensions).*
- Talk about what might be similar to the cupboard (a fridge).
- *What might be the same as a school bag? How big is a school bag?* Have children show with their arms how big it is.
- Have the children show with their hands how big the objects in the pictures are. They are to tell which are the biggest in each pair.
- Children draw something which takes up less space than the object in the picture.

Student page 117 Measuring capacity

- Talk about what happens when you put something into water. Fill a small bucket with water. Have a child put their hand into it and see the water rise. See the water fall when they withdraw their hand.
- Talk about what is happening and where else this will happen. *Why do we have to be careful with water in an almost full container?*
- Divide the class into 4 groups and give each group one of the containers pictured on page 117 and some cups and water.
- They fill the container as much as possible then count the number of cups that fill it and record the total in the answer box.
- Move on to the next measuring activity, leaving their container and cups for the next group.

Oral and mental strategies

Ordering containers

Look at the size of various containers and discuss which you think are the biggest and the smallest. Put them in order. Use the words 'greater capacity' and 'less capacity'.

Activity bank

I am thinking of …

Children describe an object using its volume as a clue. They show its size with their arms and tell what is larger than, smaller than or about the same size as the object they are describing.

Put in order

Guess the capacity of bowls, cups, jars etc. and put them in order of capacity, largest to smallest. Measure with small objects like blocks and check your guess.

Experiments

Children work in small groups. They fill and empty a variety of containers with different materials, eg sand, blocks, water, rice, seeds. They ask each other questions about the full containers. *Which one holds the most rice? How many more blocks does the cup hold than the spoon?*

Water play

Children fill different containers finding out how many small containers are needed to fill a larger container.

What happens in a container of water when you put blocks into the container? Explore.

Read *Mr Archimedes' Bath* by Pamela Allen.

More or less space

Have a range of different sized containers. Hold up two containers to the class, *Which one takes up more space? Which one takes up less space?* Get children used to the words 'more' and 'less' as they start to identify the differences between bigger and smaller containers.

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Student book pages 118–121

Unit 28 Subtraction

Unit overview

Students compare groups of objects, and use the count on strategy to find how many more. They also cross off from pictures to see how many are left. They use a number line to count back and understand the take away sign in a subraction equation.

Foundation Content Descriptions

Number

AC9MFN03 quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning

AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts

AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies

Key words

numeral, number, how many more?, compare, 10 frame, combinations, counting on, take away, coins, one dollar, ten dollars, more than, less than, count back, count forward, money, change, subtraction

Resources

objects for counting, 10 frames, counters, unifix blocks, containers, dice, a poster showing Australian money, plastic dollar coins or copies of coins, items with whole dollar price tags, catalogues, cardboard, blank number lines for the IWB, popsticks, A4 paper, 10-sided dice

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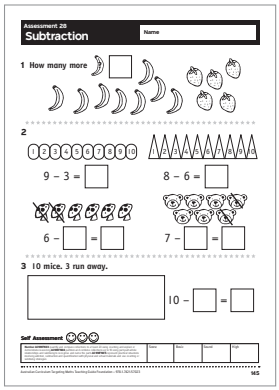
Count on

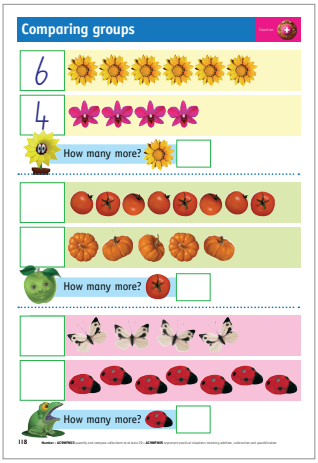
Shopping

Assessment 28

page 145


Assessment 28
Subtraction
Name
1 How many more
2
9 – 3 =
8 – 6 =
6 – = =
7 – = =
3 10 mice. 3 run away.
10 – = =
Self Assessment

Student book pages 118–119



Teach and discuss

Student page 118 Comparing groups

- Compare two groups to find how many more in the larger group.
- You need collections of objects, eg books, pencils, chairs etc.
- Put out a group of objects, eg five books.
- Children count the objects.
- Put out another group of books, eg six. Children count them.
- Ask which group is the largest. Ask how many more books are needed in the smaller group to make the same number.
- Repeat several times.

Student page 119 Shopping with dollar coins

- Make children aware that there are ten one dollar coins. They are taking away from ten each time. How much money will they get as change?
- **Challenge!** Children recall combinations that make ten. They draw the missing number in dots on the right side of each domino.
- Using a poster (or the real thing) show children a ten dollar note. Talk about its colour and features.
- *How many dollar coins would equal this note?*
- Have a child count out ten one dollar coins. Lay out the coins in two equal rows of five. Count them again as a whole class.
- Now hold up one of your items and have a child tell you how much it costs.
- Have another child take this amount away from the ten dollar coins.
- As a class, count how much is left. Repeat for other items.

Oral and mental strategies

Comparing groups

Children put out small groups of objects up to ten. The class compares them. *There are 3 more pencils than books*.

Activity bank

Children in line

When the class lines up to walk to another activity, look at the numbers in each line and compare. *Which is the longer line?* Have children pair off to compare and therefore calculate how many more in the longer line. *How many less in the shorter line?* Have the children move about and see what changes occur. Choose smaller groups to line up and make a number sentence, eg 10 – 6 and note the difference of 4 in the shorter line.

Combinations

Divide class into small groups. Give each group unifix blocks. Each group has different colours, eg one group red/white, another red/blue. Groups see how many different combinations they can make for the numbers one to ten using two colours. Then they can try three colours, four colours etc. At the end of the lesson come together and discuss.

10 frame

Children need a 10 frame and counters. Have children put out a number of counters, eg two. *How many more to make ten?* Children put more counters on the 10 frame to find out.

Class shop

Make a theme shop – toy shop, supermarket or newsagent. Have children put whole dollar price tags on goods. Provide $1 coins and $10 notes. More able children can give the change.

Cut pictures out of printed online catalogues. Have children help to sort pictures and paste them onto sheets of cardboard, eg toys, food etc. Write realistic prices on the items. Children put the correct amount of money on each item.

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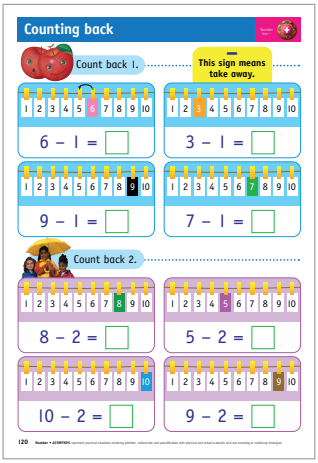
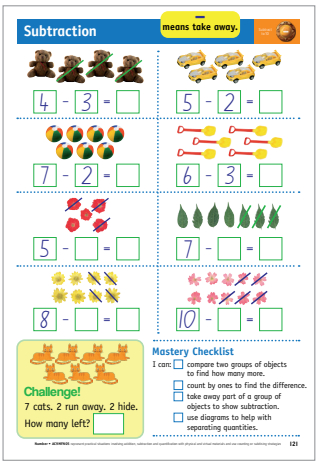
Student book pages 120–121





Teach and discuss

Student page 120 Counting back

- Display a number line from 1–10. Tell a take away story eg *I had six balls. One rolled away. How many did I have left? We can show it on the number line.* Demonstrate starting with 6 and counting back one. *We can write it as a take away, like this.* Write the take away equation on the board. Explain that the – sign means take away.
- Repeat with other stories with a starting number less than ten. Have children show where to start and how to count back. Have other children write the take away equations.
- Repeat with other stories that require counting back two.
- Explain that using number lines is a strategy for working out take away stories.

Student page 121 Subtraction

- Tell a take away story eg *There were four sandcastles on the beach. Two washed away. How many sandcastles are left? How can we work it out?* Discuss strategies already used, such as comparing numbers, crossing out and number lines. Explain that today we will use the crossing out strategy. Retell the story and have a child draw the sandcastles and do the crossing out. Have another child write the subtraction equation.
- Repeat with other take away stories.
- Children complete the equations by looking at the numbers or the items crossed out.
- **Challenge!** Children use repeated crossings out to find the number left.

Oral and mental strategies

Number line take aways

Throughout the day, tell take away stories that involve counting back by one or two from a number less than 10. Have children use the number line to show the counting back strategy.

Have children make up their own take away stories that involve counting back one or two and can be shown on the number line.

Activity bank

21 sticks

Children play this game in pairs. They need 21 popsticks. They may take away one or two sticks at a time. The person to take the last stick is the winner.

Take away stories

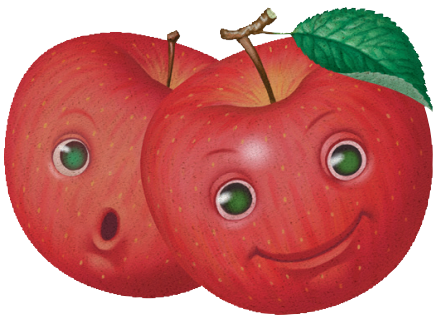
Children make up their own take away stories and draw pictures to illustrate them eg A farmer had six cows. He sold two. How many cows has he now? They write the take away equation and show their working by crossing out, comparing or using a number line. The stories can be stapled together to make a book.

What's my answer?

Children present their take away stories to the class and have the other children tell the answer, explaining how they worked it out.

Compare it

Children need a 10-sided die. They roll the die and collect that number of unifix blocks which they join to make a tower. They roll the die again and take the new number of unifix blocks which they also join to make a tower. They place the towers side by side to compare and write the take away equation.

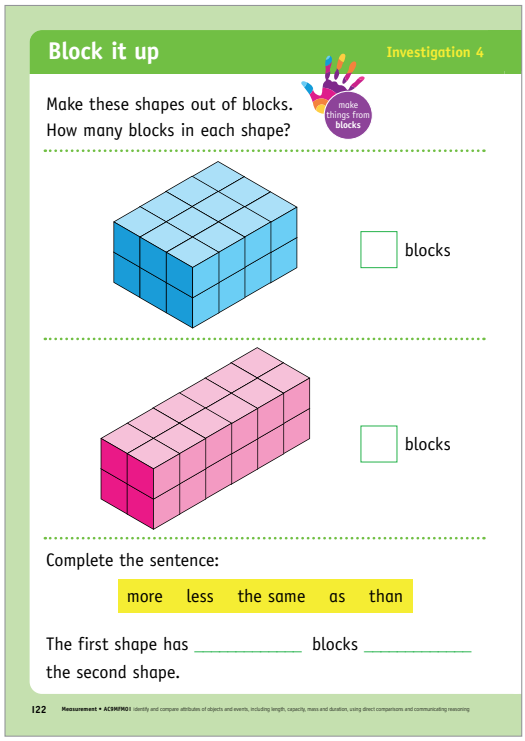


Student book pages 122–123

Investigation 4 Block it up

Overview

Students investigate volume by using blocks to construct shapes of different configurations. They compare the volume of shapes constructed using terms such as ‘more than’, ‘less than’ or ‘the same as’. They deconstruct one object and use its parts to construct another.



Block it up — Investigation 4

Make these shapes out of blocks.
How many blocks in each shape?

make things from blocks

☐ blocks

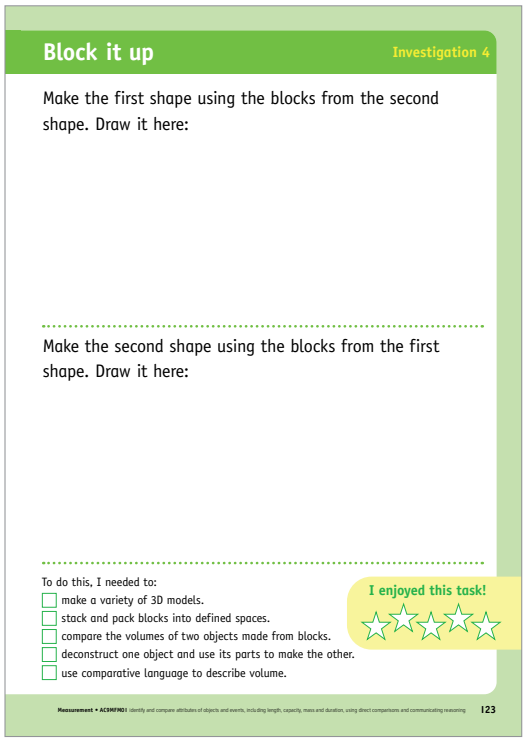
☐ blocks

Complete the sentence:

more less the same as than

The first shape has _____ blocks _____ the second shape.

122 Measurement • AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning



Block it up — Investigation 4

Make the first shape using the blocks from the second shape. Draw it here:

Make the second shape using the blocks from the first shape. Draw it here:

To do this, I needed to:
- ☐ make a variety of 3D models.
- ☐ stack and pack blocks into defined spaces.
- ☐ compare the volumes of two objects made from blocks.
- ☐ deconstruct one object and use its parts to make the other.
- ☐ use comparative language to describe volume.

I enjoyed this task!

Measurement • AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning 123

Foundation Content Descriptions

Measurement

AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

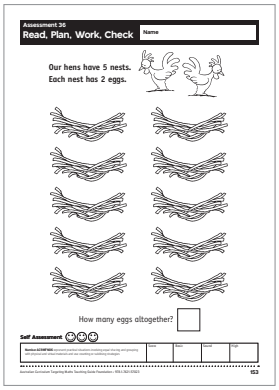
blocks, shape, how many?, more, less, same, first, second, volume, stack, cubes, 3D model

Resources

base 10 cubes or construction cubes, Lego bricks, diagram of 3D models made with cubes, diagram of simple models made from Lego bricks

Assessment 36

page 153

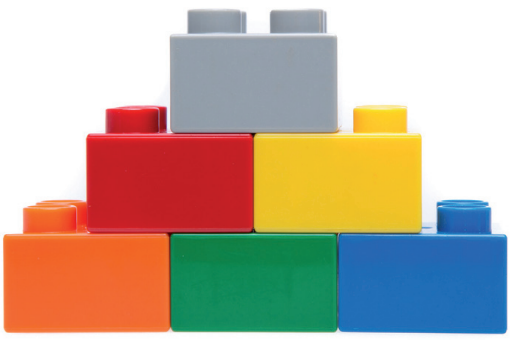


Assessment 36
Read, Plan, Work, Check — Name

Our hens have 5 nests.
Each nest has 2 eggs.

How many eggs altogether? ☐

Self Assessment



Student book pages 122–123

Investigate

How can we stack and pack blocks to make illustrated 3D models? How do we compare the volume of 3D models made from blocks? How can we deconstruct one model and use its parts to make another?

Skills

Using diagrams to construct 3D models, comparing the volume of two constructed 3D models, and deconstructing the models to use the parts in constructing another shape.

Teach and discuss

Student page 122 Block it up

- Discuss the diagram of the blue 3D model. *What is this blue shapes made from? How many cubes have been used? How long is the shape? How wide is the shape? How many layers of cubes are in the shape? How would you make a shape just like this one? How many cubes do you think you will need?*
- Repeat for the pink 3D model.
- Give children time to construct their 3D models. Children write the number of cubes used in each shape.
- Children compare the volume of the shapes and complete a sentence choosing words from those provided.

Student page 123 Block it up

- Explain to the children that they are to use the blocks in their second shape to make it the same as the first shape. *Can you make it without taking it all apart?*
- Give children time to make the shape.
- Children draw their new shape on the page.
- Explain to the children that they are now to use the blocks in the first shape to make it the same as the second shape. *Can you make it without taking it all apart?*
- Give children time to make the shape.
- Children draw their new shape on the page.
- Discuss the shapes, the number of blocks used and their volume.

Oral and mental strategies

Comparing volume

Provide opportunities for children to compare the volume of two 3D objects using words like ‘more’, ‘less’ and ‘the same’.

Activity bank

Copy my model

Build a 3D model using cubes. Children use cubes to make a model the same.

Same volume

Build a 3D model using cubes. Children use the same number of cubes to make a different model.

More and less

Build a 3D model using cubes. Children use cubes to make two models, one with more volume and one with less volume.

12 blocks

Provide children with a quantity of blocks. They construct different models, each with a volume of 12 blocks. Children draw diagrams of the models they made.

Construct it

Provide children with diagrams of models made from blocks. Children construct the models.

Lego models

Provide children with Lego bricks and diagrams of simple models made from Lego. Children construct the models.

Student book pages 126–129

Unit 29 Sharing

Unit overview

Students model sharing a number of items amongst two or three creatures. They can swap the items in the pictures for counters and share them by pushing them to the animal to keep. Or they can 'give' a creature an item by drawing then crossing it off the picture to reinforce the concept of sharing items between places.

Foundation Content Descriptions

Number

AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies

Key words

share, how many each?, equal, count, row, group, equal shares, make, guess, shared between

Resources

counters, *Mr Mistake*, lollies, blocks, music, beads, toys, strawberries, napkins, drinks, ingredients to make cookies, cards, dice, blocks, bucket, Smarties, teddy bears (from BLM 5)

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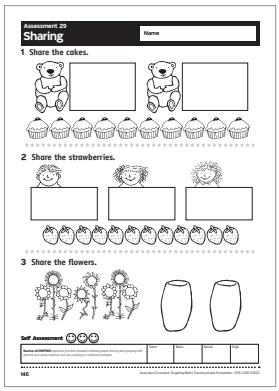
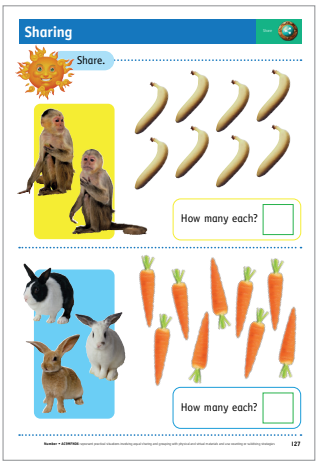
Share

Assessment 29

page 146


Assessment 29
Sharing
Name
1 Share the cakes.
2 Share the strawberries.
3 Share the flowers.
Self Assessment

Student book pages 126–127



Teach and discuss

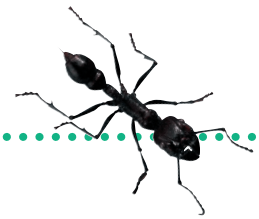
Student book pages 126 and 127 Sharing

- You need assembled teddy bears from BLM 5 (if numbered cover the numbers) and counters.
- Take two teddy bears and four counters. *Let's share the counters between the bears.*
- Ask a child to do the sharing. *How many counters does each bear have?* The class counts. *Is it fair?*
- Have children explain how they are sharing counters between the bears, *'I will give each bear the same number until all the counters are gone.'*
- Repeat using different numbers of bears and counters.
- Make sure they can be shared equally. Children count the objects. They can circle the objects to make fair shares. They then count the shares and write the answer.

Oral and mental strategies

Can you share it?

Children work in pairs. Each pair has ten counters. You tell them a number to put out, eg six, to share between them. *How many do you each have?* Repeat with all even numbers. Working in threes, share 3, 6 and 9.



Activity bank

Cooking to share

Make cookies with the children. Link cooking experiences with other maths strands, eg time, temperature, volume etc. Arrange the cookies in rows on the cooking trays. Count the rows and how many in each row. Count how many altogether. Children tell stories about the cookies. *We shared 20 cookies into five rows. There were four in each row.*

Make enough for each child to get two (or three). *We made 46 cookies to share. We each got two cookies.*

Sharing stories

Encourage children to make up their own sharing stories and to illustrate them. If they cannot write their stories, you can scribe for them. They can share their stories with the class. *Peter and Shelley had ten balloons to share. Peter got five balloons and Shelley got five balloons.*

Provide opportunities for children to develop an understanding of sharing and fair shares. *If two children share some blocks and one gets 10 blocks and the other gets 15 blocks, is that fair shares?*

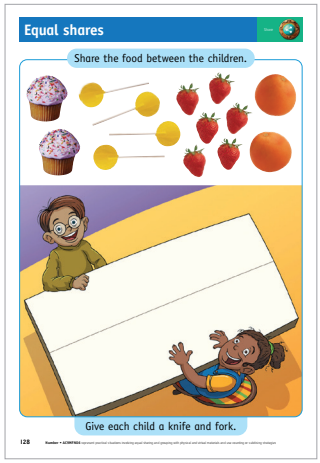
Practical experiences

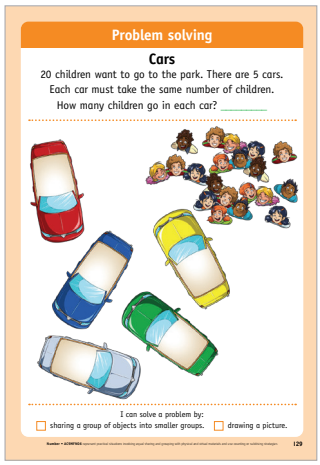
Provide opportunities for children to work in pairs or small groups and physically share objects, eg beads, counters, toys etc. Do not worry about remainders – brighter children could record them. Reinforce the notion of fair shares.

Toy shop

Set up two desks to represent two toy shops. Pick out two children to be the shopkeepers. Place a number of toys on the floor between the shops. Have Mr Mistake divide the toys, unequally, between the two shops. As a class, count the number of toys each shop received. Ask your shopkeepers *Is this fair? Are there an equal number of toys in each shop? No, there is not an equal number of toys in each shop.* Have volunteers come up and equally divide the toys correctly. *Shopkeepers, is this fair?* When the shopkeepers say yes, choose another two shopkeepers and change the number of toys. Repeat activity.

Student book pages 128–129





Teach and discuss

Student page 128 Equal shares

- Have everyone wash their hands.
- Have children sit in groups of 4. They are to share 20 Smarties, 12 strawberries, 8 napkins and 4 drinks. Talk about how things are shared, one by one or two by two. Each child is to be responsible for sharing one set of objects.
- Talk about how many each received. *Was it fair?* (If there are an odd number in a group, change the arrangements to suit).
- Tell the children to draw a cupcake for each child and cross off the cupcakes. Draw the other foods, crossing off items from the top as they are given to each child.
- Check that each child has an equal share by counting groups.
- Children draw to share the food between the two. They also draw a knife and fork for each child.

Student page 129 Cars

Problem solving

- Remind children how they showed when they had shared the food for the two children on page 128.
- Model this on the board.
- Have the children cross off each child as they 'put them into a car'.
- They then count the children in each car at the end. Each car should have an equal number of children.
- Check to see that there are 20 children altogether in the cars at the end.

Oral and mental strategies

Sharing

Model the act of sharing, eg lollies between children, by giving each child in the group 2 lollies each then going around the group again to give them another 2 lollies. Keep going until all lollies are gone.

Hold up or display some items. Children mentally must group them into given numbers. Encourage children to ask questions. *I shared 8 oranges between four children. How many each?*

Activity bank

Act out a problem

Put the children in groups and ask them to share some pieces of equipment, like crayons. Have one child per group designated to share the objects. Others are to check and see that it was done correctly.

Count them out

Give each child a random number of counters. Everybody is to count their counters and write down their number. Have them make fair shares of counters with their own choice of numbers, eg 2, 3, 4 or 5. Children should notice the way fair shares can be made with some numbers and not with others. Record some on the board, eg 12 counters shared by 2, 3 and 4.

Musical groups

Play musical chairs. Play some music and have children move around the space. When the music stops, call out 2s (or 3s or 4s or 5s) Children are to join groups of that number and stand still. If there were even groups with none left over, children clap and teacher writes that number on the board. If there are left-overs, no clapping or writing the number on the board. With different attendance on different days, children will realise that results can be different.

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Student book pages 130–131

Unit 30 Mass

Unit overview

Students heft items and feel the difference in their masses. They decide which items are heavier than others and which objects are lighter than others and draw their results. They use an equal-arm balance as a more effective way to measure mass and again to determine objects which are heavier and lighter.

Foundation Content Descriptions

Measurement

AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning

Key words

equal-arm balance, heavier, lighter than, lightest, hefting, balance, unbalanced, lopsided, level, went up, went down

Resources

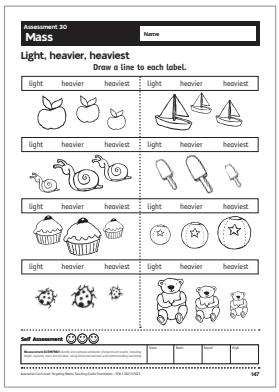
equal-arm balances, blocks, unifix cubes, items to heft, sand, buckets, *Mr Mistake*, boxes, wrapping paper

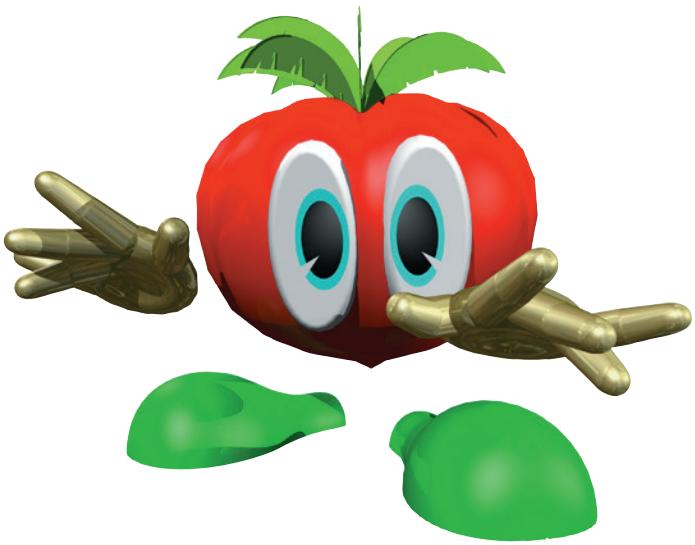
Targeting Maths app K

Mass

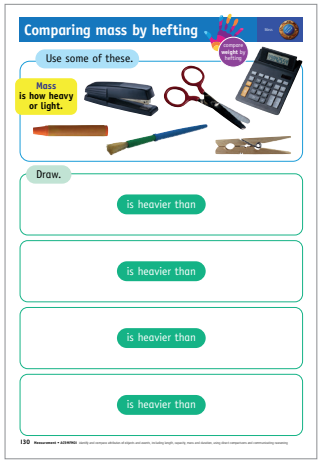
Assessment 30

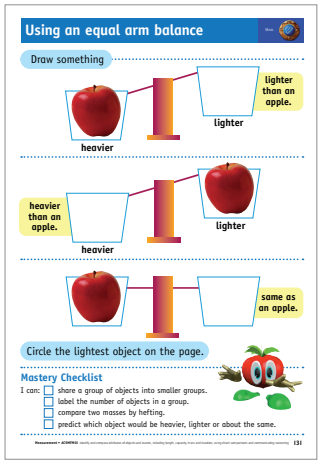
page 147


Assessment 30
Mass
Name
Light, heavier, heaviest
Draw a line to each label.
light heavier heaviest light heavier heaviest
Self Assessment



Student book pages 130–131





Teach and discuss

Student page 130 Comparing mass by hefting

- Take two items, one in each hand and model how to heft items.
- Allow children to do this with two items which are reasonably different in mass.
- *How much weight does each object have?* Try to determine which object has the greater weight.
- Children can discuss this with others and compare results.
- When they determine which item is heavier of two, chosen at random, they draw it.
- Discuss and compare results throughout the class.
- Provide the items in the picture for children to heft. Choose two items, heft and record which is heavier.

Student page 131 Using an equal-arm balance

- You need an equal-arm balance and some objects from the classroom, eg small blocks, unifix cubes.
- Show children the equal-arm balance. Explain how it works. Make sure they understand its name. Ask for suggestions as to why it might be called those names.
- Discuss how it is level (balanced) when nothing is in it.
- Have a child put a block in one pan. *What happens? It is now lop-sided, one arm goes down. It is unbalanced*.
- Put another block in the other side. What happens now?
- Experiment with other items. Have children predict what will happen each time.
- Identify a lighter and a heavier item for the equal-arm balance.

Oral and mental strategies

Measuring mass

Hold two items for class to see. They predict which is heavier/lighter.

Use ‘mass’ language. Children make statements. The whiteboard cleaner is lighter than the block box. The teacher’s desk is the heaviest desk.

Mr Mistake is asked to predict what will happen if no blocks are put in one side of an equal-arm balance and blocks are put in the other side.

Activity bank

Hefting

Provide children with opportunities to heft. Provide objects that are large and light; large and heavy; small and heavy; small and light. Show children the correct method of lifting a heavy object. Have children use the equal-arm balance with a variety of materials. Children record and share their findings.

Put different items with different masses into identical boxes. Children wrap them in identical paper (link with area). Children heft to compare mass. Order the parcels from lightest to heaviest.

Equal-arm balance

Children in small groups explore the equal-arm balance using wet and dry sand, eg put a cup of wet sand in one bucket and a cup of dry sand in another bucket. Record and share findings.

Light, heavier, heaviest

Label 3 boxes or containers ‘light’, ‘heavier’ and ‘heaviest’. Have a range of items of different weights. Give three items to one child, have them place their items in the correct boxes. If correct, they then choose another three items and give them to someone else in the class. The game continues until everyone has had a go.

Using the equal-arm balance

Divide the class into small groups, give each group an equal-arm balance and small blocks. Have each group pick 4 items from around the classroom to measure. Children will observe and record the number of blocks needed to balance the scales for each item they have chosen. When complete, have each group present their findings. Ask students to also arrange their objects into weight order from lightest to heaviest.

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Student book pages 132–133

Unit 31 3D Objects

Unit overview

This unit gives students more experience in identifying what shape real-life 3D objects are. They match the six shapes with objects. They also identify flat surfaces and curved surfaces on pictures of 3D objects.

Foundation Content Descriptions

Space

AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons

Key words

curved, pointy, flat surfaces, faces, shapes, match

Resources

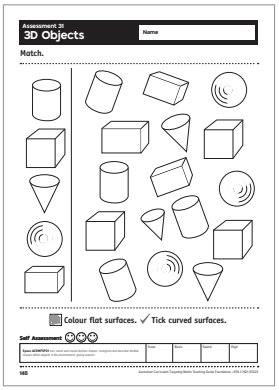
3D shapes, eg balls, boxes etc, *Mr Mistake*, items that resemble 3D shapes, feely bag, boxes, wrapping paper

Targeting Maths app K

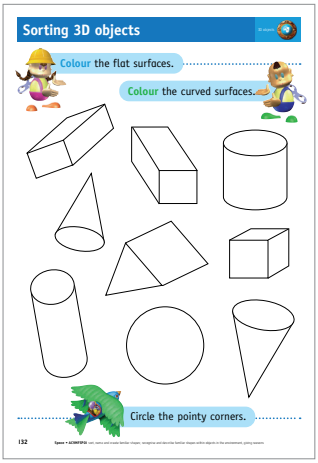
3D objects

Assessment 31

page 148


Assessment 31
3D Objects
Name
Match.
Colour flat surfaces. ✓ Tick curved surfaces.
Self Assessment

Student book pages 132–133



Teach and discuss

Student page 132 Sorting 3D objects

- Have children decide whether surfaces are flat or curved and colour them appropriately. They then circle the pointy corners.
- Have a collection of 3D objects for children to handle.
- Ensure children know corners and surfaces.
- Feel the corners. *How would you describe them?*
- Feel the surfaces. *How would you describe them?* Make sure they use the words flat and curved.

Student page 133 3D objects

- Recognise the shapes of everyday objects and match them with 3D objects.
- You need real-life items that show a definite 3D shape, eg a box-shaped block, a box of tissues, a thick book, a ball, a roll of kitchen paper.
- Hold up one item at a time and ask children if they can see anything else in the classroom that has the same shape.
- Ask if they can think of anything outside the classroom that has the same shape.
- Discuss all suggestions.

Oral and mental strategies

Object match

Mr Mistake matches 3D objects. Sometimes he makes errors, eg he could match a box and a ball. Children correct him.

Hold up an object. Children tell other items which are the same shape.

Activity bank

Shape exploration

Children in small groups explore 3D shapes, eg *Which shapes have flat or curved surfaces, which roll, which stack?* Record findings and share with the class. Children draw objects they have at home in particular 3D shapes, eg cylinders.

Shape

Discuss why some things have a particular shape, eg car tyres, dice.

Children with closed eyes feel shapes and describe if they have flat faces, curved faces or pointy corners.

Feely bag

Use a pillow slip as a feely bag. Put an environmental shape in it, eg a tissue box. A child feels the object in the bag and points to another object that is the same shape.

3D shape table

Start a 3D shape table. Group the same shaped items together. Encourage children to bring items from home to display on the table.

Gift wrapping

Give pairs of children boxes to wrap and some used wrapping paper. Children estimate how much paper they will need.

Draw 3D

Collect various objects from around the room and discuss what they are. Give them the common 3D names, eg ball is a sphere, pencil tin is a cylinder. Discuss the attributes of the shapes – number of sides and corners. Children then draw the objects you have in the collection. You can then use their drawings to make collages for the classroom.

Student book pages 134–136

Unit 32 Data

Unit overview

Students read a picture graph of a mixed group of boys and girls wearing different coloured shirts and jumpers, with different coloured hair. They read information from the graph. Turning to their own class, they see what colour eyes their classmates have and colour the spaces to match. Then they can tell how many blue eyes, brown eyes and green eyes there are. They estimate the number in a group up to 20.

Foundation Content Descriptions

Statistics

AC9MFST01 collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations

Number

AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals

Key words

picture graph, graph, count, how many?, estimate, guess, groups, equal groups

Resources

Mr Mistake, *Smarties*, counters, blocks, buttons, A4 paper, beads, magnetic shapes, flashcards, shoebox, toys, flowers from page 29

Targeting Maths app K

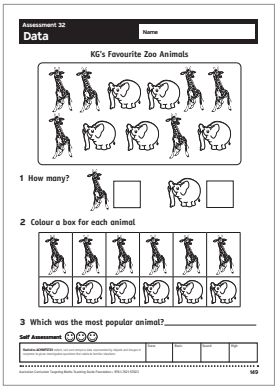
Data

Picture graphs

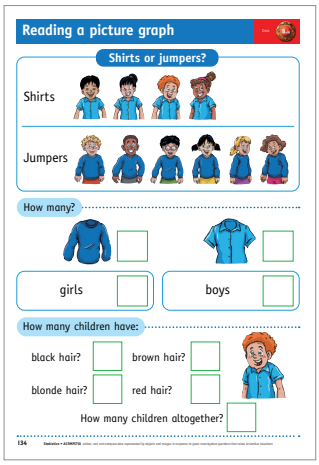
Number sense

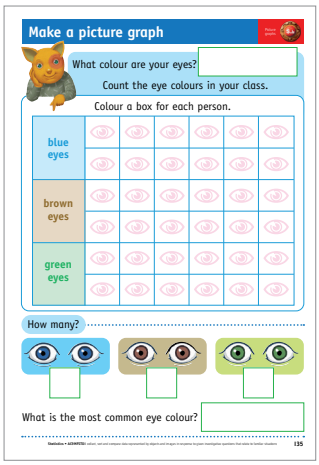
Assessment 32

page 149


Assessment 32
Data
Name
KG's Favourite Zoo Animals
1 How many?
2 Colour a box for each animal
3 Which was the most popular animal?
Self Assessment

Student book pages 134–135





Teach and discuss

Student page 134 Reading a picture graph

- Have children describe what they see in the lines of boys and girls.
- *How many different things can you see about the boys and girls?*
- Have the children complete the answer boxes to show how many jumpers there are and how many shirts.
- Also fill in how many girls and boys there are.
- Then ask them to count the different coloured hair of the children and the total number of children altogether. *How can we check?*

Student page 135 Make a picture graph

- When children have finished the first part of the page, collect information about class eye colours.
- Children look at each other's eyes if not sure of their colour.
- Make a mark on the board for each child. Class counts the marks.
- Check to see that the total number of eyes recorded is the same as the total number of children in the classroom this lesson.

Oral and mental strategies

Graphing the class

Talk about the different things you can find out about a class and draw a picture graph.
Why do we find these things out?

Activity bank

A picture graph

Give children a sheet of A4 paper on which they draw their pet. Decide to graph for cats, dogs, fish, reptiles and others. Mark sections on the floor or on the board for each category and have the children place their picture, building up or across from your label in the manner of a picture graph. Place the pictures carefully so that they can easily see the total and compare. Discuss.

Interpret a graph

Make a picture graph on the board by lining up magnetic shapes or numbers in rows, with the similar objects together. Ask questions about how many of a kind there are, which group is bigger, which group is smaller, etc.

Data

Provide as many opportunities as possible for children to develop the idea of organising information that can be easily interpreted.

The toy shop

Lay out a selection of toys, making sure there are multiples of each eg six balls, four blocks, eight cars etc. Tell the children they are looking at a toy shop window. Ask the class to count how many of each toy in the shop window. Write their answers up on the board. Give each child a grid, have a picture of each toy already in place in the left-hand column. Ask the children to complete the picture graph with the information on the board. Children may need assistance for this task.

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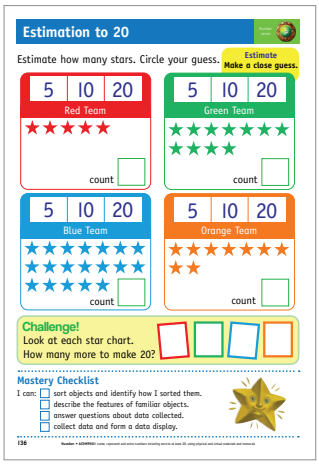
Student book page 136



Teach and discuss

Student page 136 Estimation to 20

- Use the flowers from page 29.
- Put out a number of flowers, eg 12. Children estimate how many there are.
- Repeat many times. Also use other objects for estimation practice.
- Use the flowers then to make groups. *Make three equal groups. How many groups? How many in each group?*
- Children make groups. Make three groups of three.
- The class counts how many altogether.
- Children estimate and then count to check. **Challenge!** They estimate the total on the page and count to check.
- **Challenge!** Children order the groups.

Oral and mental strategies

Groups

Mr Mistake is asked to make groups of two/three/four and makes mistakes sometimes. Children correct his errors.

Hold up or display some items. Children mentally must group them into given numbers. Encourage children to ask questions. *Will I group in 2s, 3s, or 5s?*

Activity bank

Just enough!

Give each child about 20 counters. Show a numeral flashcard 12–20, eg 15. Children take a handful of counters to show 15. This must be done quickly and without counting. Count the counters. *Who was close?*

How many?

Place a number of identical objects in a shoebox, eg counters, beads, cubes, toy cars etc. Pass the box around. Children look and quickly estimate the number. They write down their estimate. When everyone has had a turn, count the items. *Who was close?*

Smarties

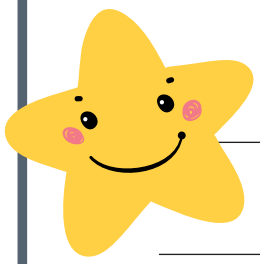
For fun, have children each bring a small packet of Smarties. They must guess how many are in the box. Count the Smarties before they are eaten! Small boxes of sultanas can also be used.

Discuss items that are hard to estimate, eg grains of sand in a handful, grains of sugar in a sugar bowl.

Playground

Estimate numbers in the playground, eg number of windows on this side of the building; balls in that bucket; leaves on that patch of ground etc.

Distinction



_____

_____

of class _____

has shown distinction in

_____

Teacher _____

Date _____

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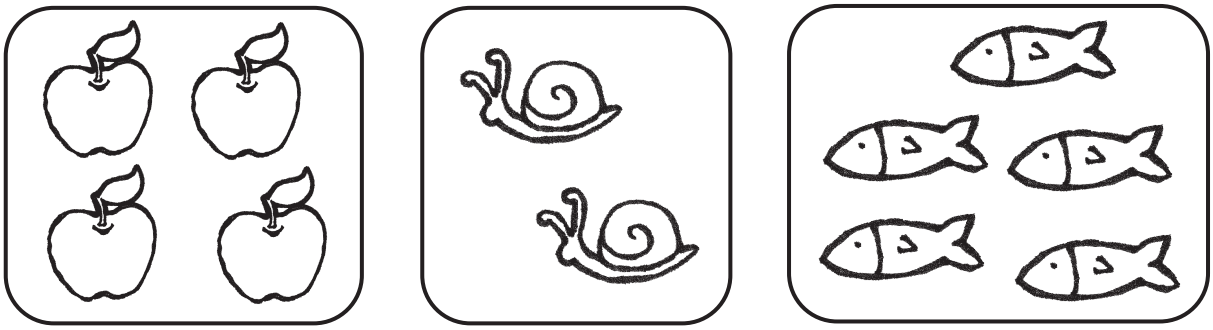
Assessment 1

Numbers to 5

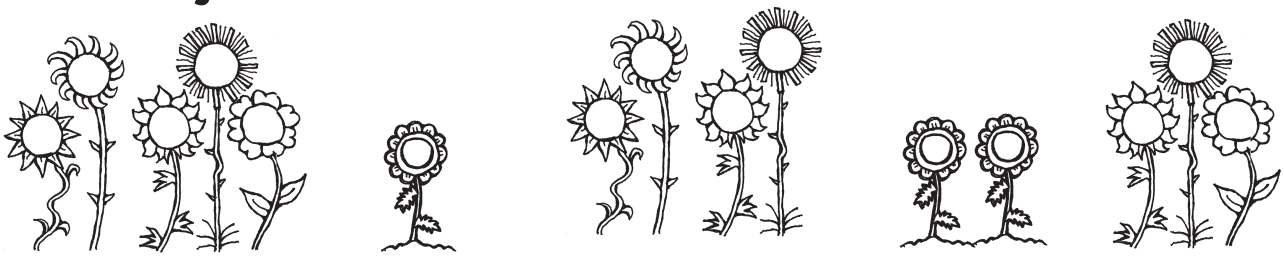
Name

1 Match.

5 2 4



2 How many?



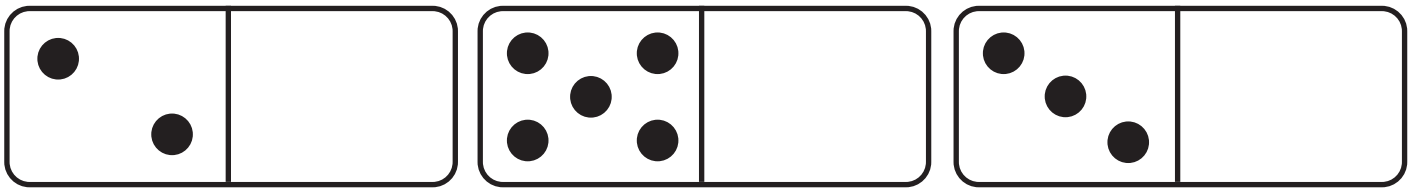
3 Draw.

3 snails 

5 trees 

1 apple 

4 Write the number.



Assessment 1

Numbers to 10

Name

5 Count back.

5 4 ☐ ☐ 1

8 7 ☐ ☐ ☐ ☐ ☐ ☐

6 Write the number. Draw.

six ☐

seven ☐

eight ☐

ten ☐

Self Assessment ☺ ☺ ☺

Number AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals **AC9MFN02** recognise and name the number of objects within a collection up to 5 using subitising	Score	Basic	Sound	High

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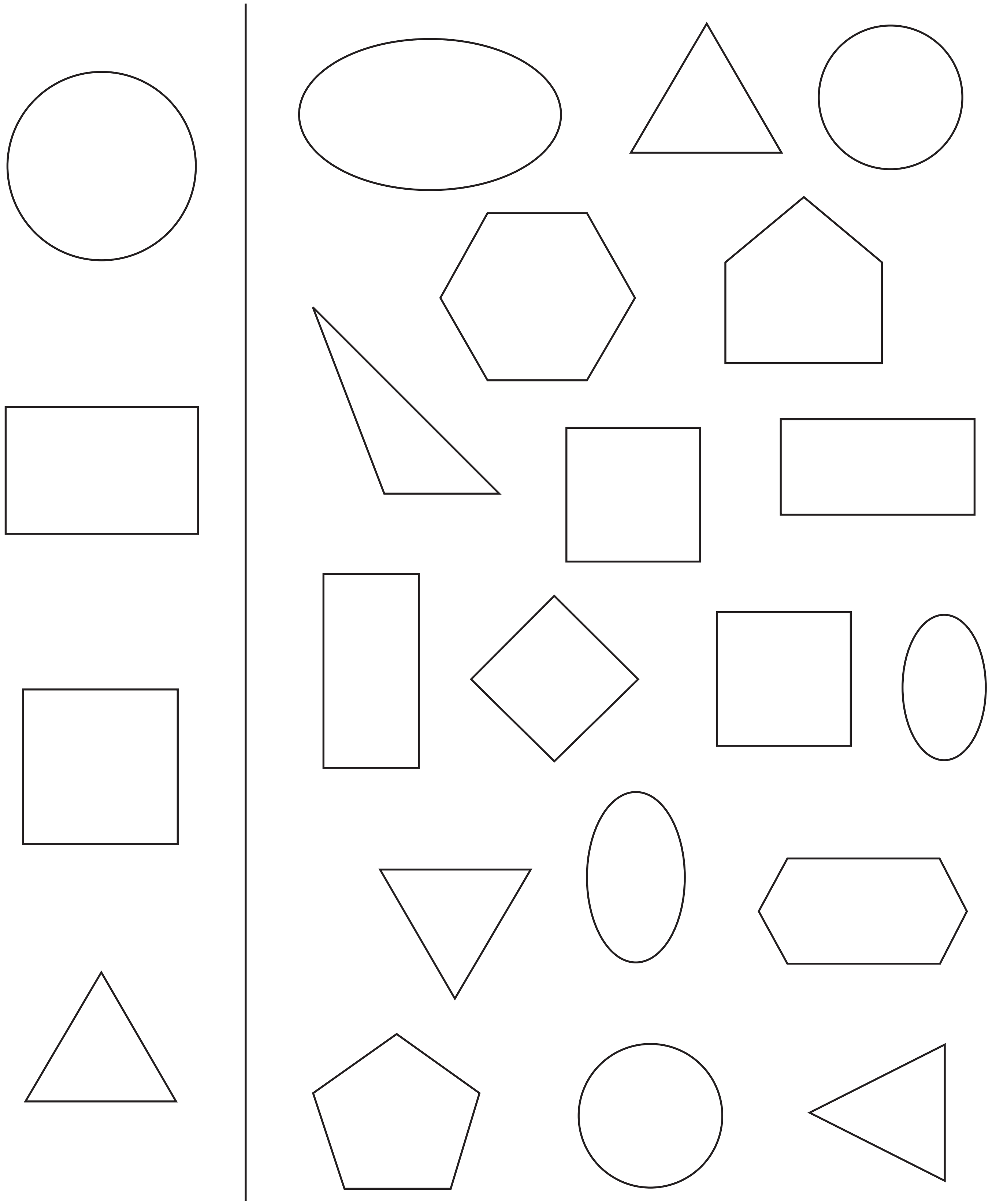
Assessment 2

2D Shapes

Name

1 Colour to match.

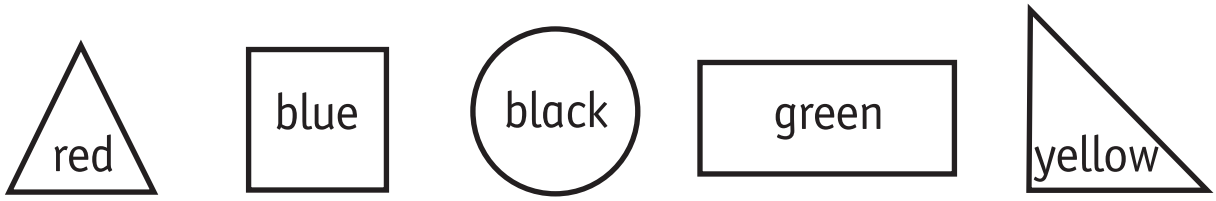


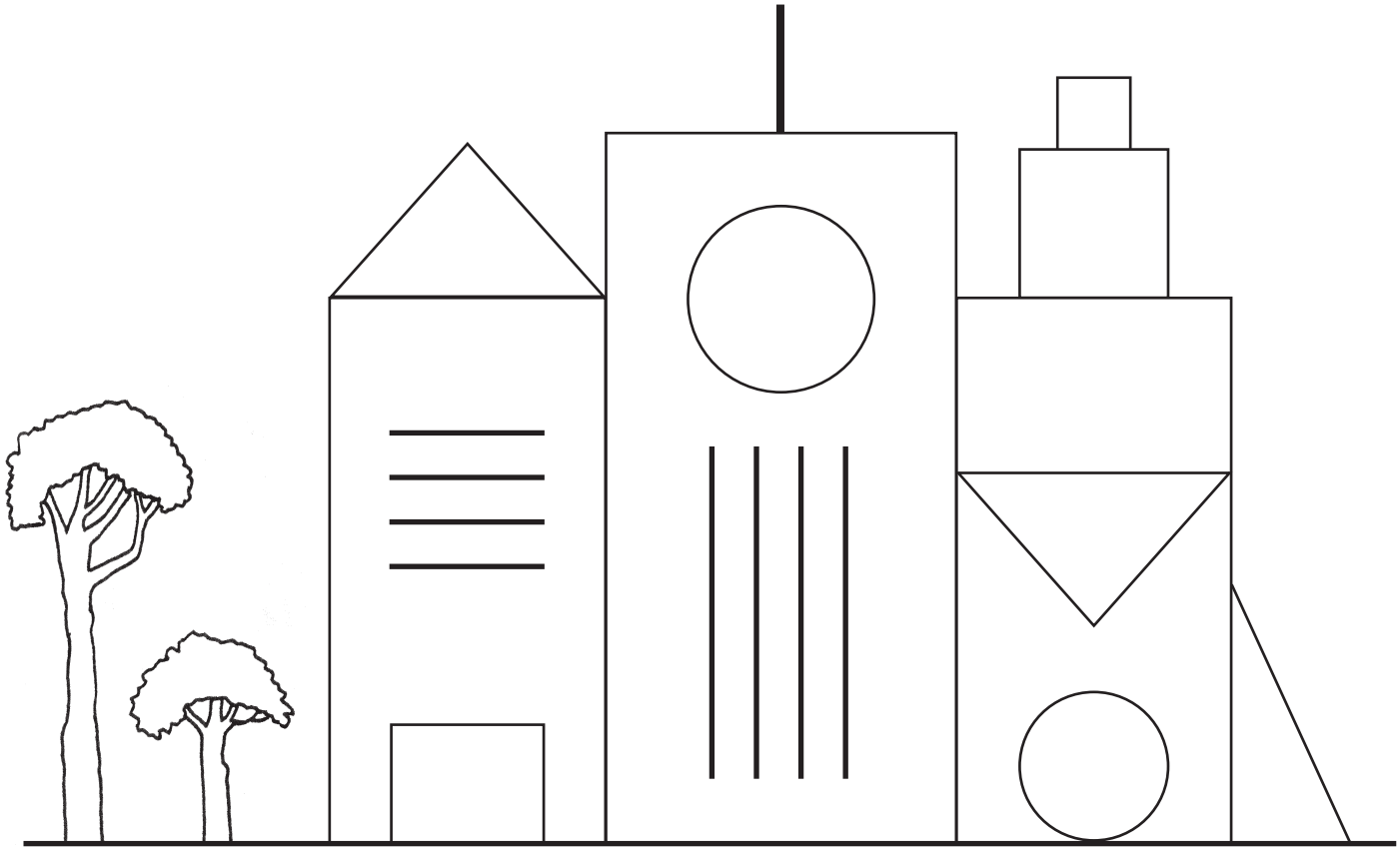
Assessment 2

2D Shapes

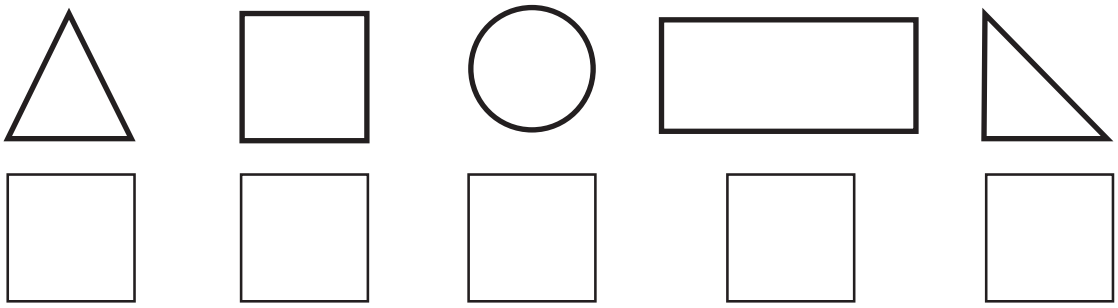
Name

2 Colour to match.





3 How many?



Self Assessment

Space AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons	Score	Basic	Sound	High

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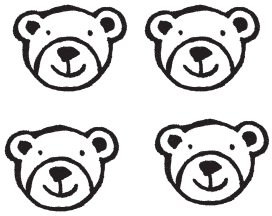
Assessment 3

Addition to 5

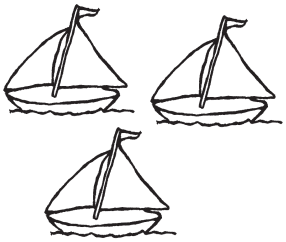
Name

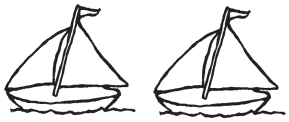
1



☐ and ☐ makes ☐

2



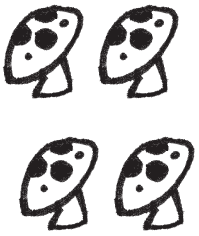


☐ and ☐ makes ☐

3

☐ and ☐ makes ☐

4



☐ and ☐ makes ☐

Assessment 3

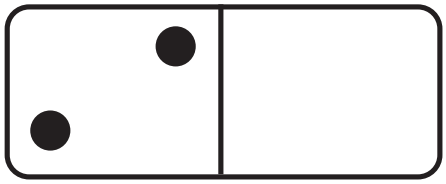
Addition

Name

5 Make 3  .

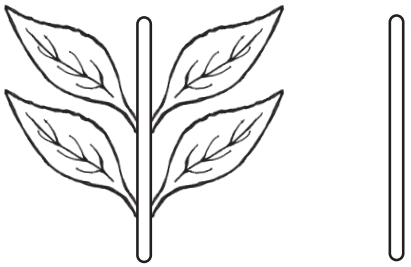
and

Make 4 ●.



and

6 Make 5  .

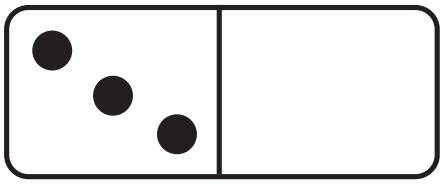


and

Make 4  .

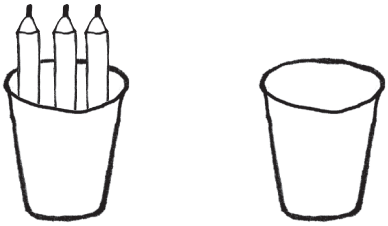
and

7 Make 6 ●.



and =

Make 7  .



and =

Self Assessment ☺☺☺

Number AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts **AC9MFN05** represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies	Score	Basic	Sound	High

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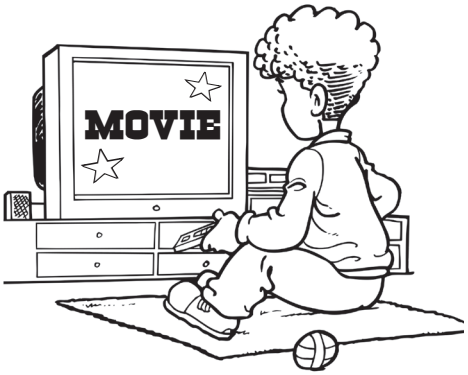
Assessment 4

Time

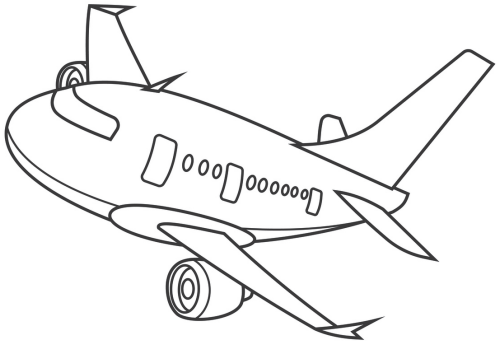
Name

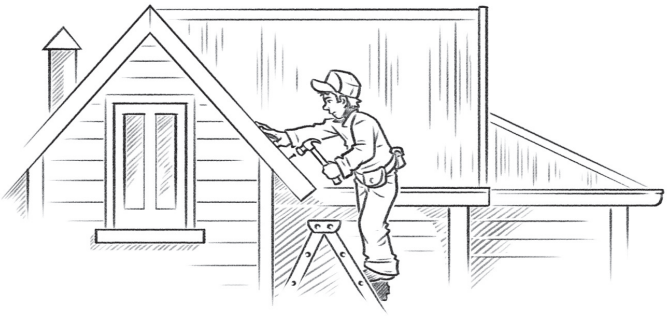
1 Match.



A long time

A short time





2 Colour today red. Colour tomorrow blue. Colour yesterday yellow.

Sunday | Monday | Tuesday | Wednesday

Thursday | Friday | Saturday

Self Assessment ☺☺☺

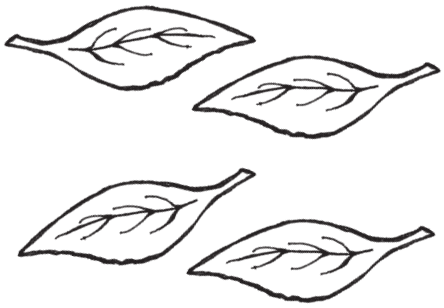
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning **AC9MFM02** sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions	Score	Basic	Sound	High

Assessment 5

Subtraction to 5

Name

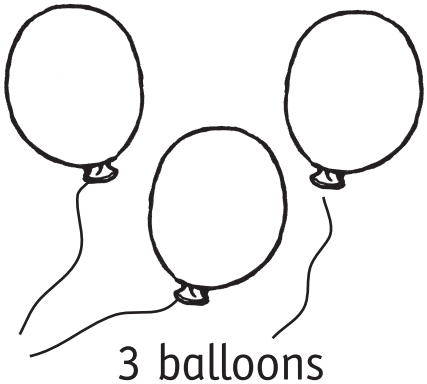
1 **Write.**



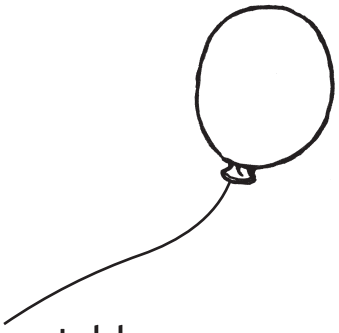
4 leaves

2 blew away.

How many left?



3 balloons



1 blew away.

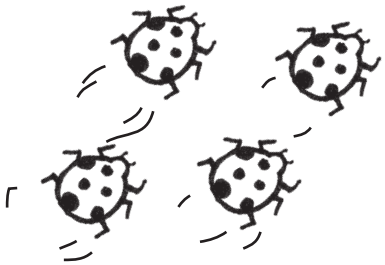
How many left?

5 bees

3 flew away.

How many left?

5 ladybirds



4 flew away.

How many left?

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Assessment 5

Subtraction to 5

Name

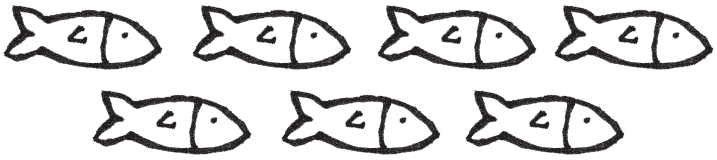
2

Take away 2.

left

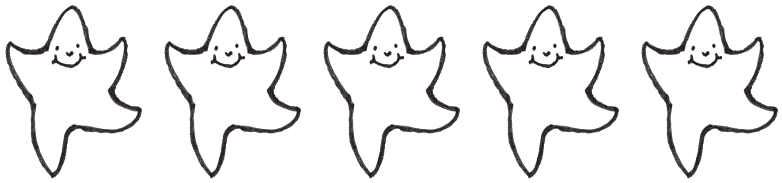
Take away 3.

left



Take away 5.

left



Take away 5.

left

3 Match.

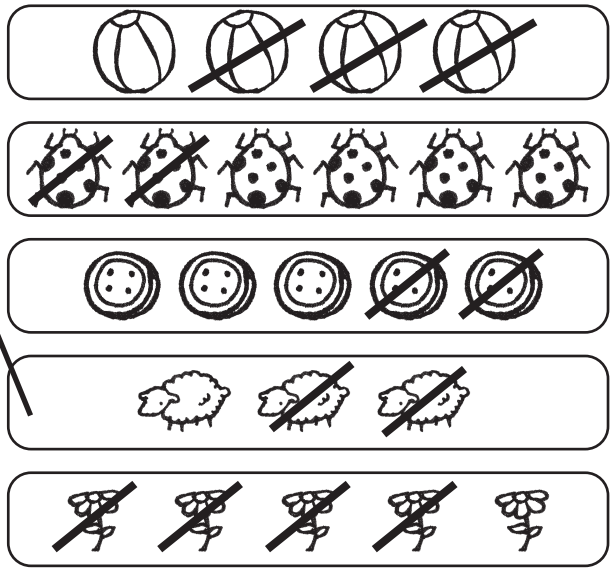
3 take away 2

5 take away 2

4 take away 3

6 take away 2

5 take away 4



Self Assessment

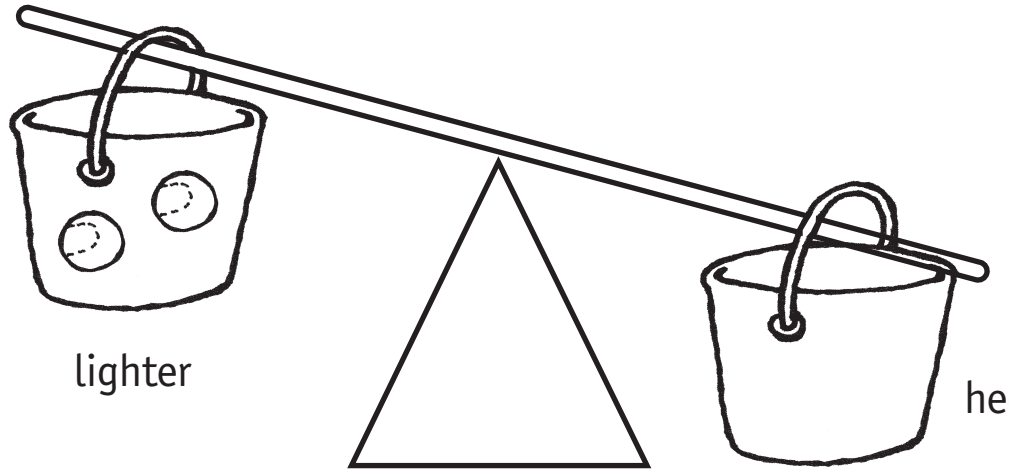
	Score	Basic	Sound	High
Number AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies				

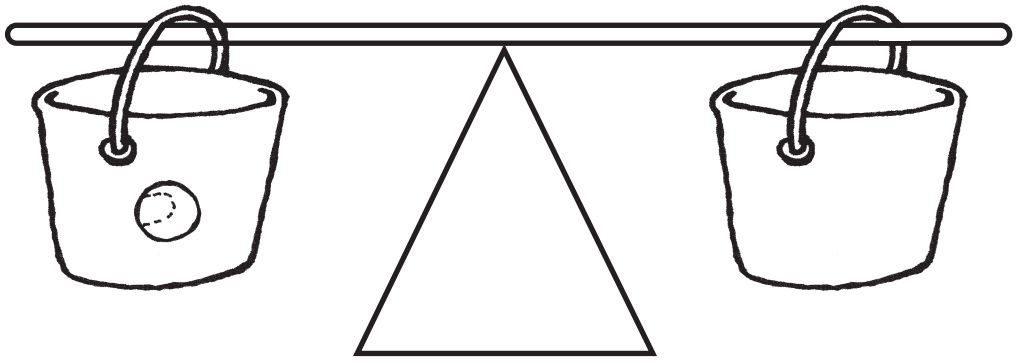
Assessment 6

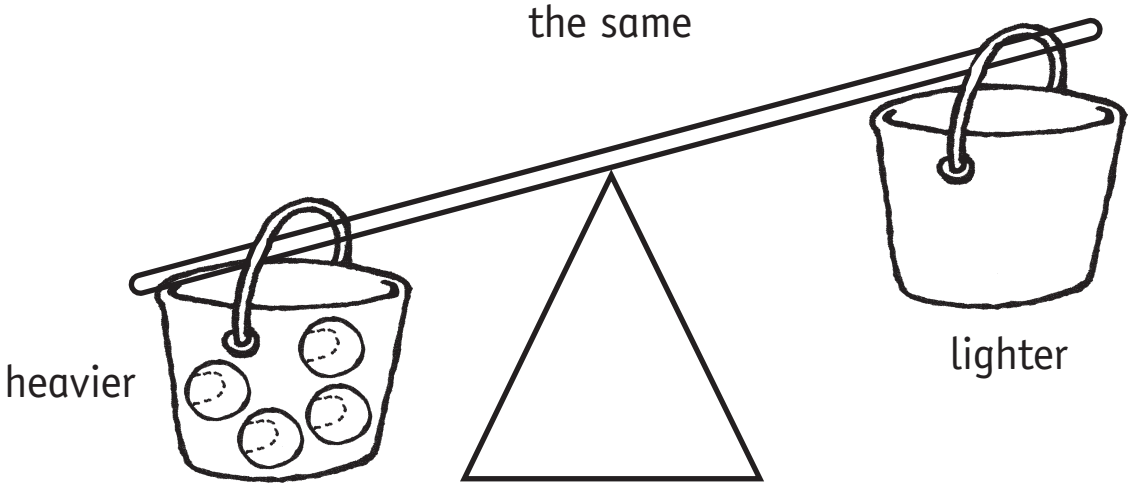
Mass

Name

Draw balls in the empty bucket.







Self Assessment

	Score	Basic	Sound	High
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning				

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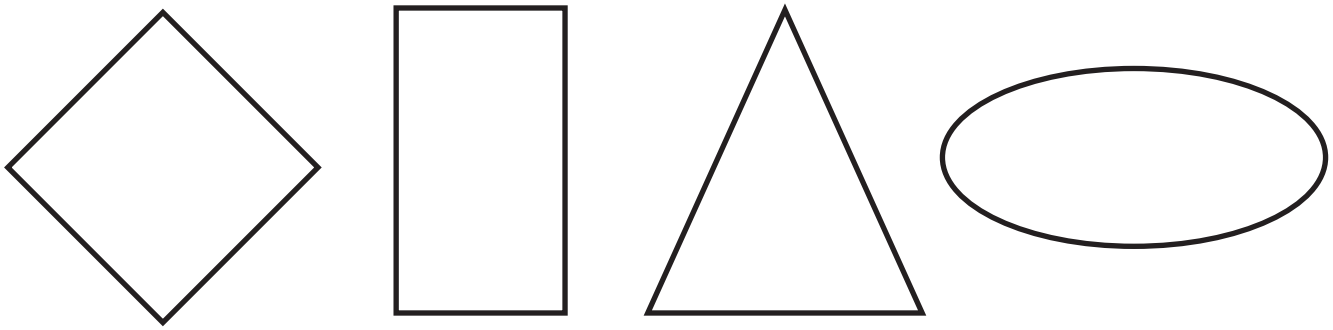
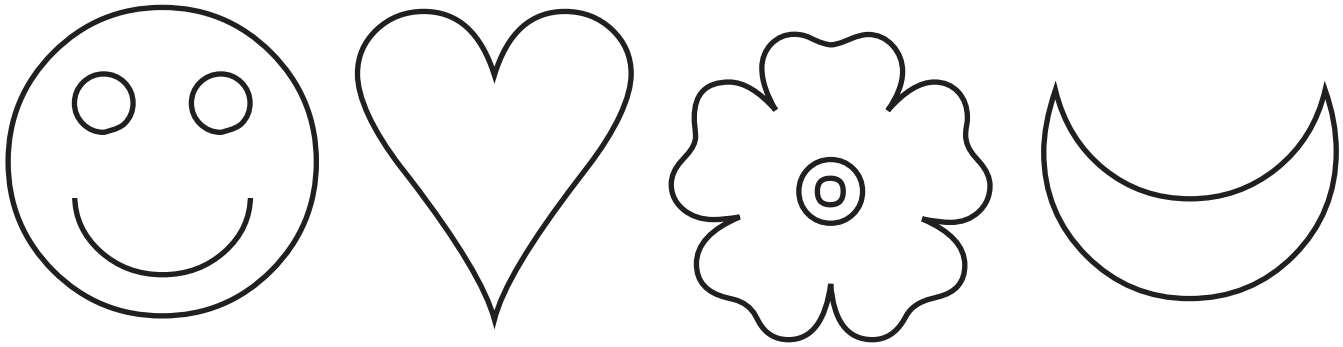
Assessment 7

Halves

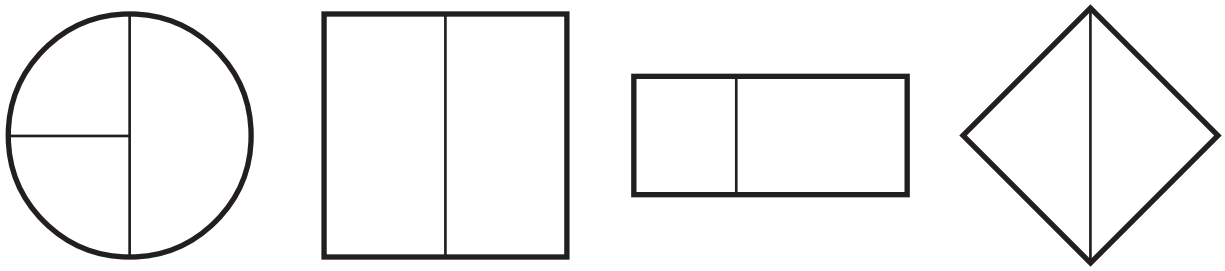
Name

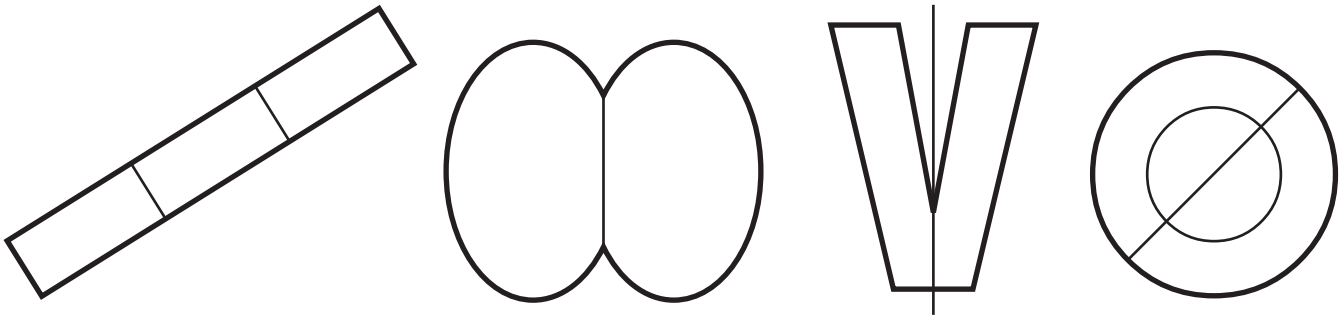
1 Colour half.





2 Tick ✓ shapes that are cut in half.





Self Assessment

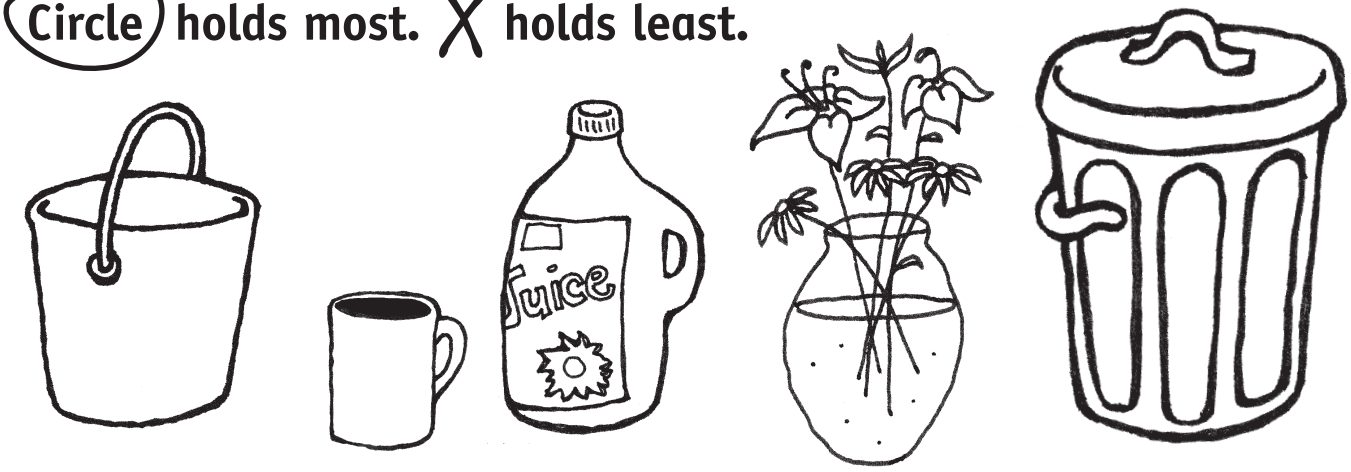
	Score	Basic	Sound	High
Number AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies				

Assessment 8

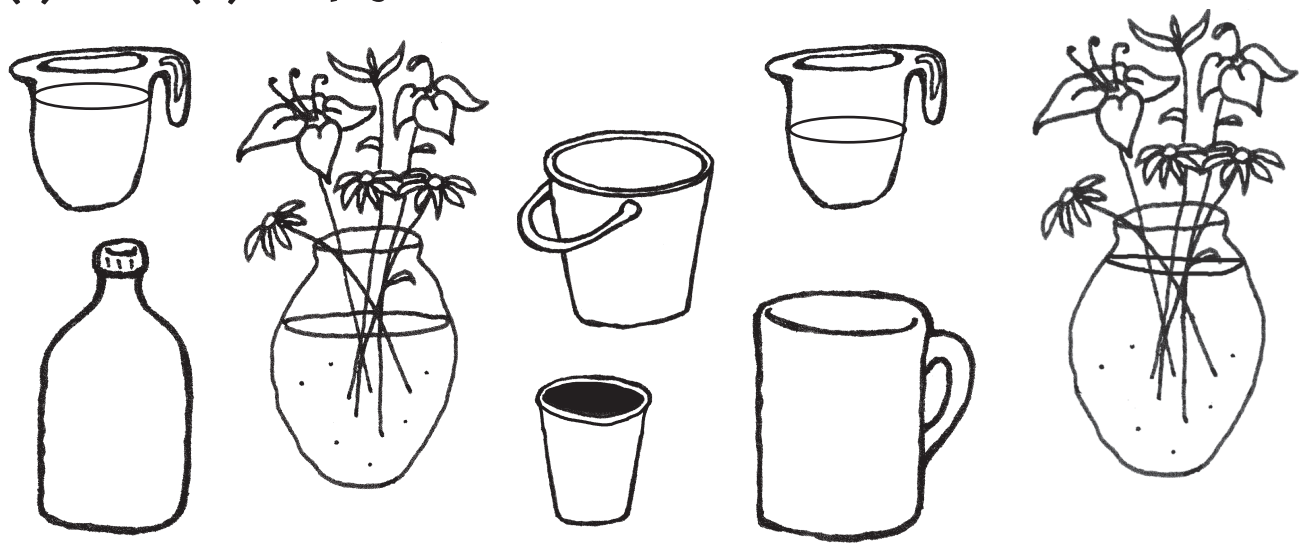
Capacity

Name

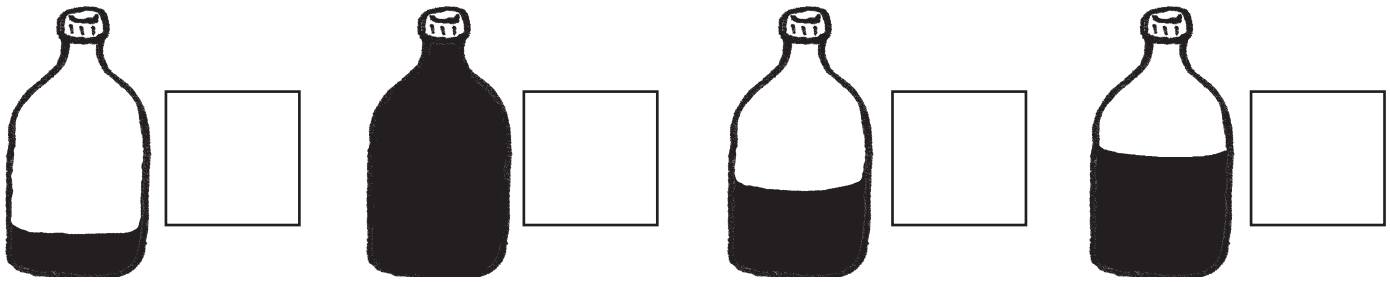
1 Circle holds most. X holds least.



2 (f) full. (e) empty.



3 1 holds most. 2 3 4 holds least.



Self Assessment ☺☺☺

	Score	Basic	Sound	High
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning				

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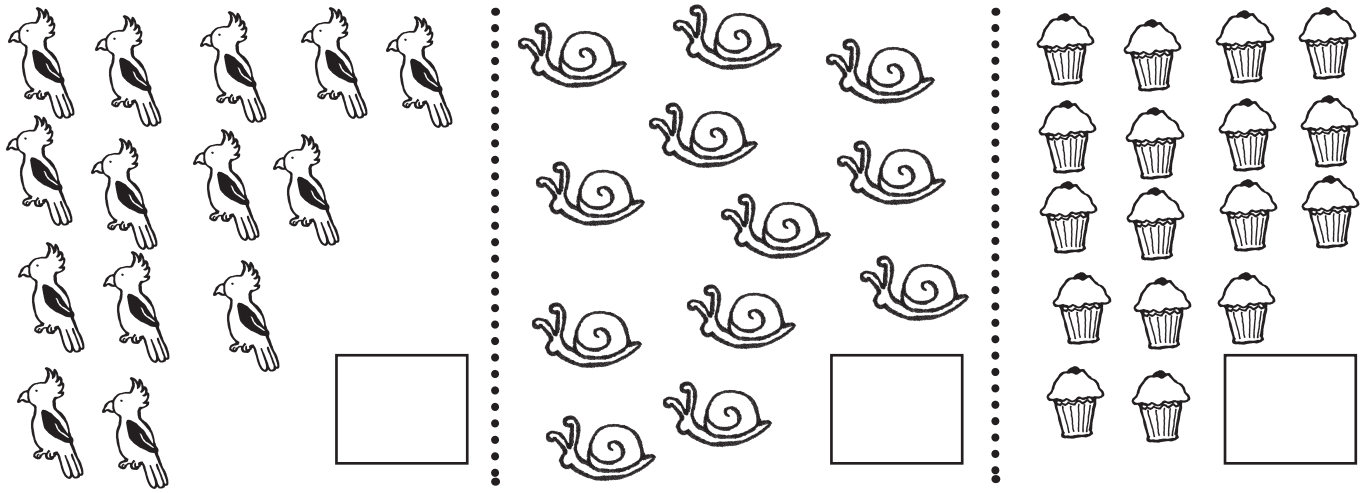
Assessment 9

Number

Name

1 How many?



2 Write the numbers in order.

9	12	4	13	
4	15	8	7	
2	14	11	6	
19	7	10	16	

3 Write the missing numbers.

11		13	14			17	

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Number AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals				

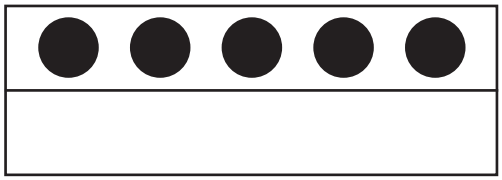
Assessment 10

Addition to 10

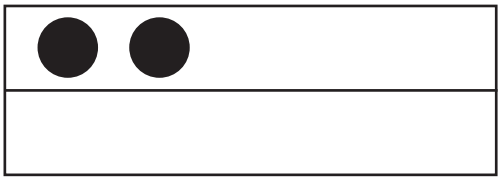
Name

How many more?

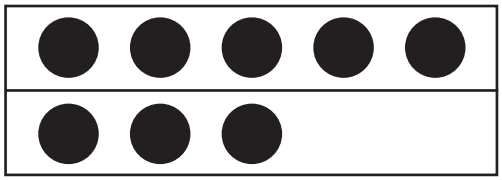
1 Make 10.



5 and _____



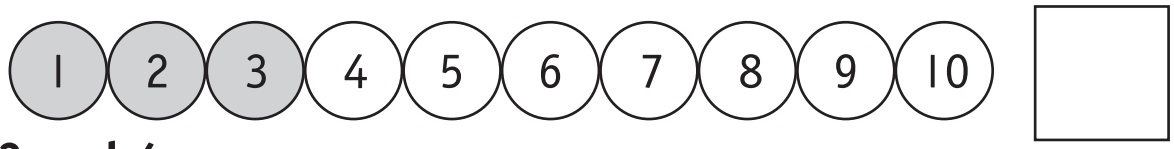
2 and _____



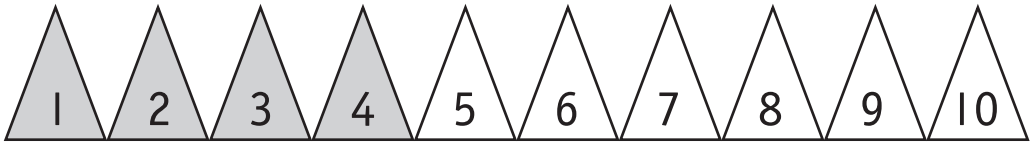
8 and _____

1 and _____

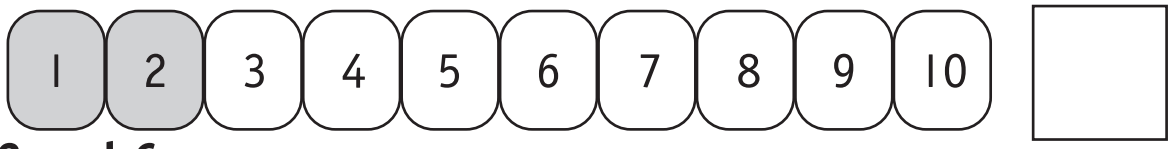
2



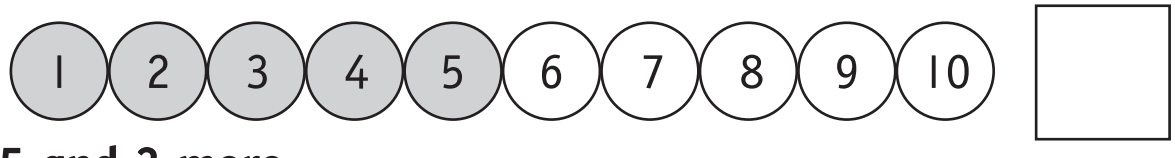
3 and 4 more



4 and 2 more



2 and 6 more



5 and 3 more

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Assessment 10

Addition to 10

Name

3 **a** 6 and 2 is ☐

b 4 and 5 is ☐

c 3 and 5 is ☐

d 5 and 5 is ☐

e 4 and ☐ is 10

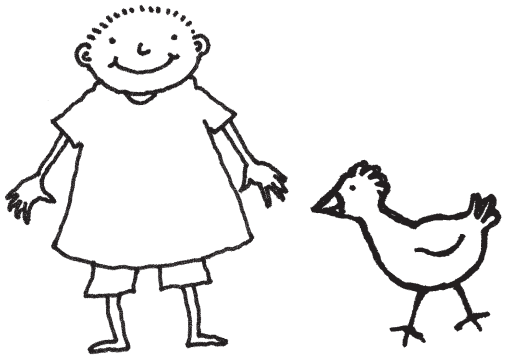
f 3 and ☐ is ☐

4 How many legs?

a

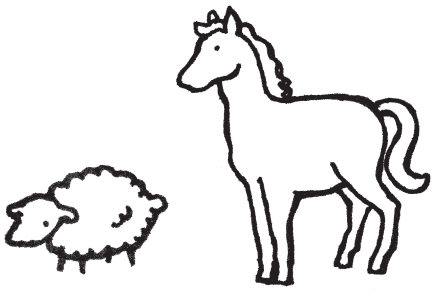
____ and ____ makes ____ legs.

b



____ and ____ makes ____ legs.

c



____ and ____ makes ____ legs.

d

____ and ____ makes ____ legs.

Self Assessment

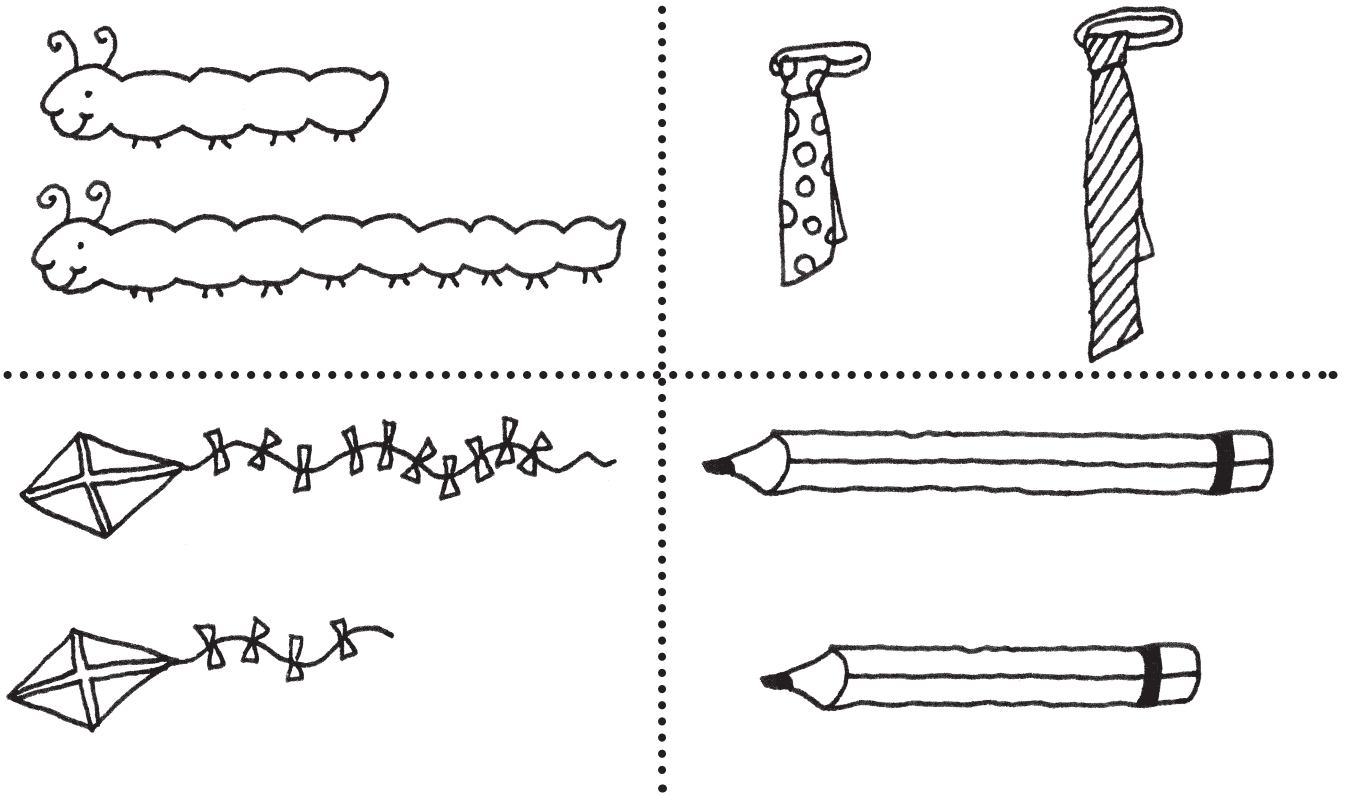
Number AC9MFN04 partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts **AC9MFN05** represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies	Score	Basic	Sound	High

Assessment 11

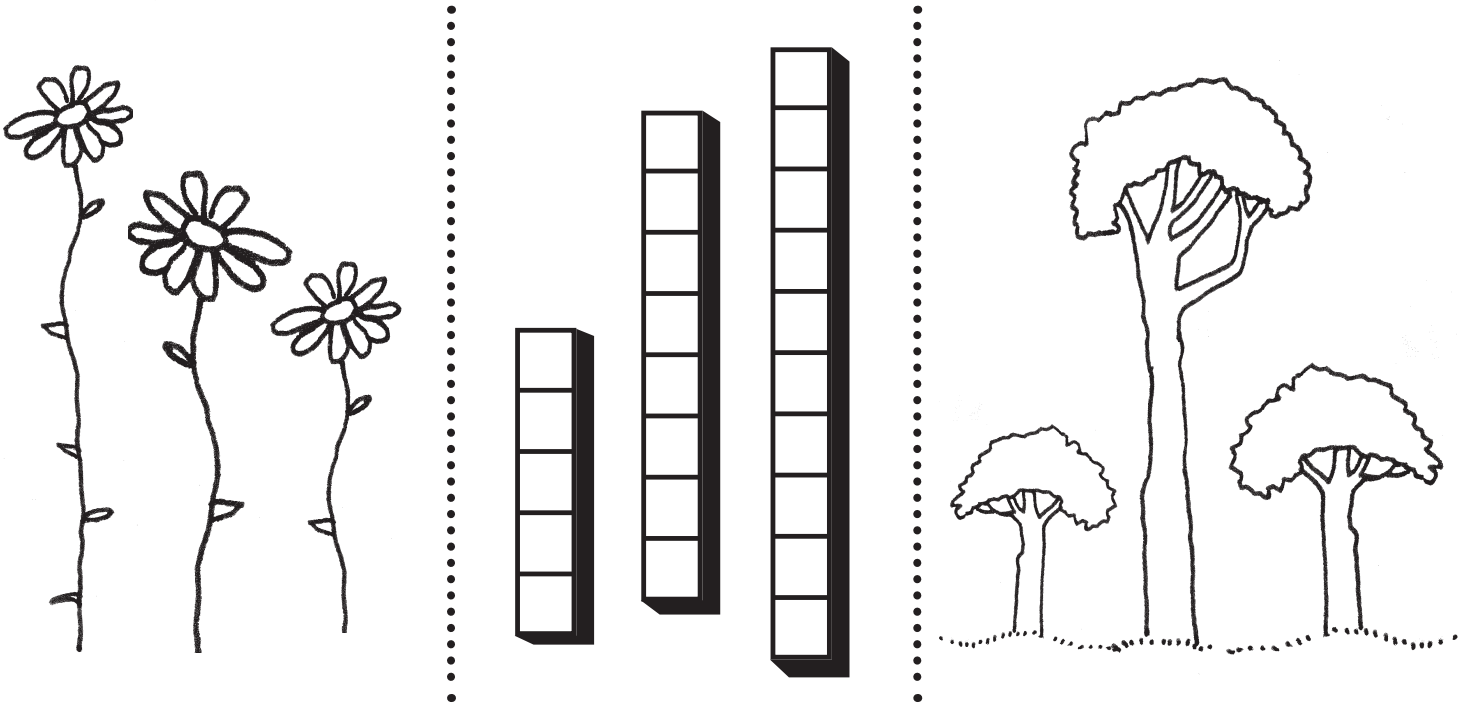
Length

Name

1 Circle longer.



2 Circle tallest.



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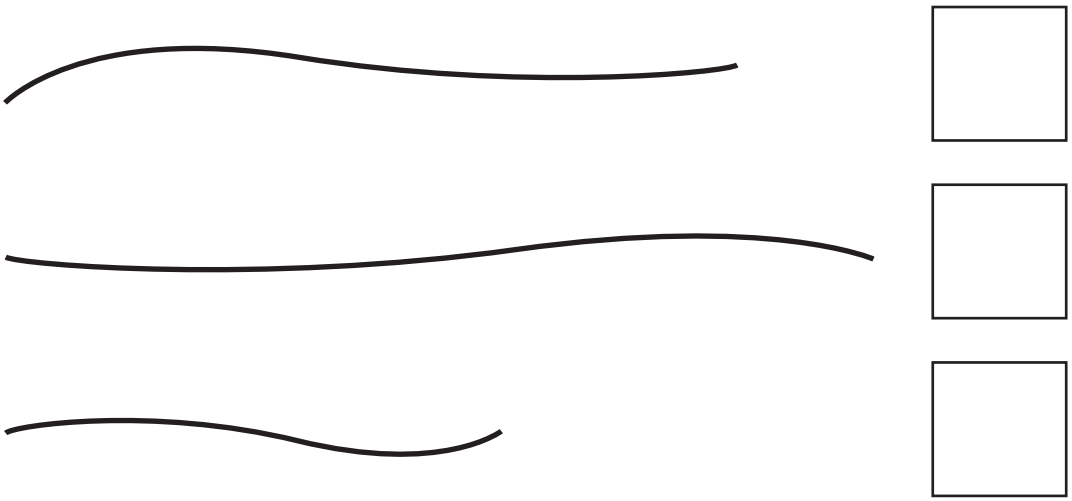
Assessment 11

Length

Name

3 Tick ✓ the tallest tree. Cross ✗ the lowest flower.
Circle the highest bird.

4 1 longest 2 3 shortest



Self Assessment

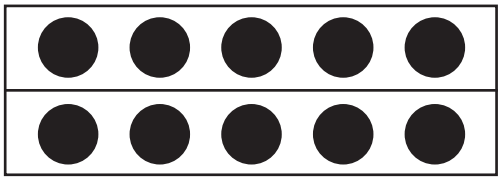
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning	Score	Basic	Sound	High

Assessment 12

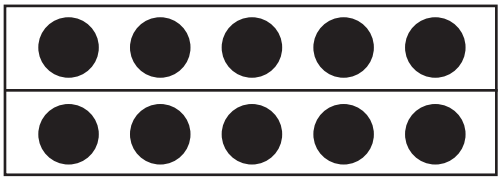
Take Away

Name

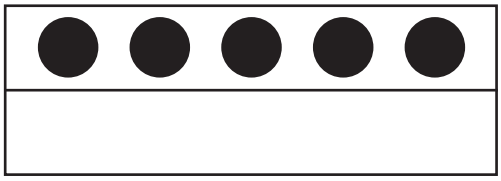
1



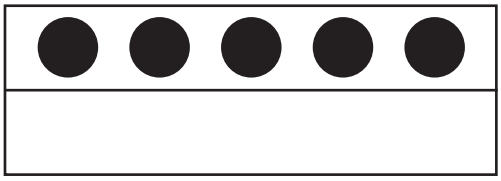
Take away 4. _____



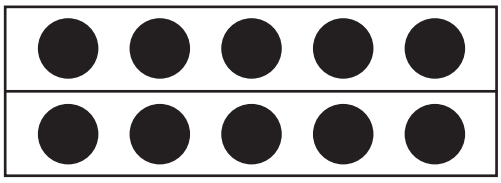
Take away 2. _____



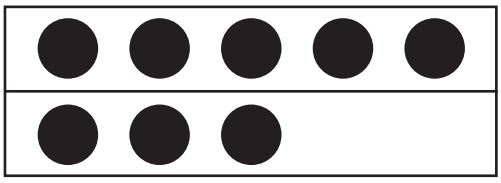
Take away 3. _____



Take away 5. _____



Take away 3. _____



Take away 4. _____

2

Take away 2. 2

Take away 3. ☐

Take away 4. ☐

Take away 9. ☐

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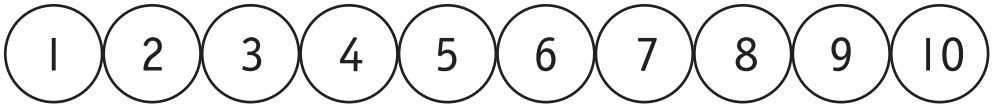
Assessment 12

Take Away

Name

3 Count back.



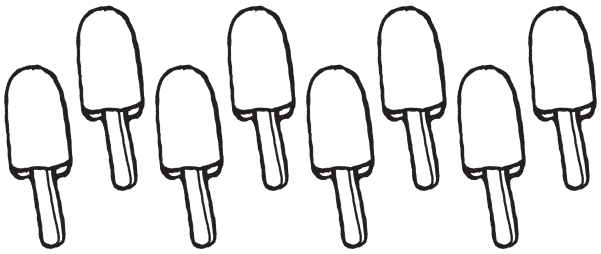
7 count back 1. ☐

8 count back 2. ☐

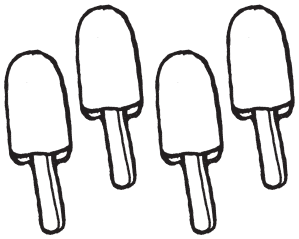
10 count back 3. ☐

9 count back 2. ☐

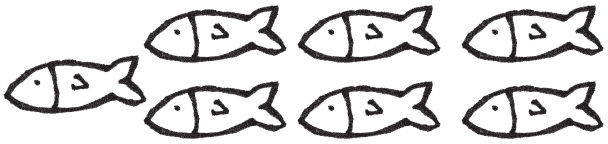
4



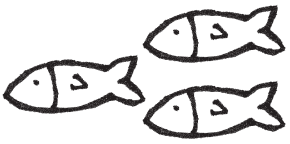
cover up ☐



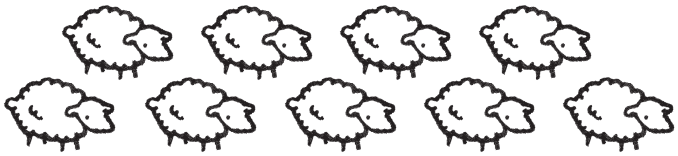
left.



cover up ☐



left.



cover up ☐

left.

cover up ☐

left.

Self Assessment ☺ ☺ ☺

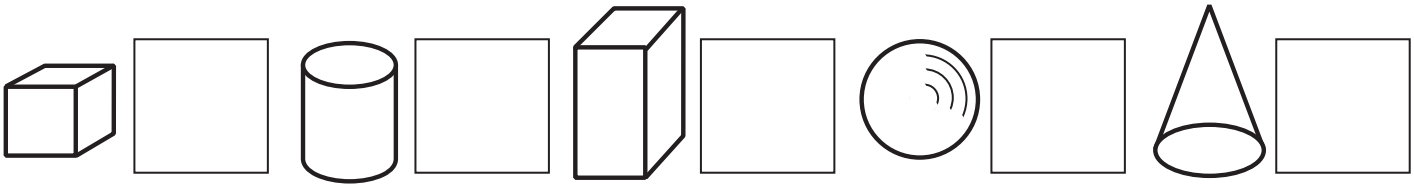
	Score	Basic	Sound	High
Number AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising **AC9MFN05** represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies				

Assessment 13

3D Objects

Name

Colour and count.



blue yellow red orange pink

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Space AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons				

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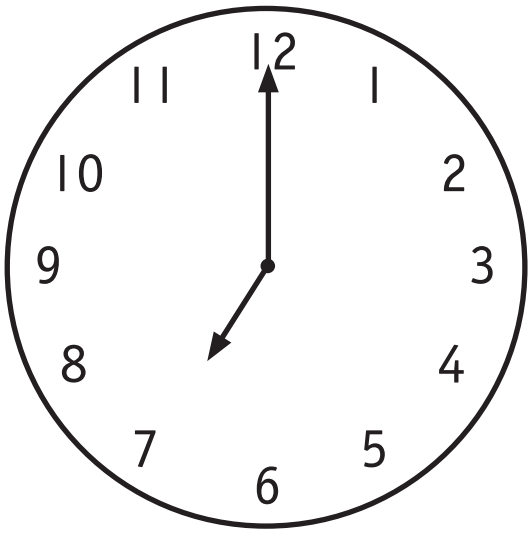
Assessment 14

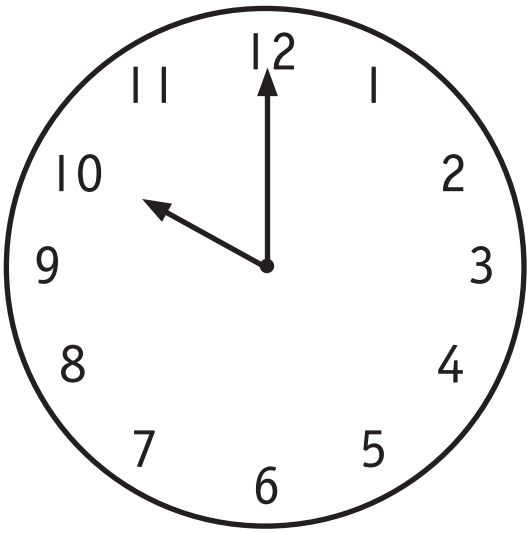
O'clock

Name

1 What time is it?

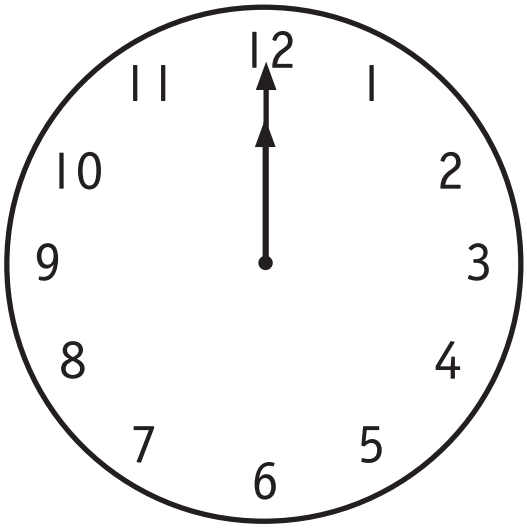


☐ o'clock

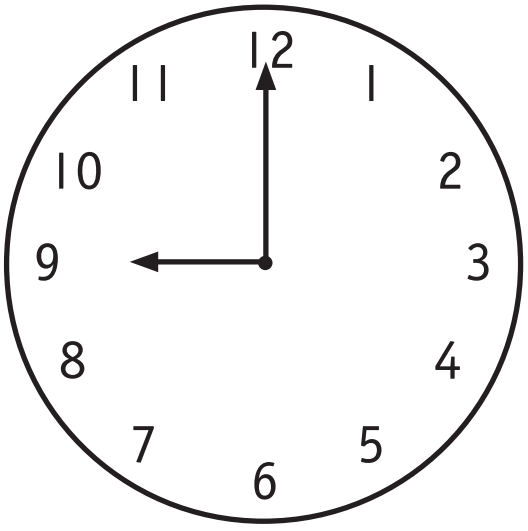


☐ o'clock

2



☐ o'clock



☐ o'clock

Self Assessment ☺☺☺

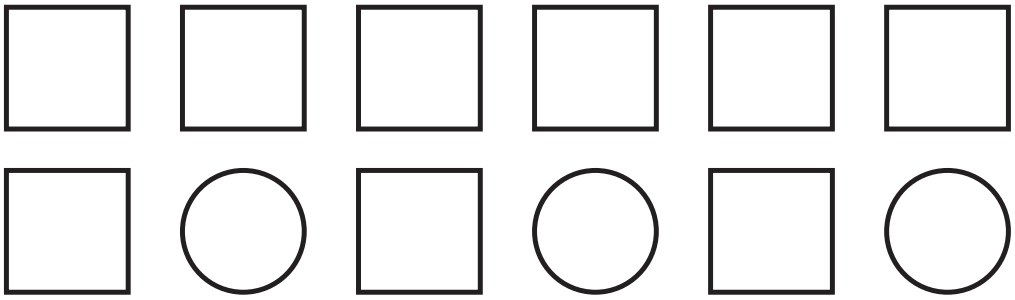
	Score	Basic	Sound	High
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning				

Assessment 15

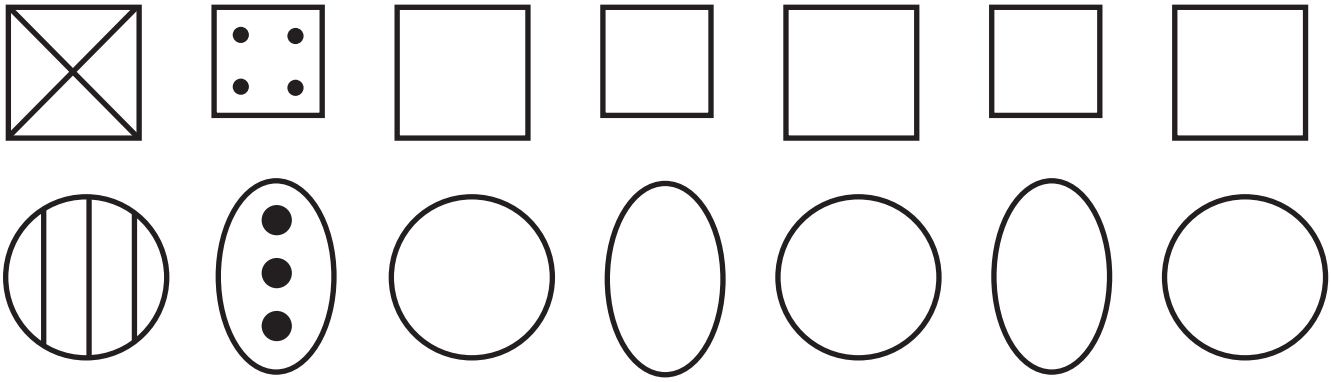
Patterns

Name

1 Colour to make a pattern.



2 Colour to repeat the pattern.



3 Draw the next shape.

4 Fix this pattern.

Draw it. Colour your pattern.

Self Assessment

	Score	Basic	Sound	High
Algebra AC9MFA01 recognise, copy and continue repeating patterns represented in different ways				

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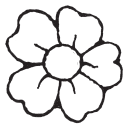
Assessment 16

Position

Name

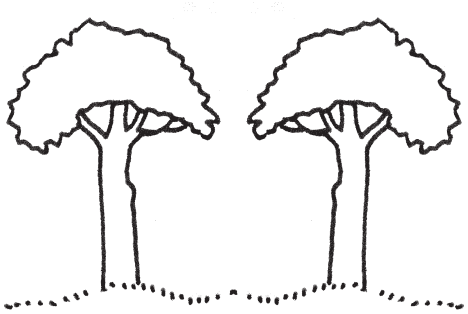
1 Draw 

below

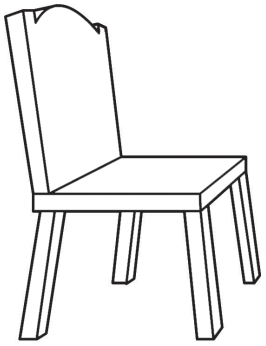
above

beside

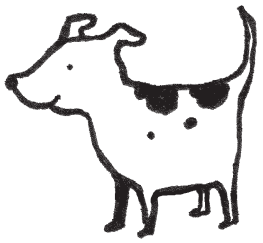
2 Draw 



between

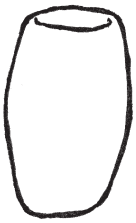


under

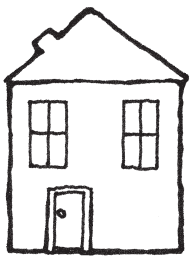


behind

3 Draw.



The  are in the  .



The  is beside the  .

Self Assessment 

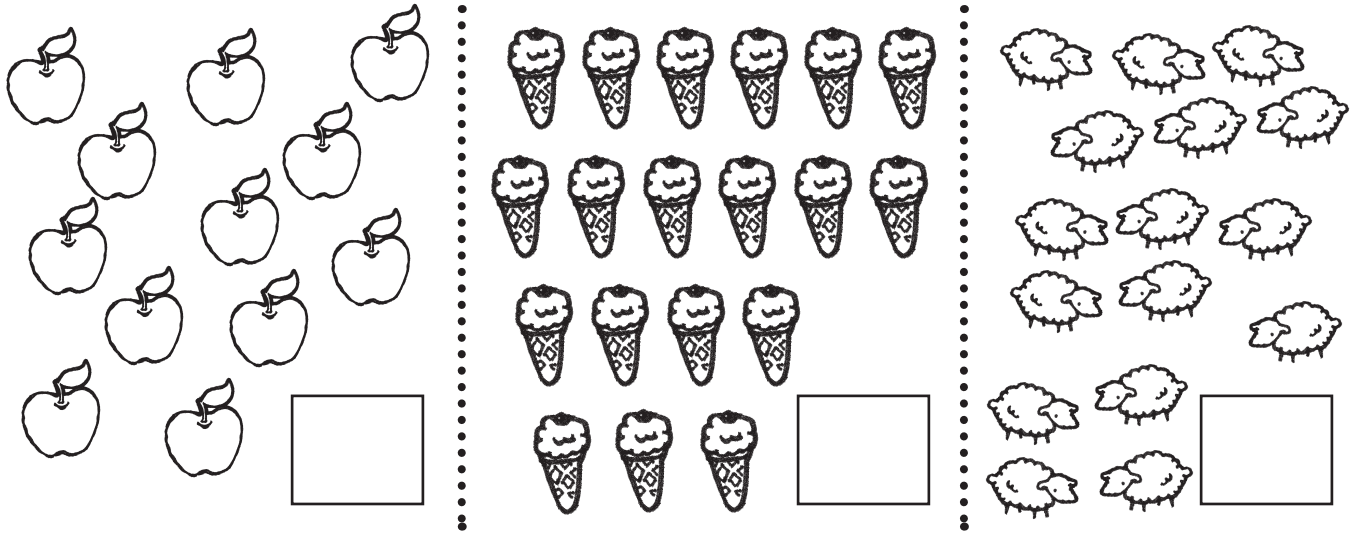
	Score	Basic	Sound	High
Space AC9MFSP02 describe the position and location of themselves and objects in relation to other people and objects within a familiar space				

Assessment 17

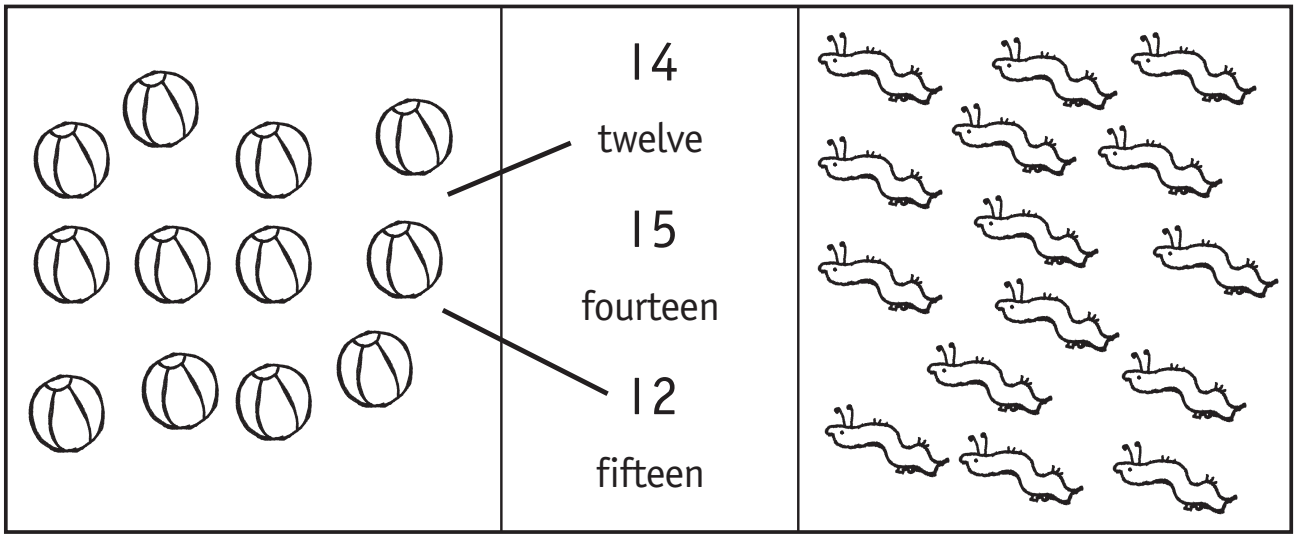
Numbers to 30

Name

1 How many?



2 Match.



3 Write the numbers in order.

14	16	15	17	_____
11	14	13	12	_____
16	18	17	19	_____

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Assessment 17

Numbers to 30

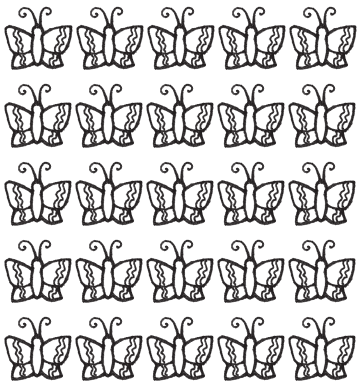
Name

4 Write the missing numbers.

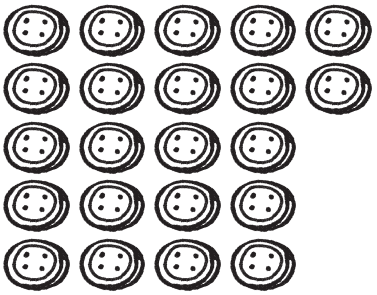
20	19			16		14	

21	22			25	26		

5 Match.



21
22
23
24
25
26
27
28
29



6 Circle the coins you need to pay for each.

Self Assessment

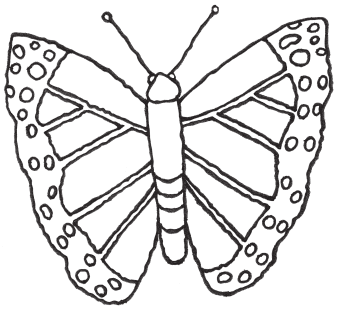
Number AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals **AC9MFN03** quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning **AC9MFN05** represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies	Score	Basic	Sound	High

Assessment 18

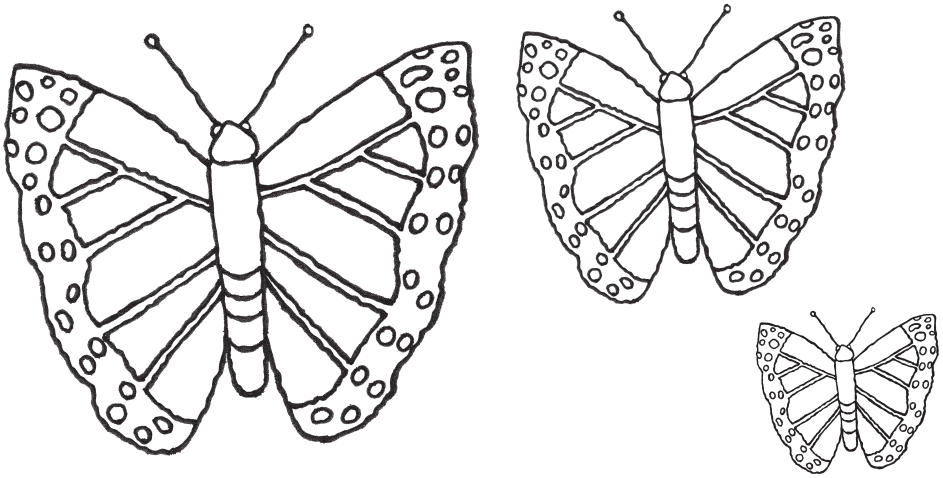
Area

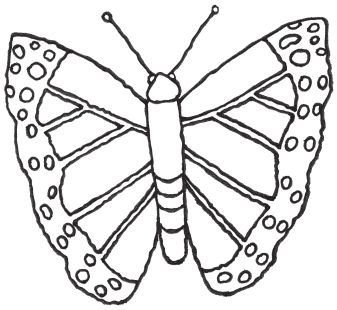
Name

Colour to match.

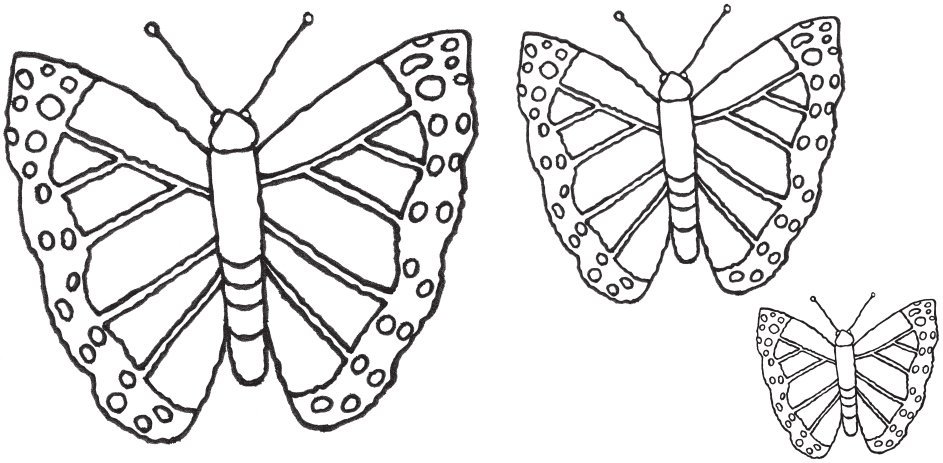


is smaller than

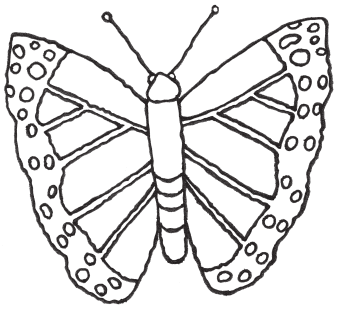




is the same size as



Draw.



is bigger than

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning				

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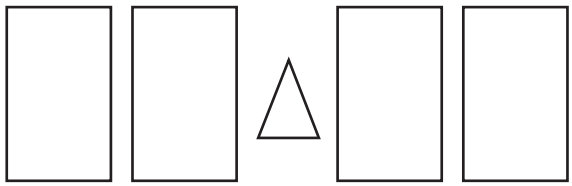
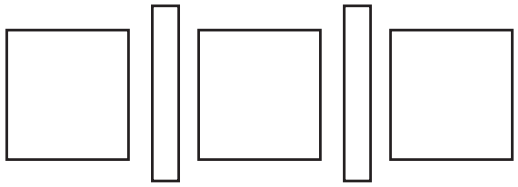
Assessment 19

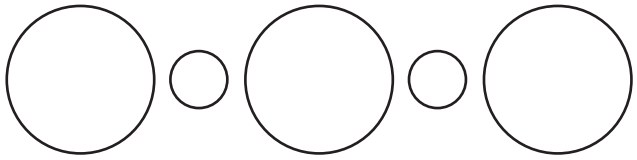
Shapes and Patterns

Name

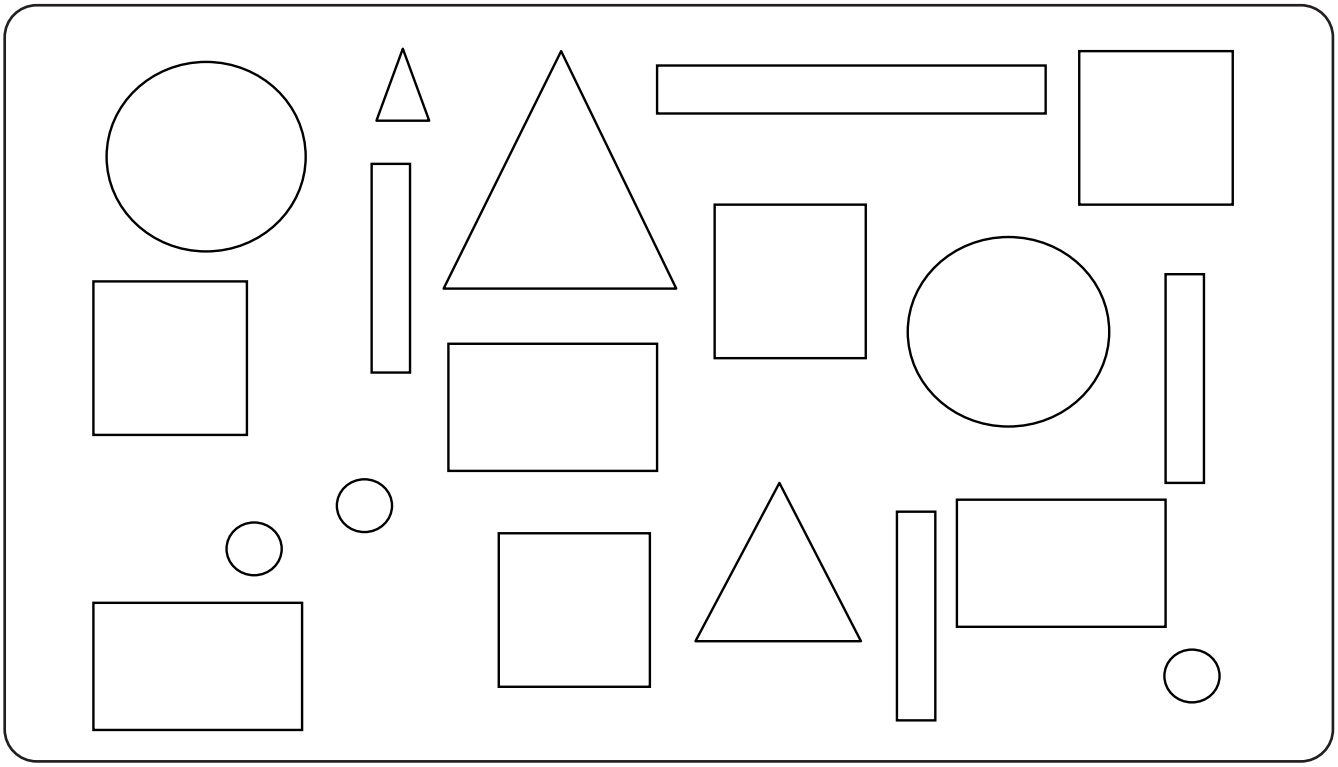
1 Continue the pattern.







2 Colour the circles red. Colour the squares blue.



Self Assessment

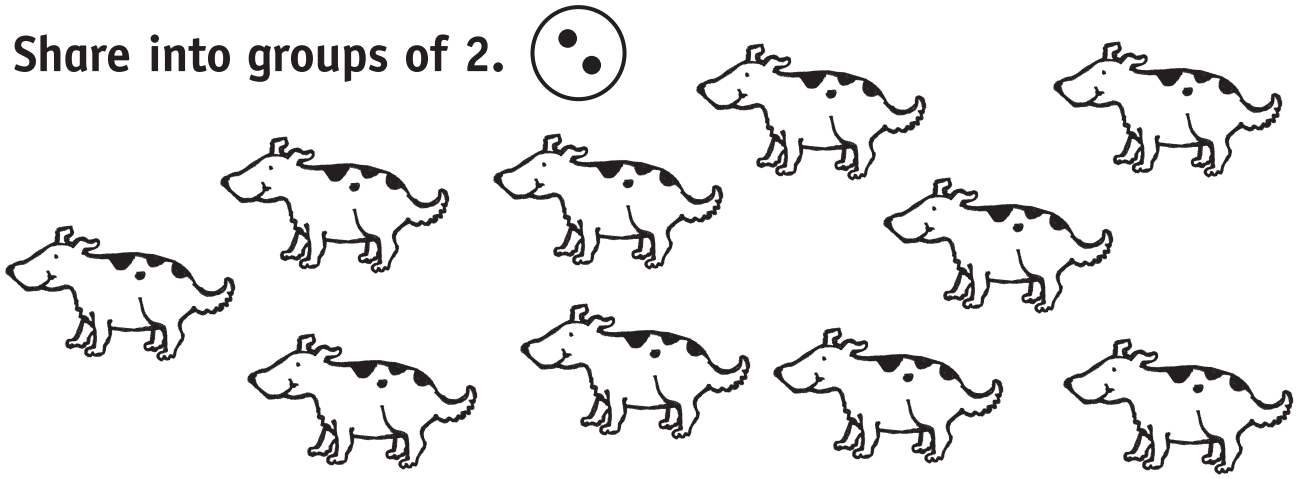
Space AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons **Algebra AC9MFA01** recognise, copy and continue repeating patterns represented in different ways	Score	Basic	Sound	High

Assessment 20

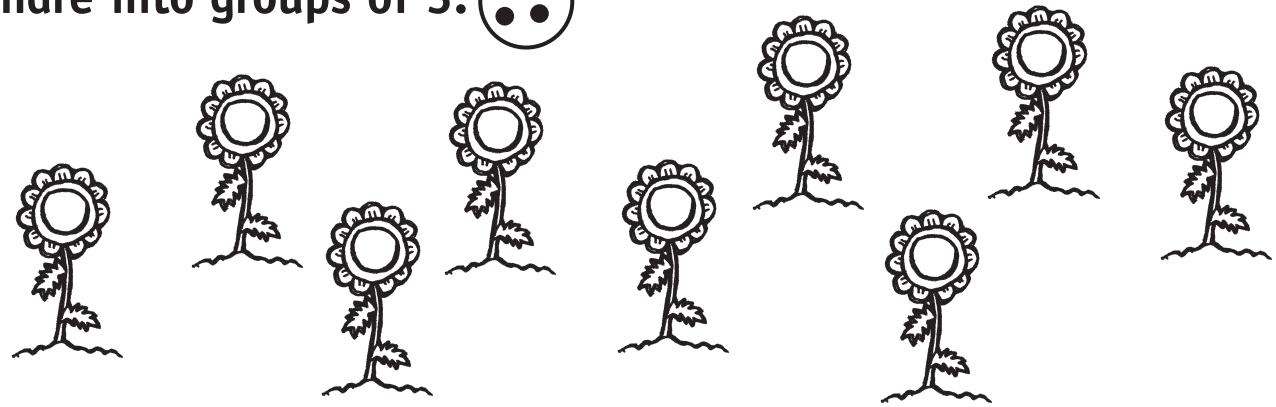
Sharing

Name

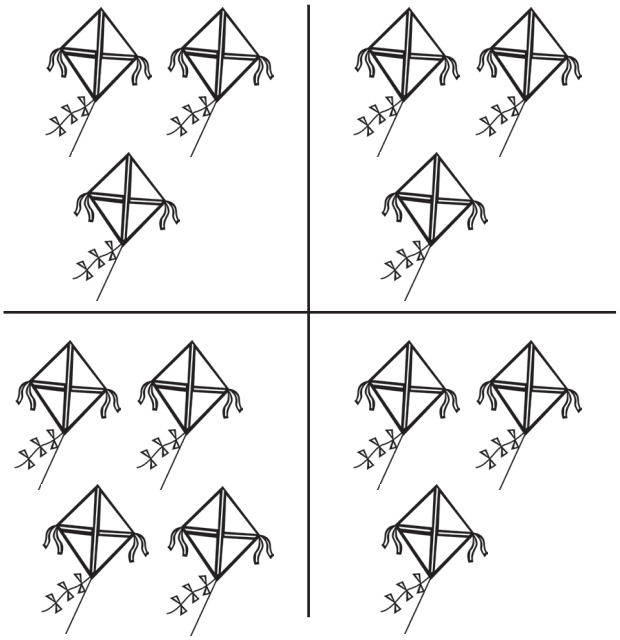
1 Share into groups of 2.

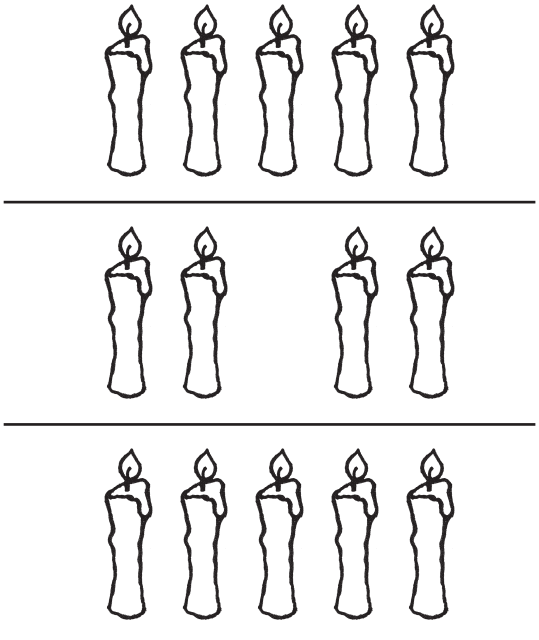


2 Share into groups of 3.



3 Cross ✕ the different group.





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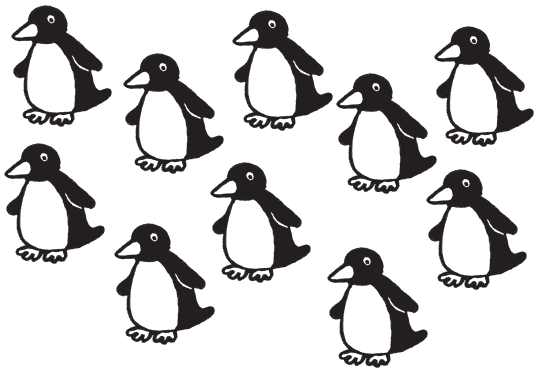
Assessment 20

Sharing

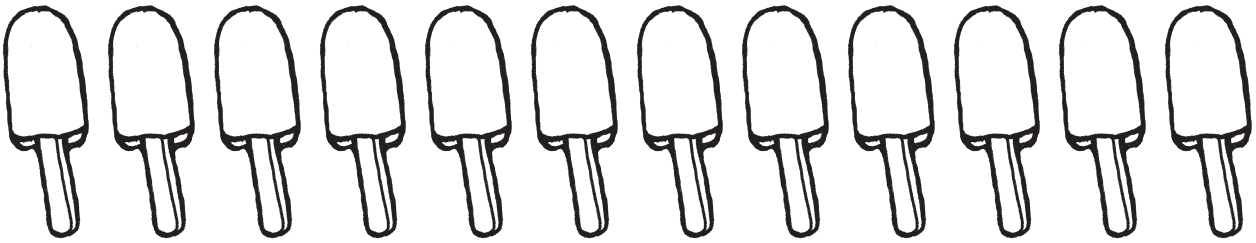
Name

4 Share 9 balls into 3 boxes.

Circle groups of 2.



5 How many groups of 3?



6 Share 8 toys between the two children. Draw.

How many toys each?

Self Assessment

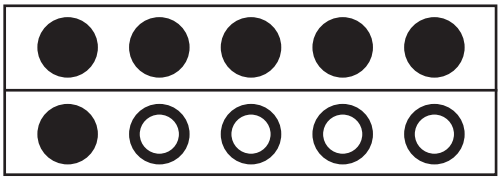
Number AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies	Score	Basic	Sound	High

Assessment 21

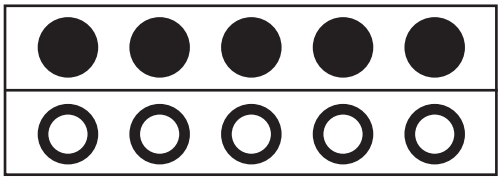
Addition

Name

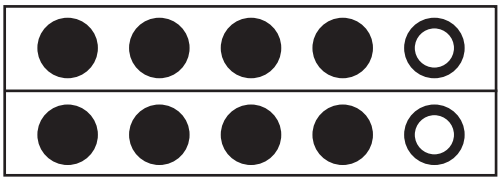
1



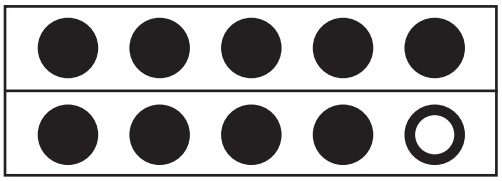
_____ + _____ = _____



_____ + _____ = _____

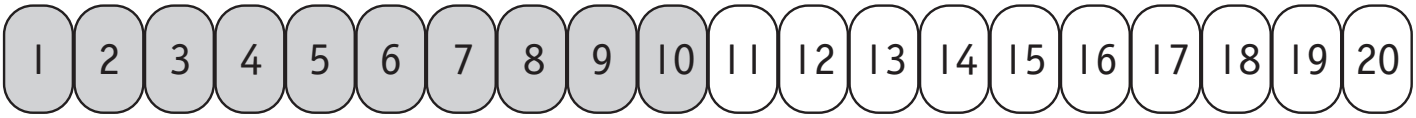


_____ + _____ = _____

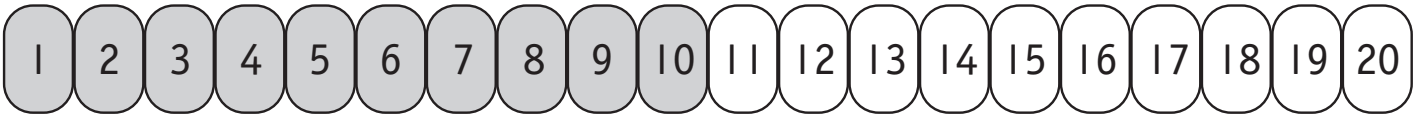


_____ + _____ = _____

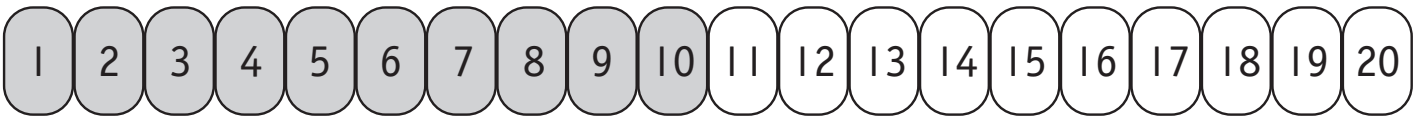
2 Colour and add.



10 + 2 = ☐



10 + 4 = ☐



10 + 3 = ☐

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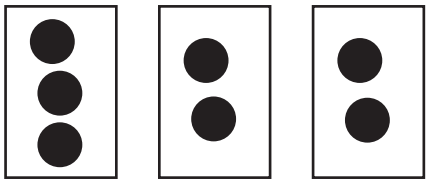
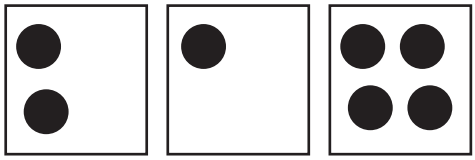
Assessment 21

Addition

Name

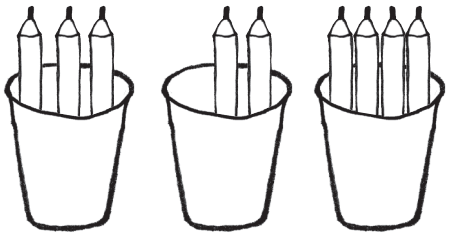
3 Write the numbers and add.

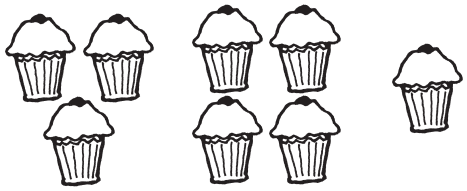




____ + ____ + ____ = ____

____ + ____ + ____ = ____





____ + ____ + ____ = ____

____ + ____ + ____ = ____

4 Colour and add.

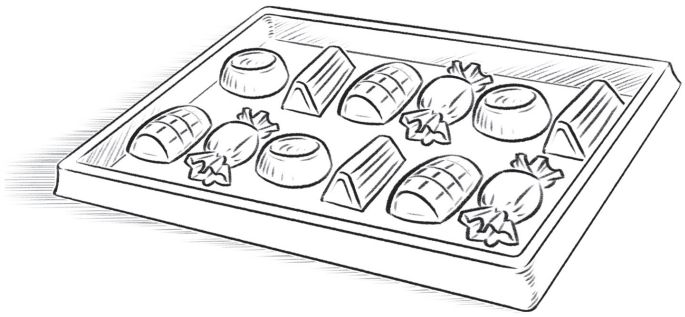
1	2	3	4	5	6	7	8	9	10

4 + 2 + 1 = ☐

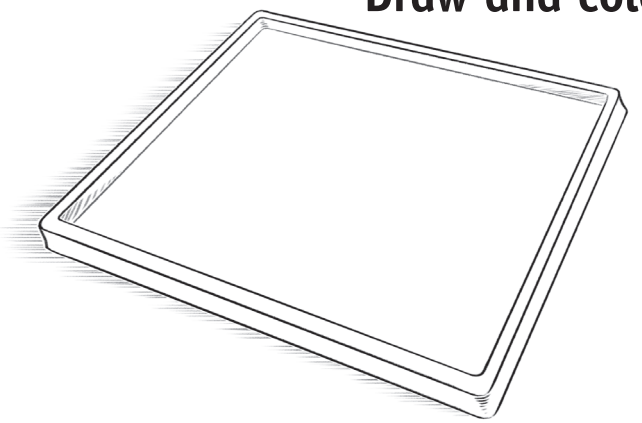
1	2	3	4	5	6	7	8	9	10

5 + 1 + 2 = ☐

5 Colour 3 + 3 + 3 + ___ = 12.



Other numbers add to 12. Draw and colour.



Self Assessment ☺ ☺ ☺

	Score	Basic	Sound	High
Number AC9MFN02 recognise and name the number of objects within a collection up to 5 using subitising **AC9MFN04** partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts **AC9MFN05** represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies				

Assessment 22

Seasons

Name

1 Draw.

Spring	Autumn

2 Write.

Summer comes _____ Spring.

before
after

Self Assessment

Measurement AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions	Score	Basic	Sound	High

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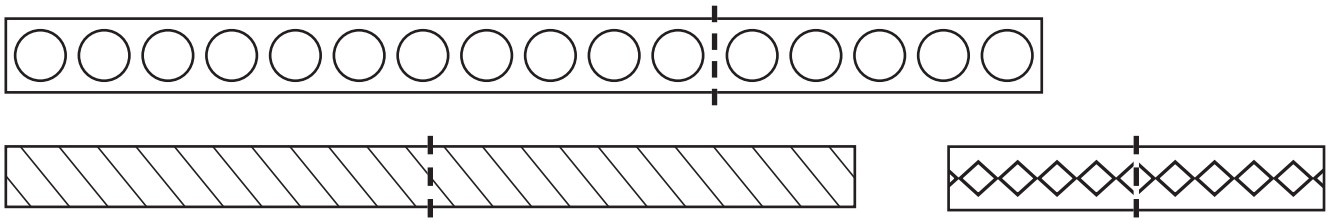
Assessment 23

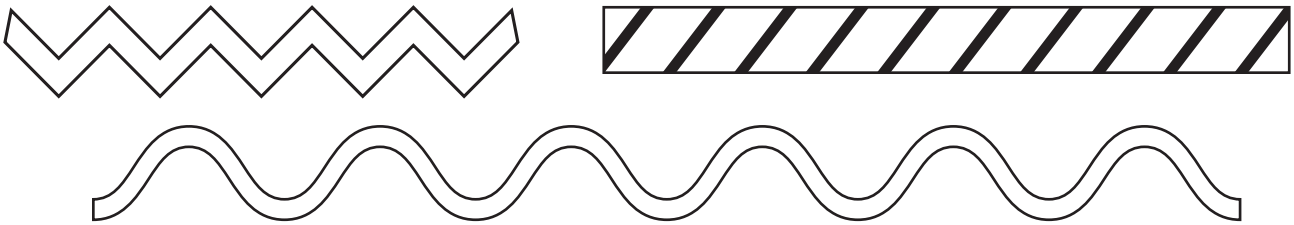
Length

Name

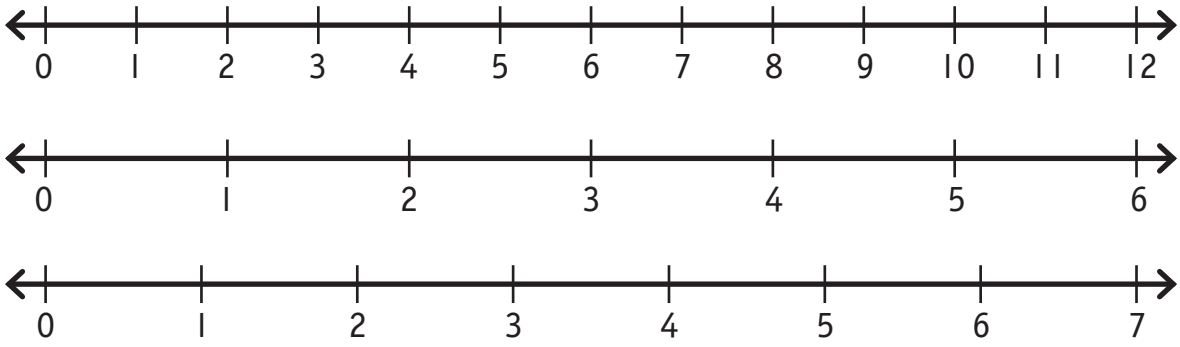
1 Colour the patterns that are cut in half.



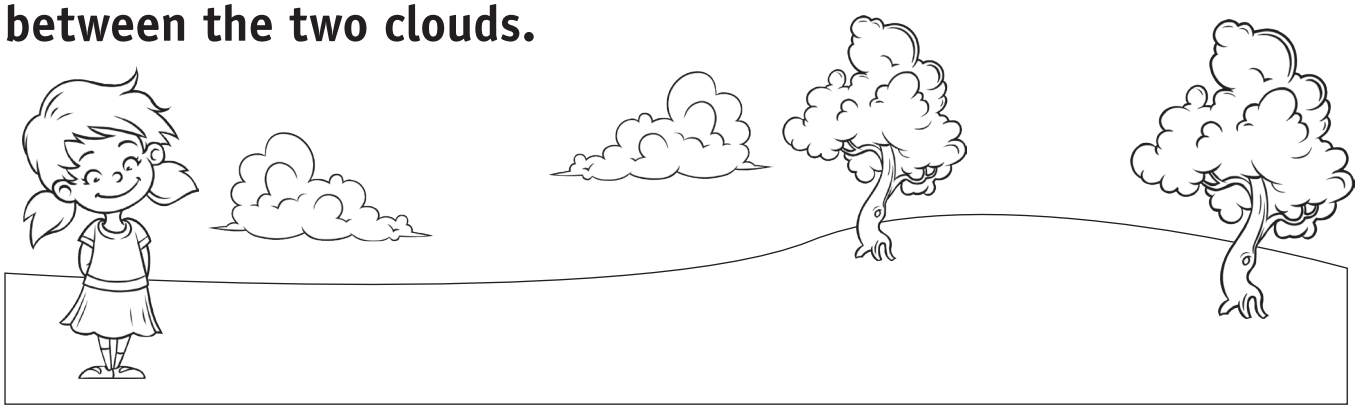
2 Cut the ribbons in half.



3 Mark the halfway point.



4 Draw a dog halfway between the two trees. Draw a ball halfway between the girl and the dog. Draw the sun halfway between the two clouds.



Self Assessment ☺☺☺

	Score	Basic	Sound	High
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning				

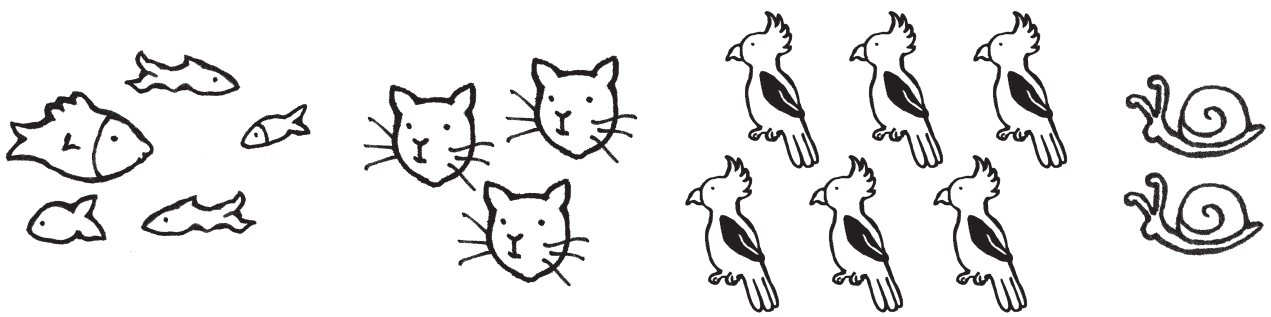
Assessment 24

Data Displays

Name

1

Pets



How many?

 ☐  ☐  ☐  ☐

2 Make a graph.

						
						
						
						
	1	2	3	4	5	6

There are more  than ☐.

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Statistics AC9MFST01 collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations				

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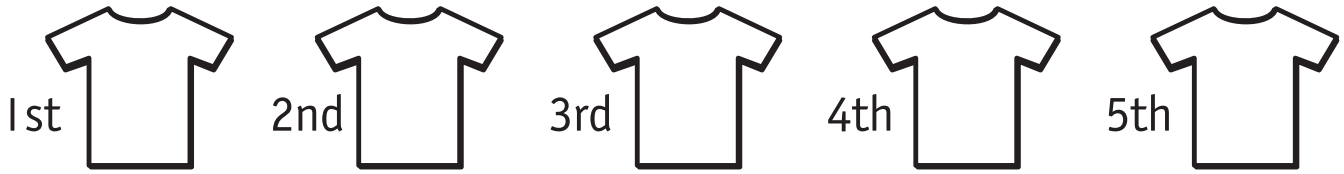
Assessment 25

Numbers

Name

1 Write the numbers on these shirts. Who is coming 1st?
Colour to match.



2 Match.

21	twenty-nine
29	twenty-four
24	twenty-one

3 Write the missing numbers.

22, 23, ____ , ____, ____ , 27, ____, 29, ____

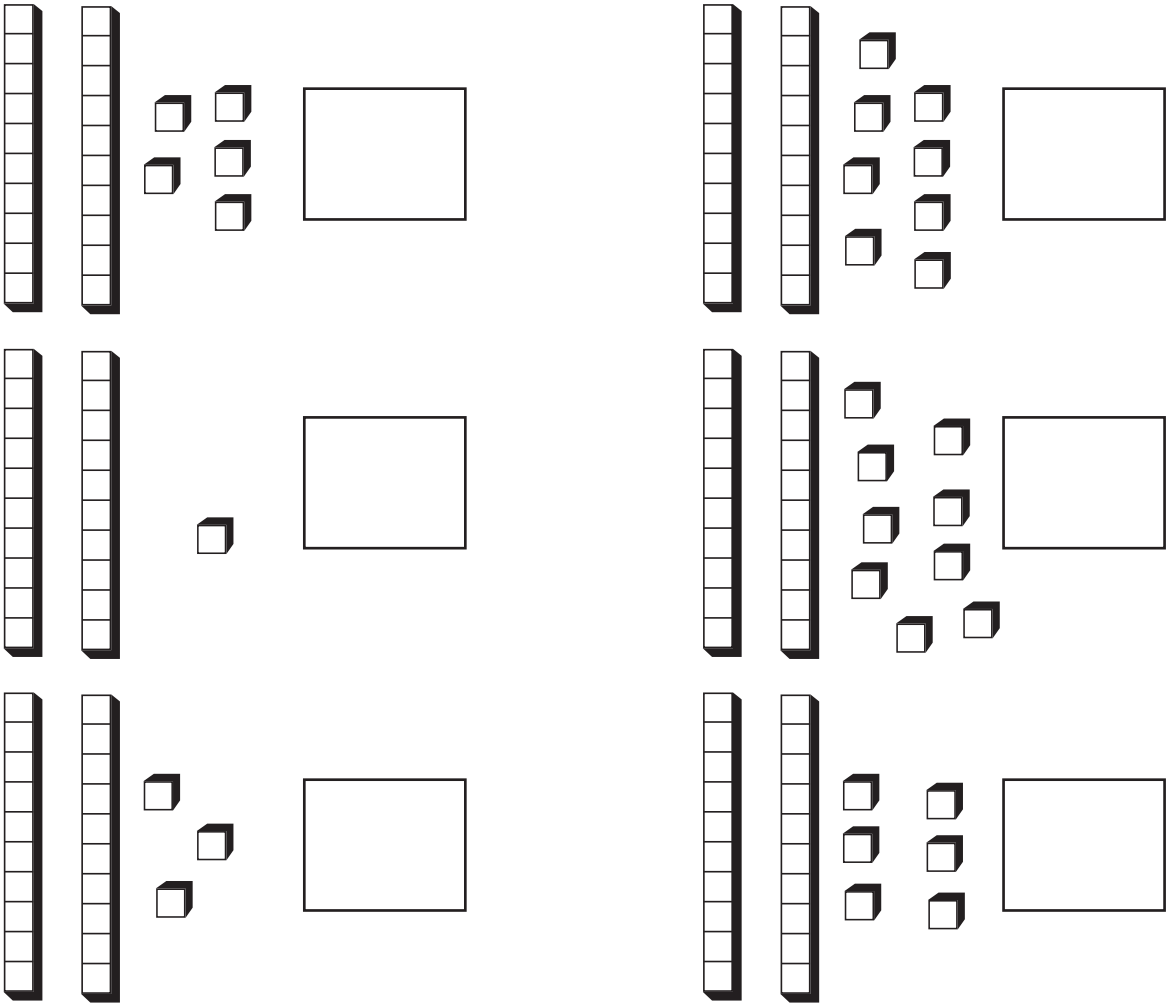
30, ____ , ____ , ____, 26, ____, ____, 23, ____

Assessment 25

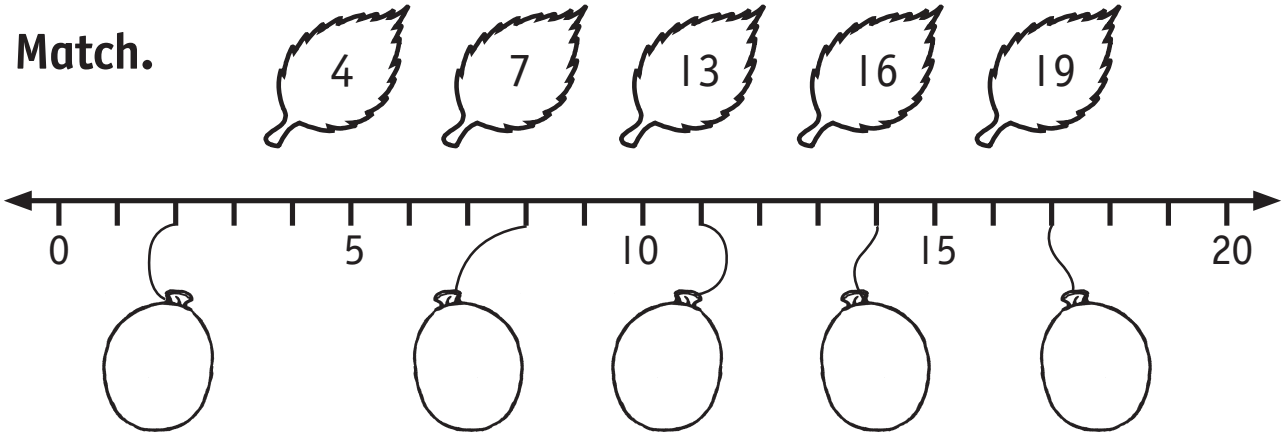
Numbers

Name

4 How many?



5 Match.



Self Assessment

	Score	Basic	Sound	High
Number AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals				

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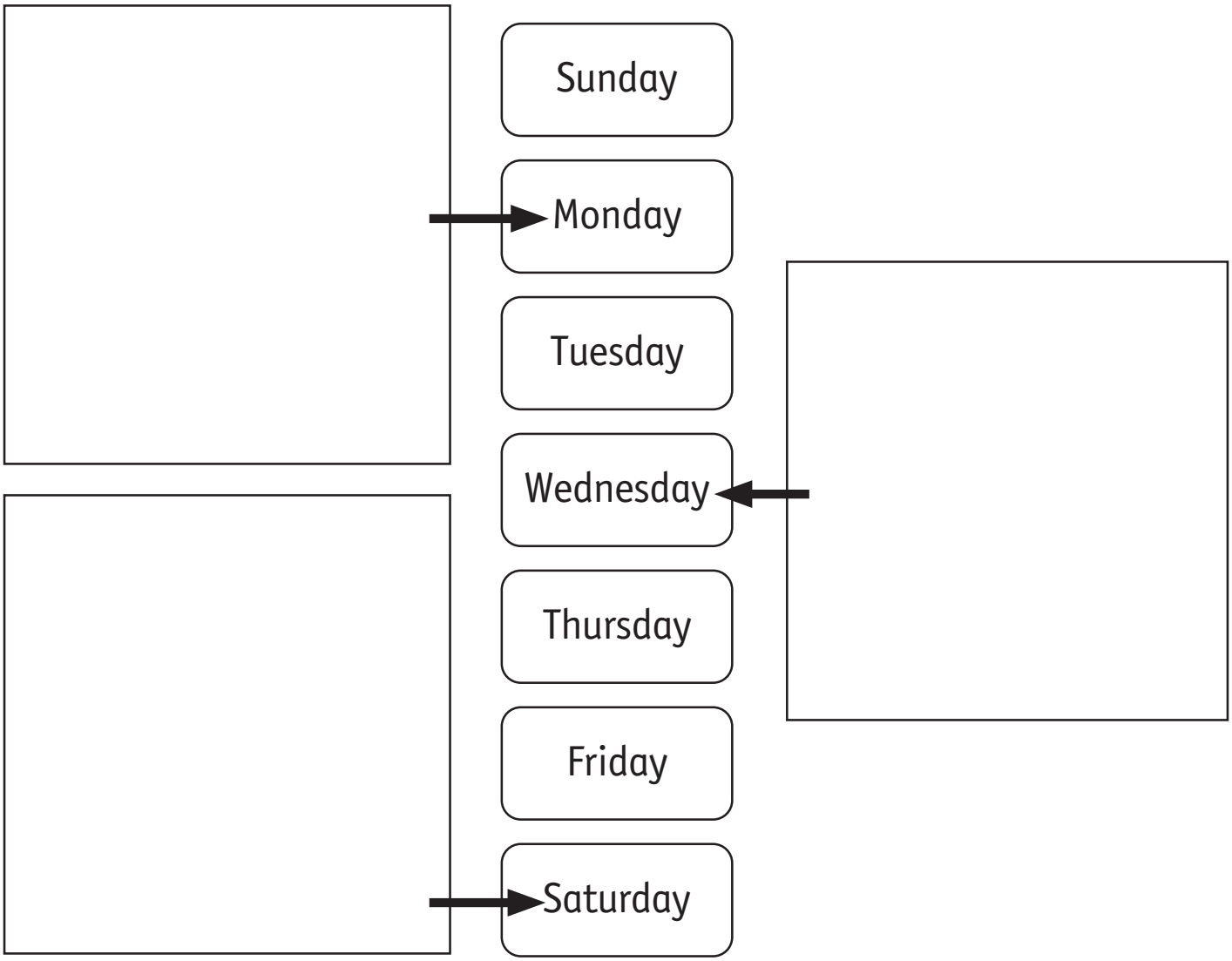
Assessment 26

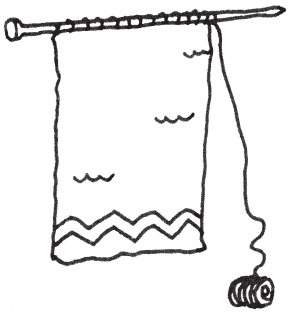
Time

Name

1 What I do. Draw.



2 Circle the longest time. Tick the shortest time.



Self Assessment ☺☺☺

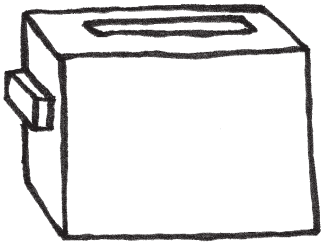
	Score	Basic	Sound	High
Measurement AC9MFM02 sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions				

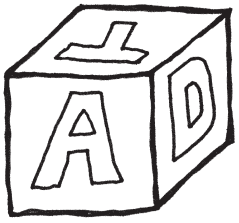
Assessment 27

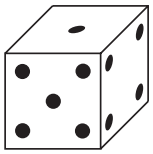
Volume

Name

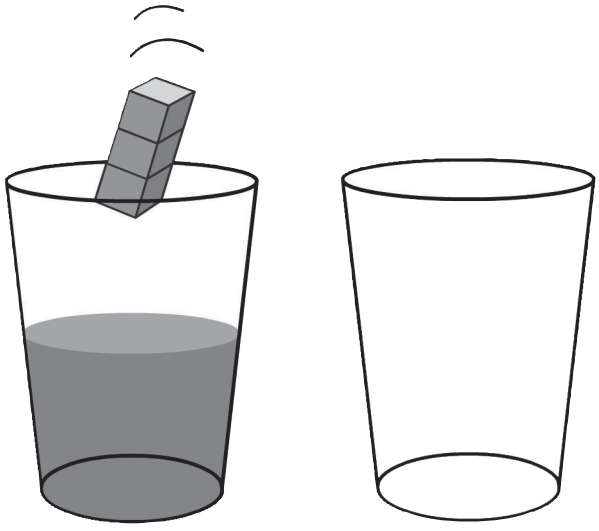
1 Circle the one that takes up the least space.

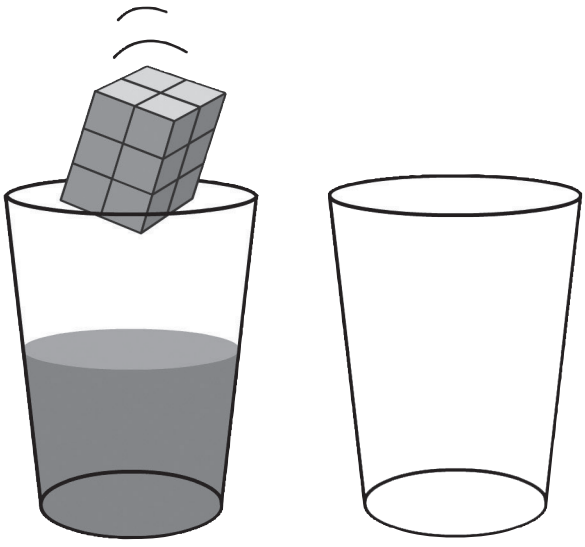






2 Draw what happens.





Self Assessment

	Score	Basic	Sound	High
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning				

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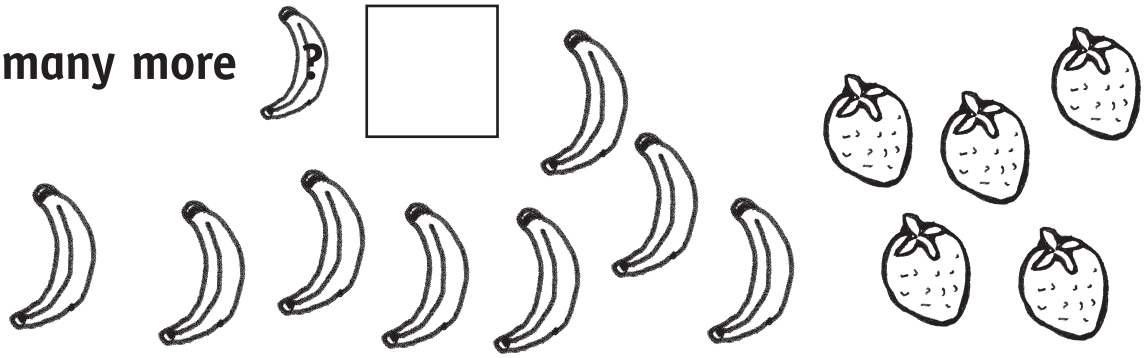
Assessment 28

Subtraction

Name

1 How many more ? ☐



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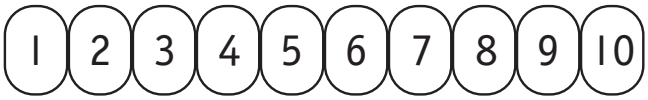
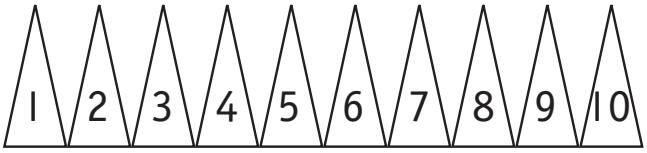
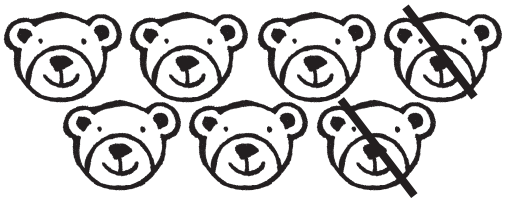




9 – 3 = ☐

8 – 6 = ☐

6 – ☐ = ☐



7 – ☐ = ☐

3 10 mice. 3 run away.

☐

10 – ☐ = ☐

Self Assessment ☺☺☺

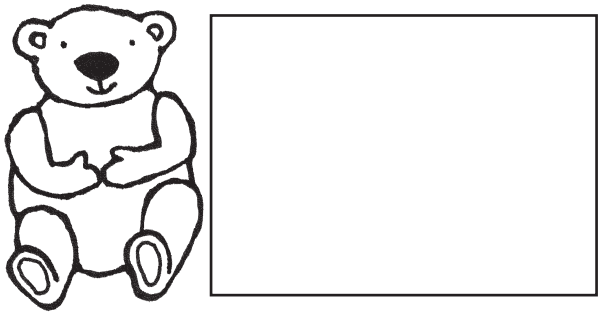
Number AC9MFN03 quantify and compare collections to at least 20 using counting and explain or demonstrate reasoning **AC9MFN04** partition and combine collections up to 10 using part-part-whole relationships and subitising to recognise and name the parts **AC9MFN05** represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies	Score	Basic	Sound	High

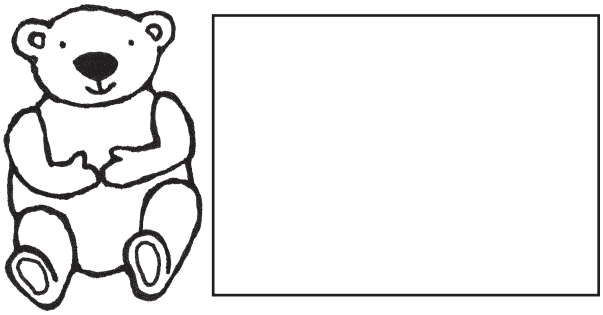
Assessment 29

Sharing

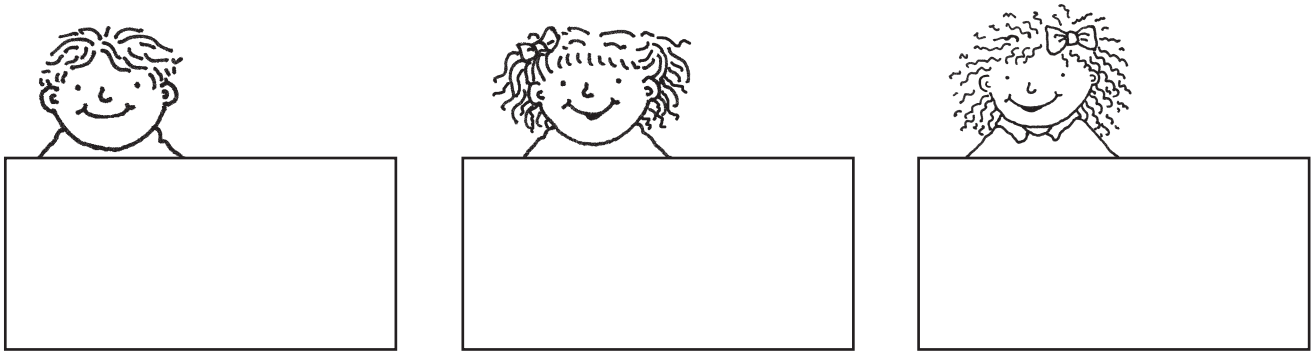
Name

1 Share the cakes.

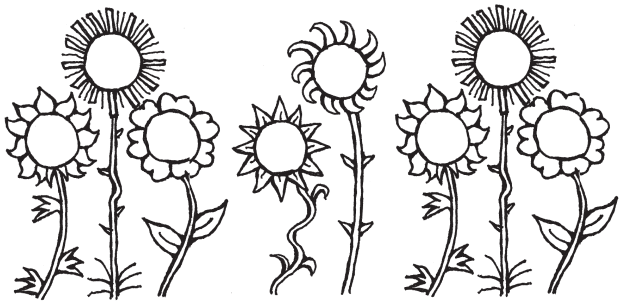


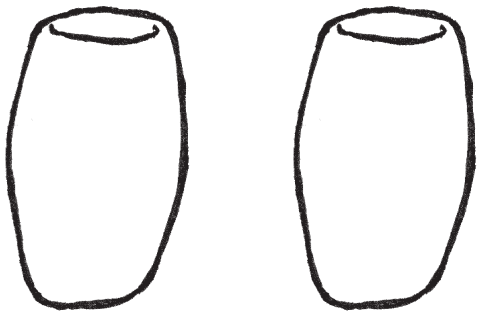


2 Share the strawberries.



3 Share the flowers.





Self Assessment

	Score	Basic	Sound	High
Number AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies				

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Assessment 30

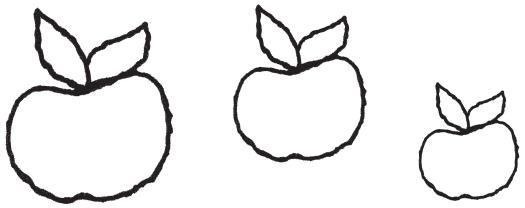
Mass

Name

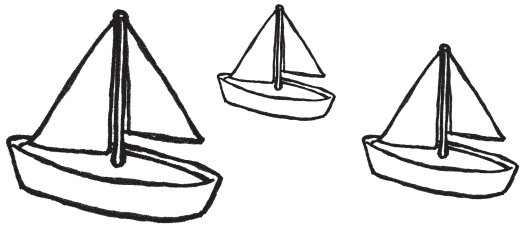
Light, heavier, heaviest

Draw a line to each label.

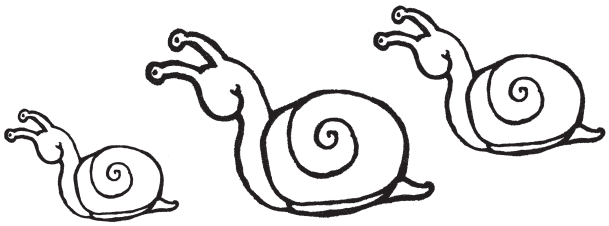
light	heavier	heaviest



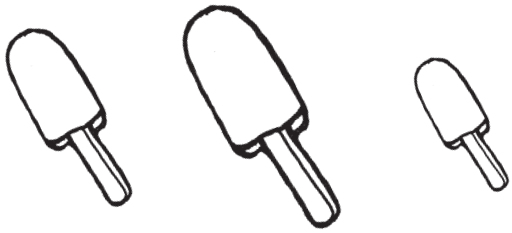
light	heavier	heaviest



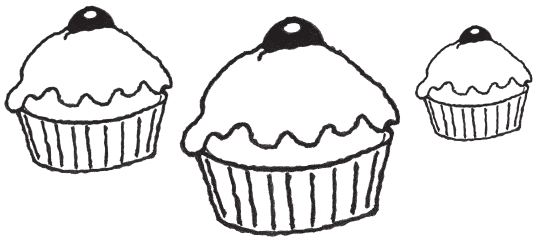
light	heavier	heaviest



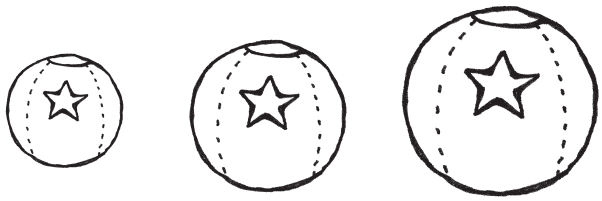
light	heavier	heaviest



light	heavier	heaviest

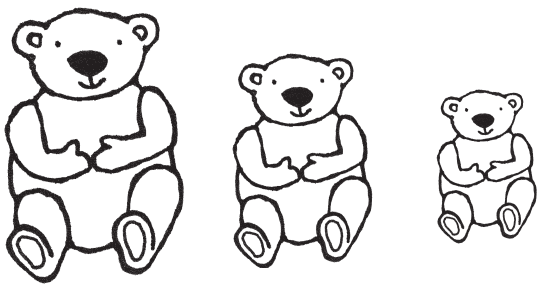


light	heavier	heaviest



light	heavier	heaviest

light	heavier	heaviest



Self Assessment ☺☺☺

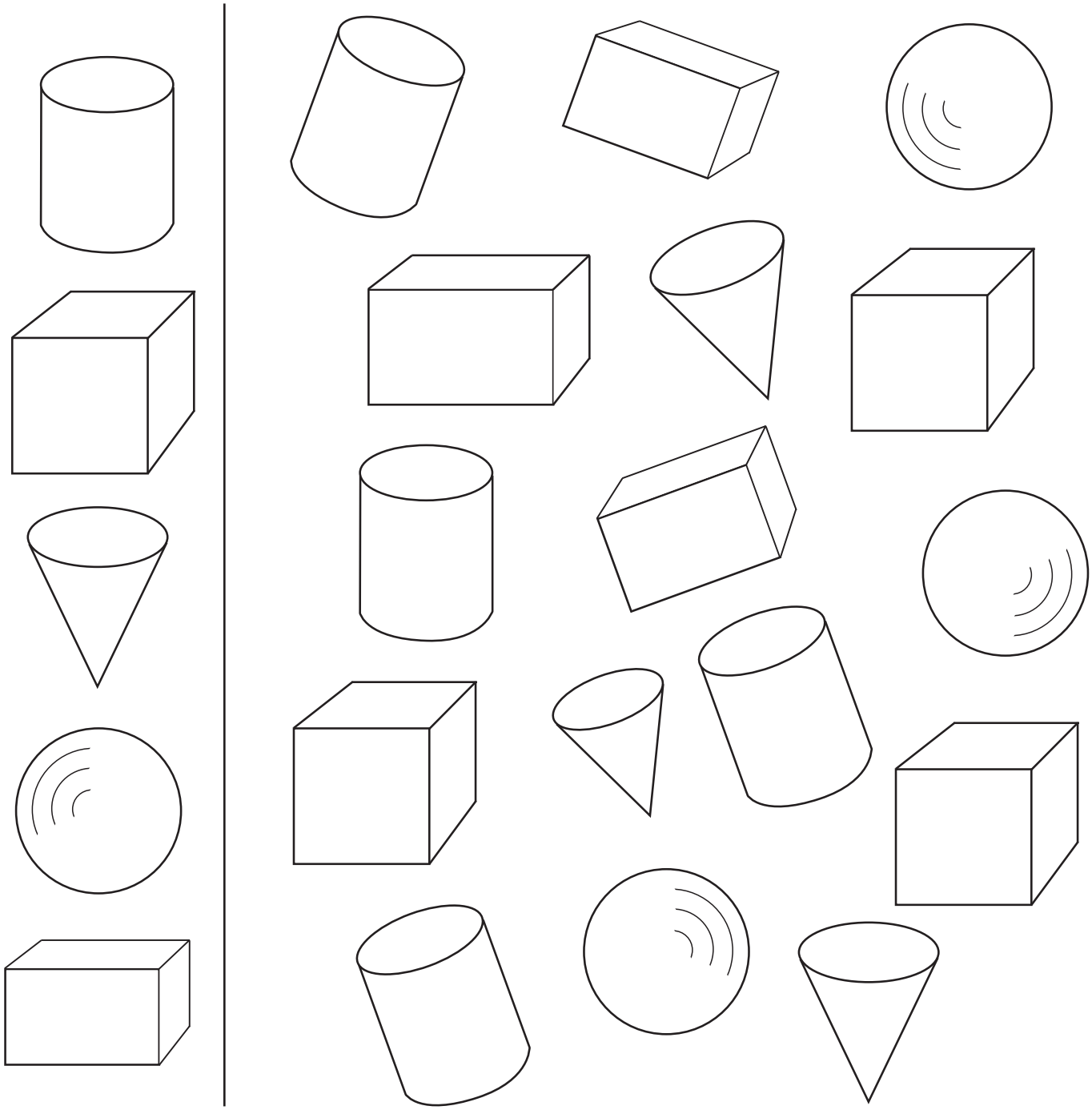
Measurement AC9MFM01 identify and compare attributes of objects and events, including length, capacity, mass and duration, using direct comparisons and communicating reasoning	Score	Basic	Sound	High

Assessment 31

3D Objects

Name

Match.



Colour flat surfaces. ✓ Tick curved surfaces.

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Space AC9MFSP01 sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons				

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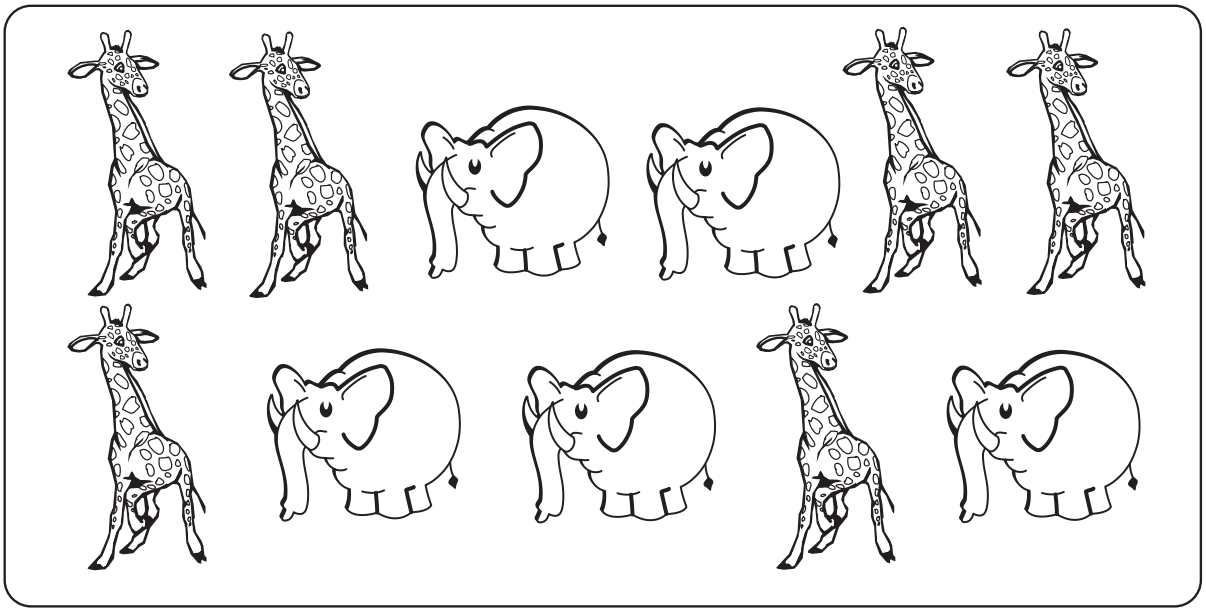
Assessment 32

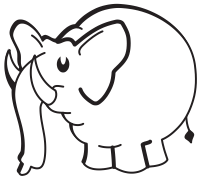
Data

Name

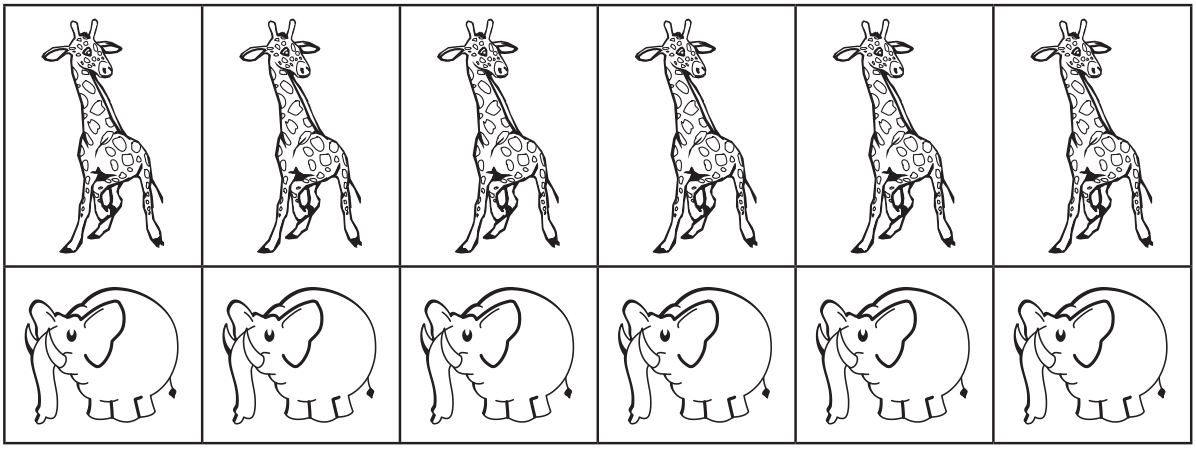
KG's Favourite Zoo Animals



1 How many?



2 Colour a box for each animal



3 Which was the most popular animal?_____

Self Assessment

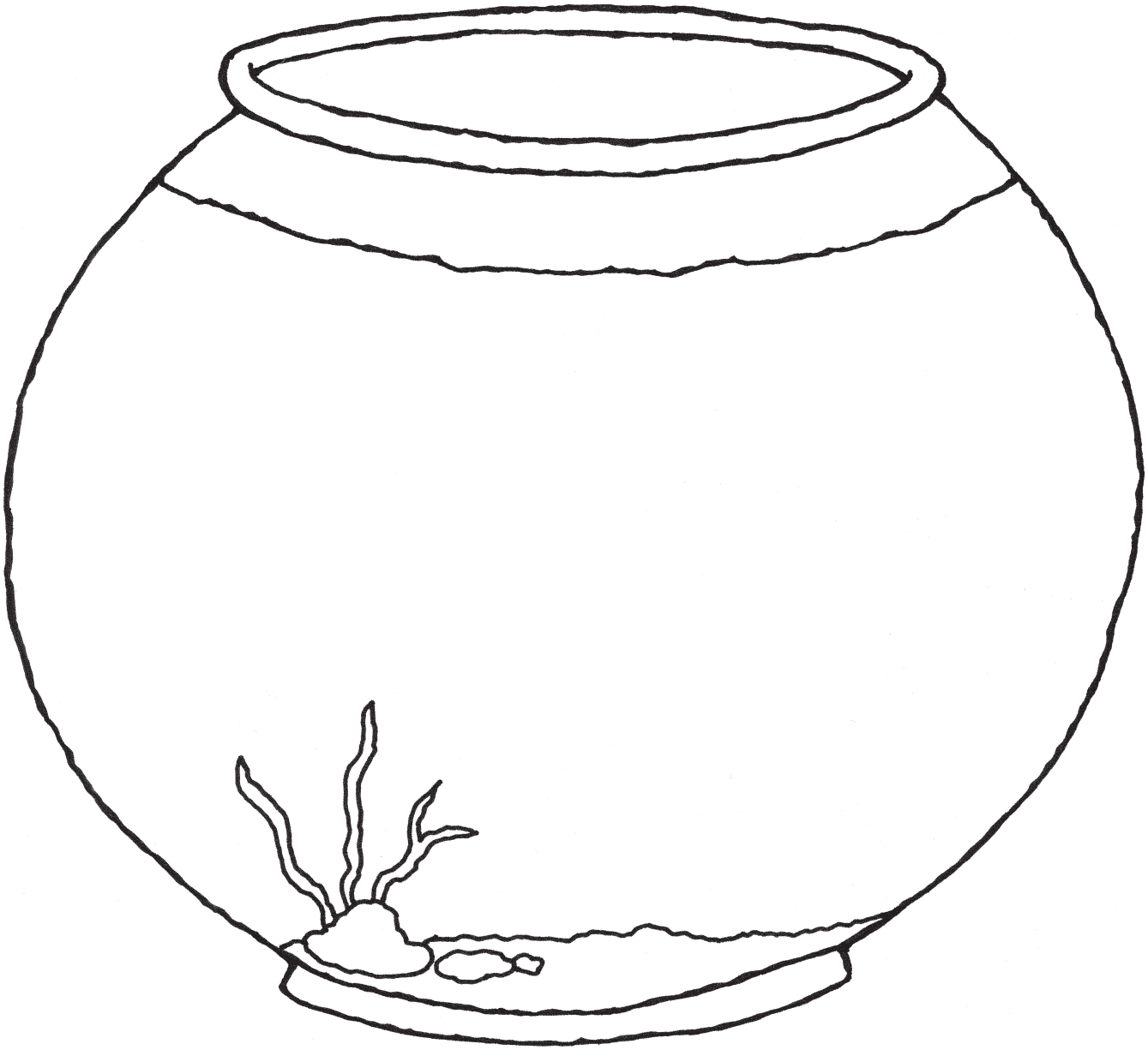
	Score	Basic	Sound	High
Statistics AC9MFST01 collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations				

Assessment 33

Draw a Diagram

Name

Jodie has six blue fish. Draw them.



Sally gave her two red ones.

Jim gave her three yellow ones.

How many fish does she have now? ☐

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Number AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals				

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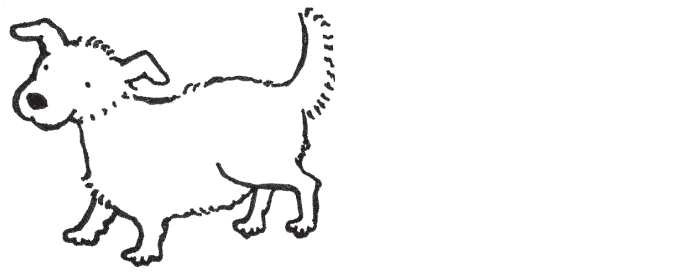
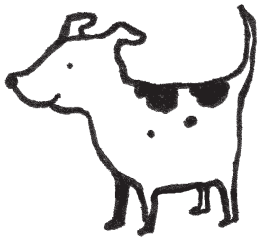
Assessment 34

Act it Out

Name

Three dogs saw 12 bones.





How many bones will each dog get?

Self Assessment

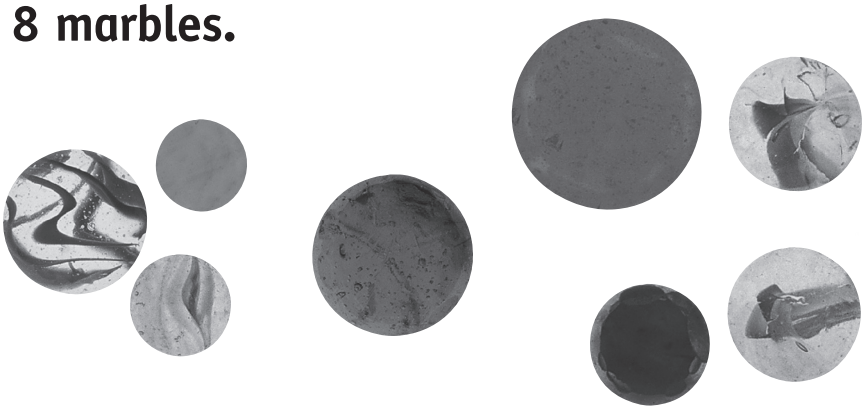
	Score	Basic	Sound	High
Number AC9MFN01 name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals **Statistics AC9MFST01** collect, sort and compare data represented by objects and images in response to given investigative				

Assessment 35

Draw a Diagram

Name

Milly has 8 marbles.



On Saturday she lost 2.

On Sunday she found 1.

How many does she have now? ☐

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Number AC9MFN05 represent practical situations involving addition, subtraction and quantification with physical and virtual materials and use counting or subitising strategies				

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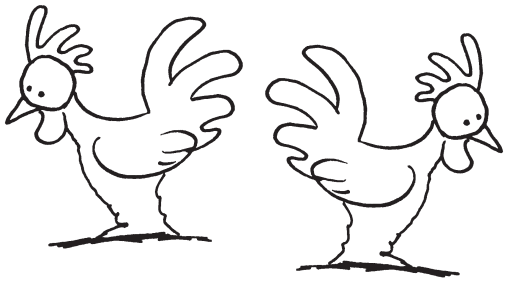
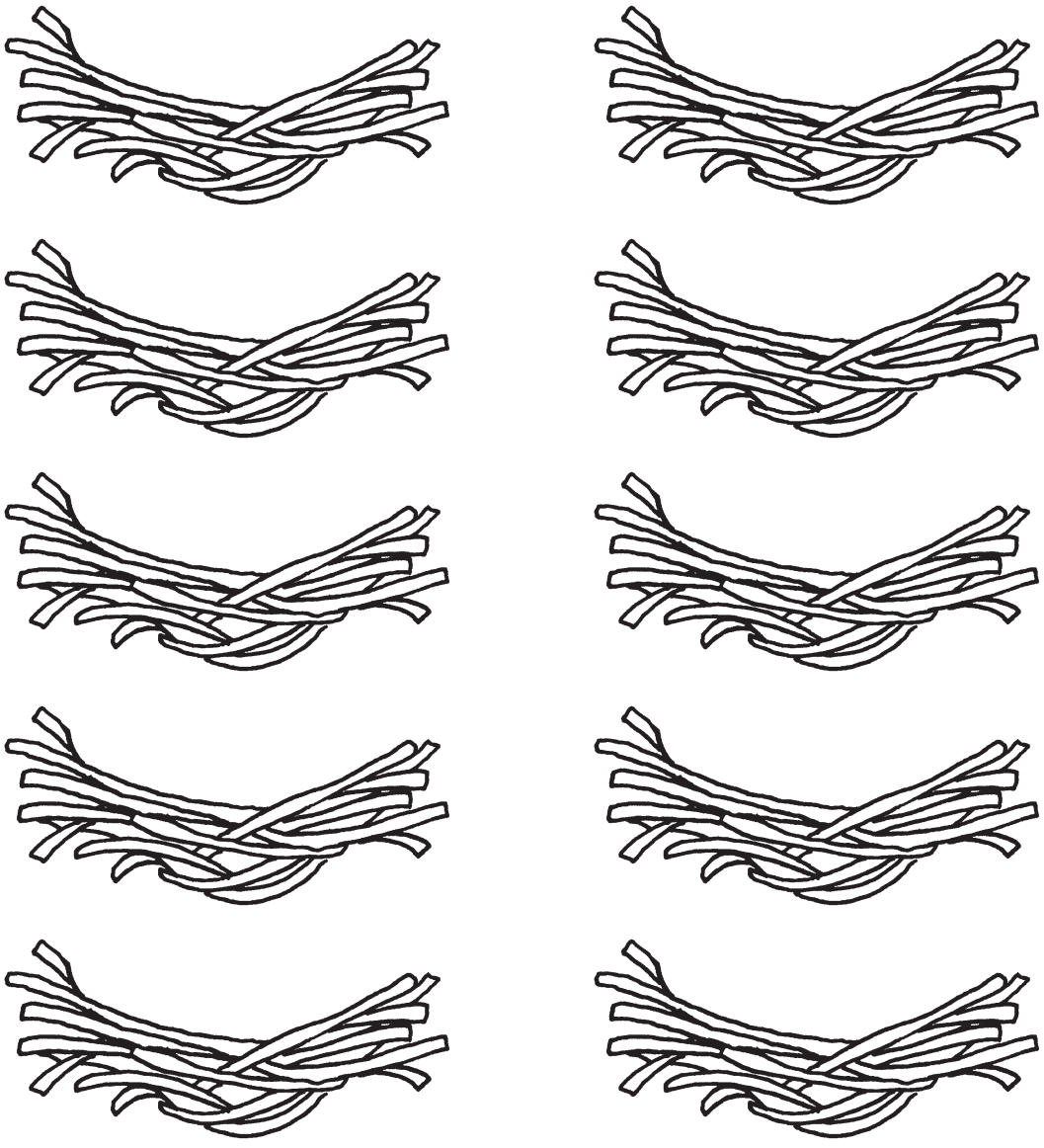
Assessment 36

Read, Plan, Work, Check

Name

Our hens have 5 nests.
Each nest has 2 eggs.





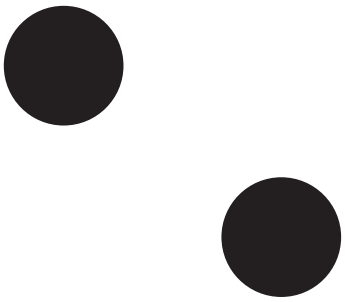
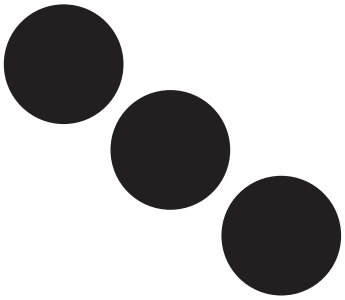
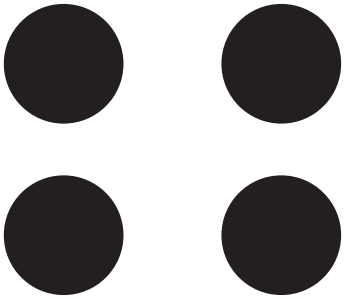
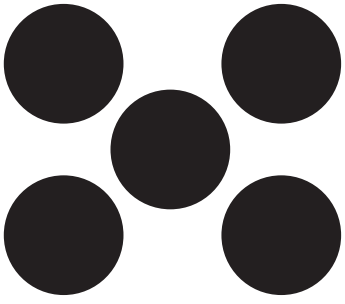
How many eggs altogether? ☐

Self Assessment ☺☺☺

	Score	Basic	Sound	High
Number AC9MFN06 represent practical situations involving equal sharing and grouping with physical and virtual materials and use counting or subitising strategies				

BLM 1

One to Five

	1	one
	2	two
	3	three
	4	four
	5	five

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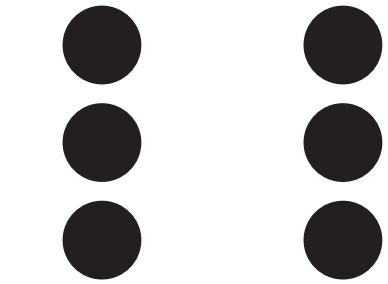
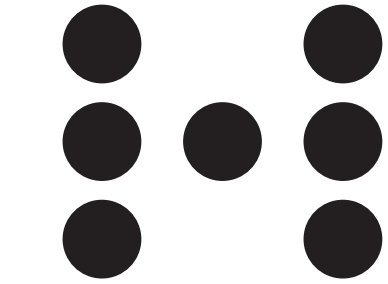
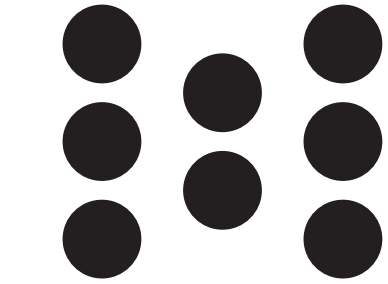
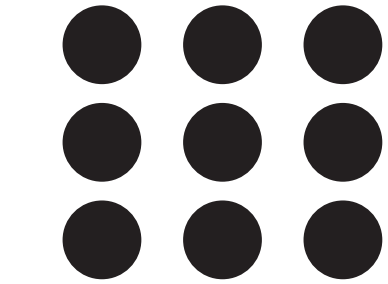
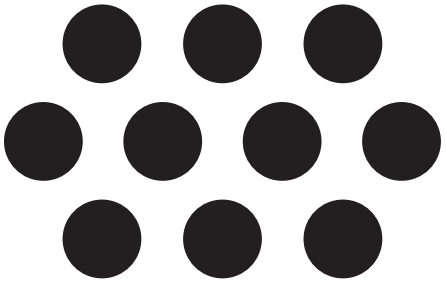
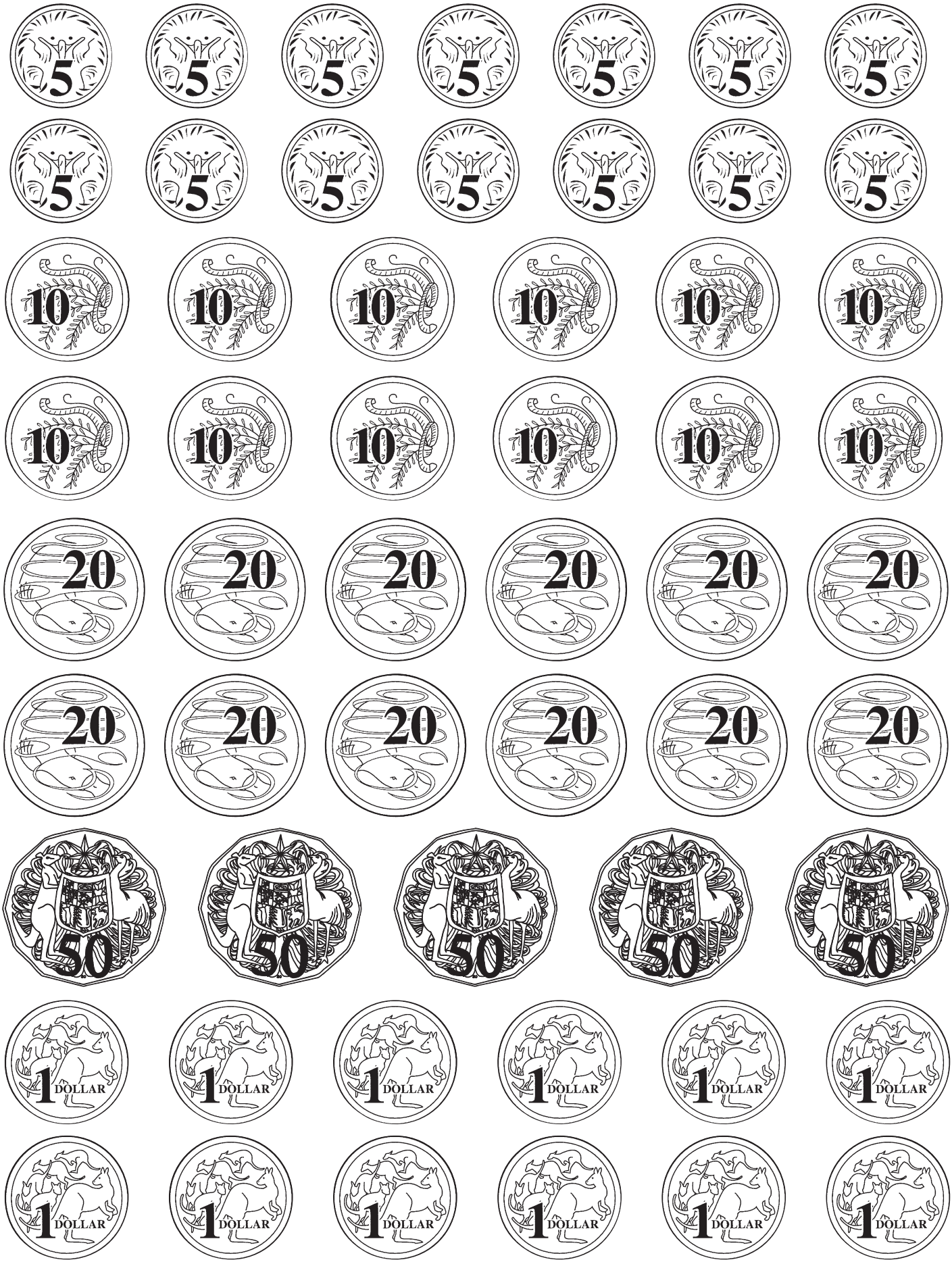
BLM 2

Six to Ten

	6	six
	7	seven
	8	eight
	9	nine
	10	ten

BLM 3

Coins



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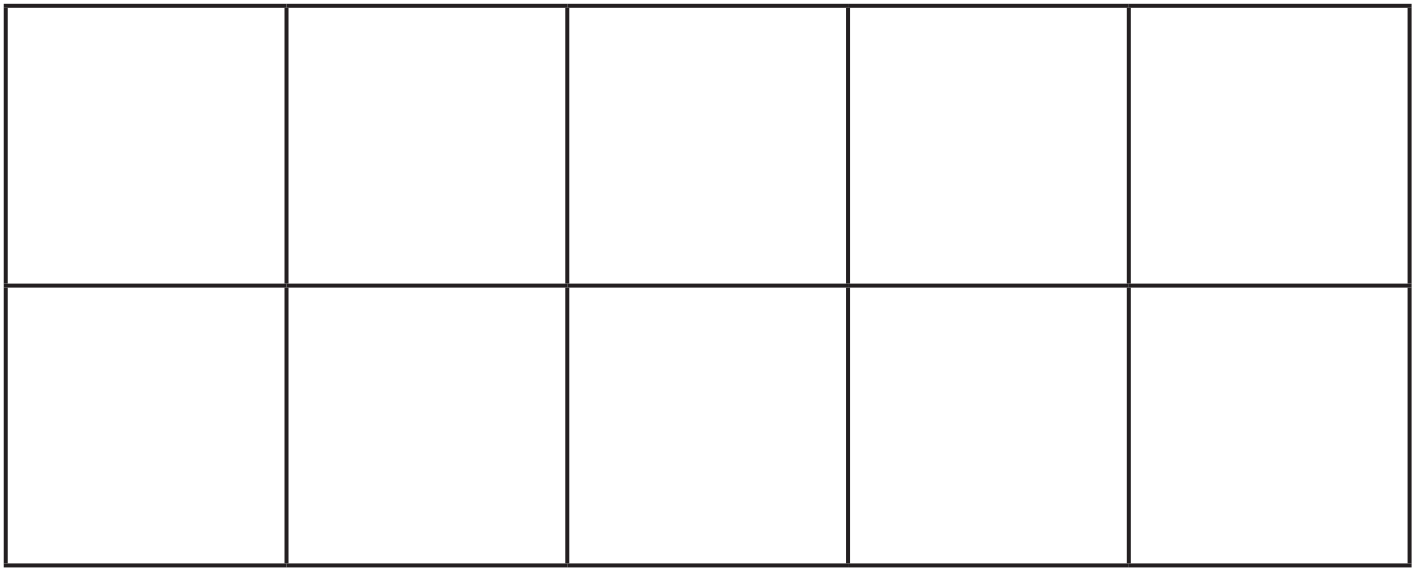
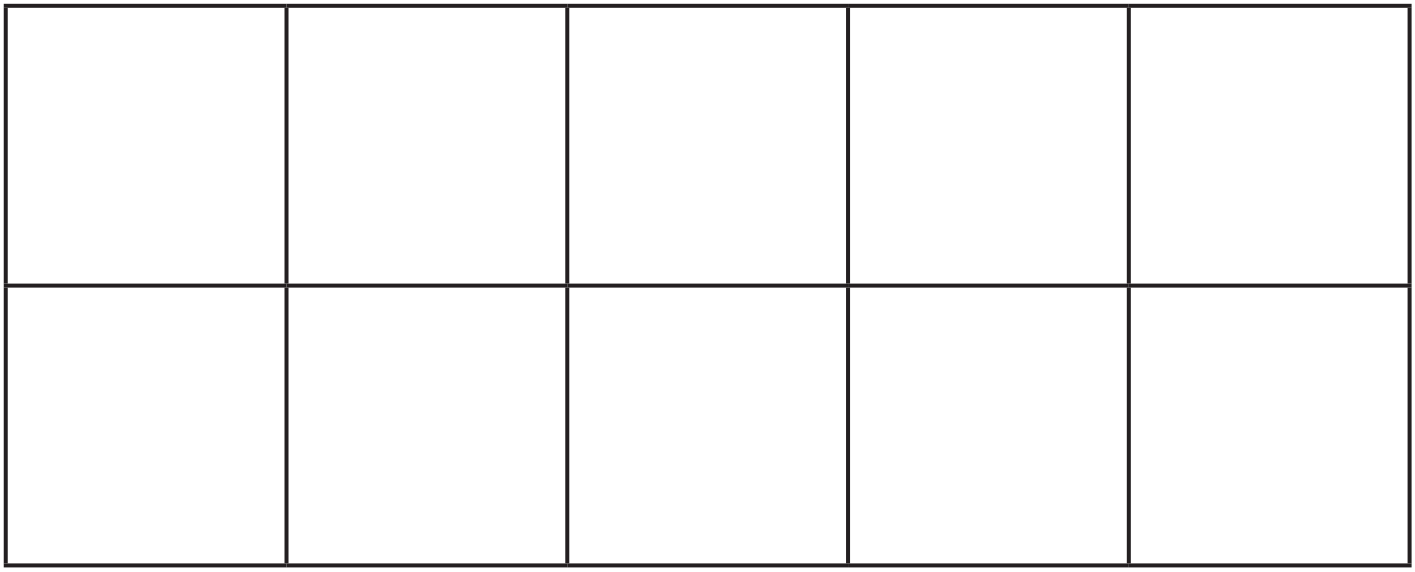
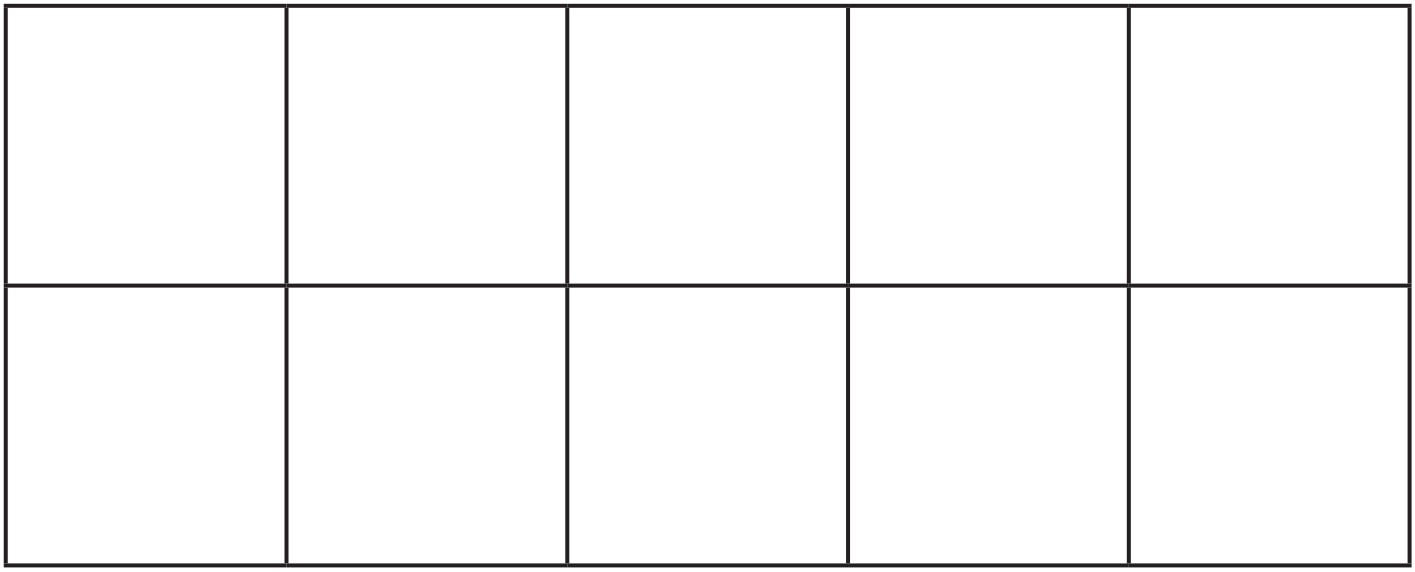
BLM 4

Ten Frames

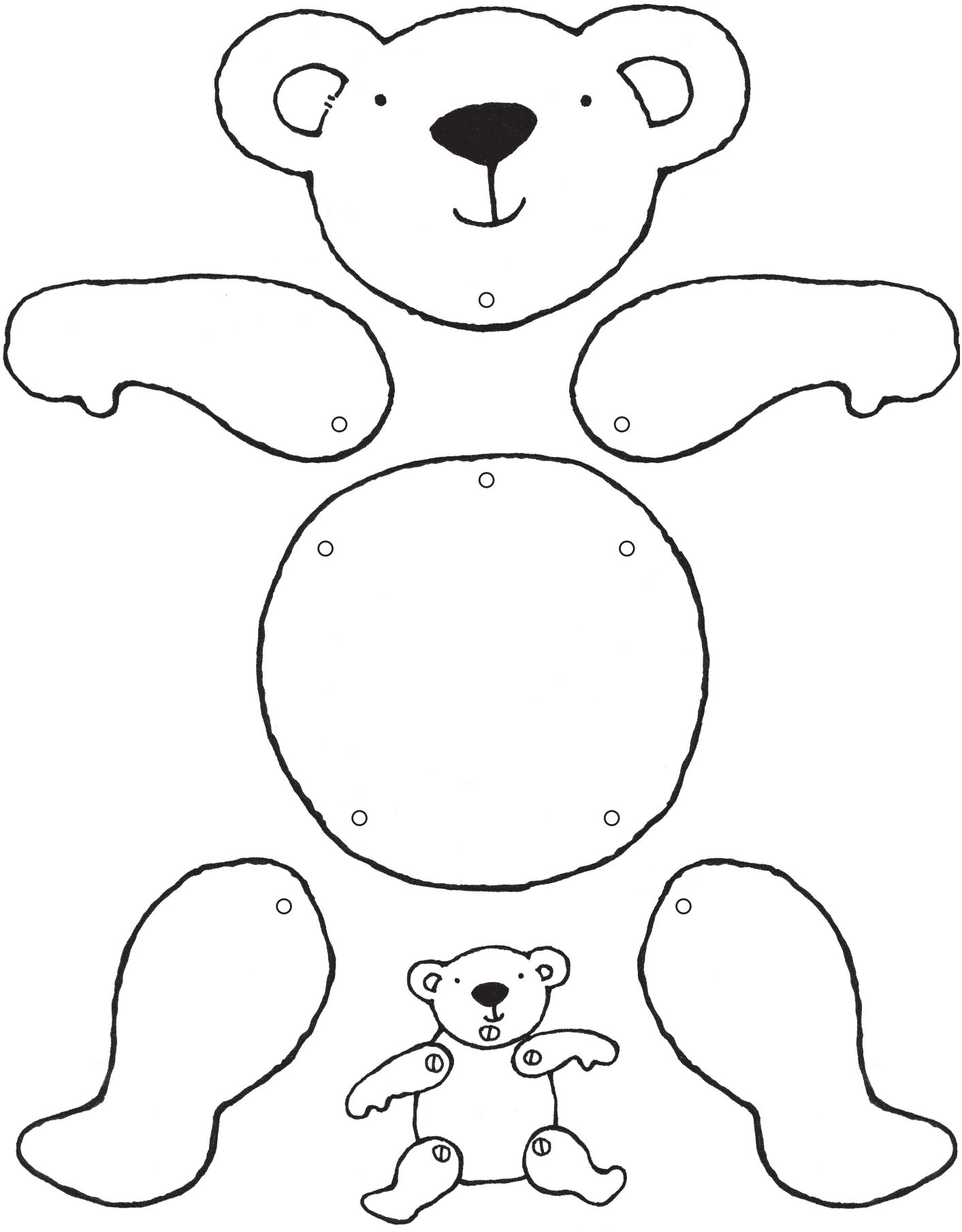






BLM 5

Teddy Bear



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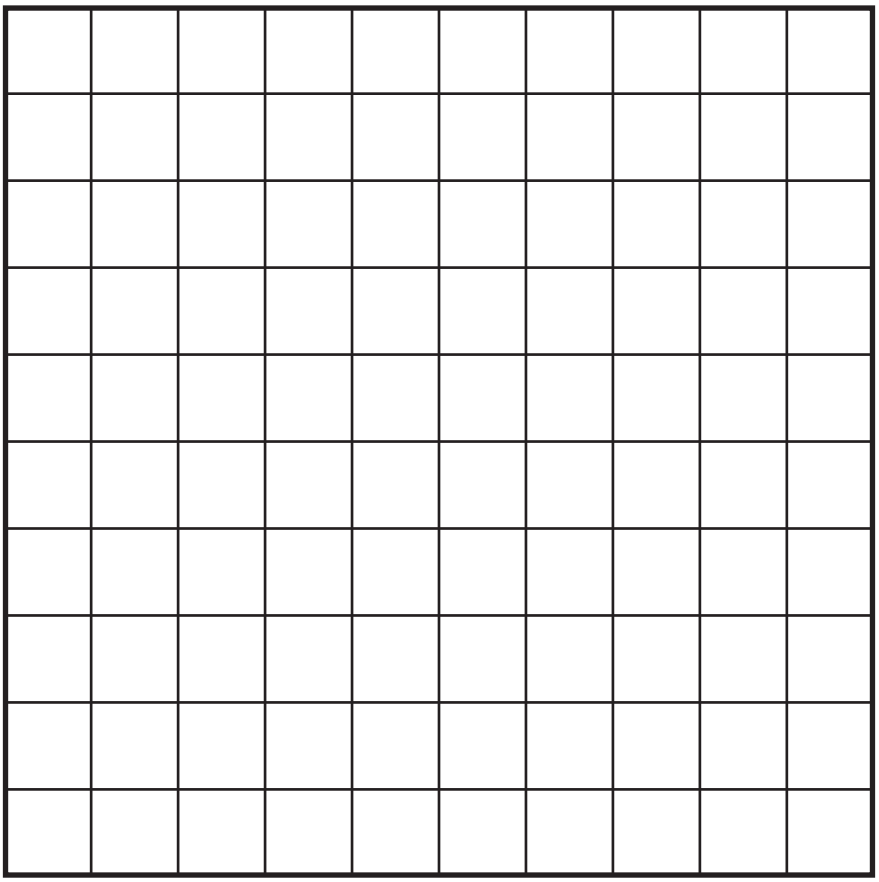
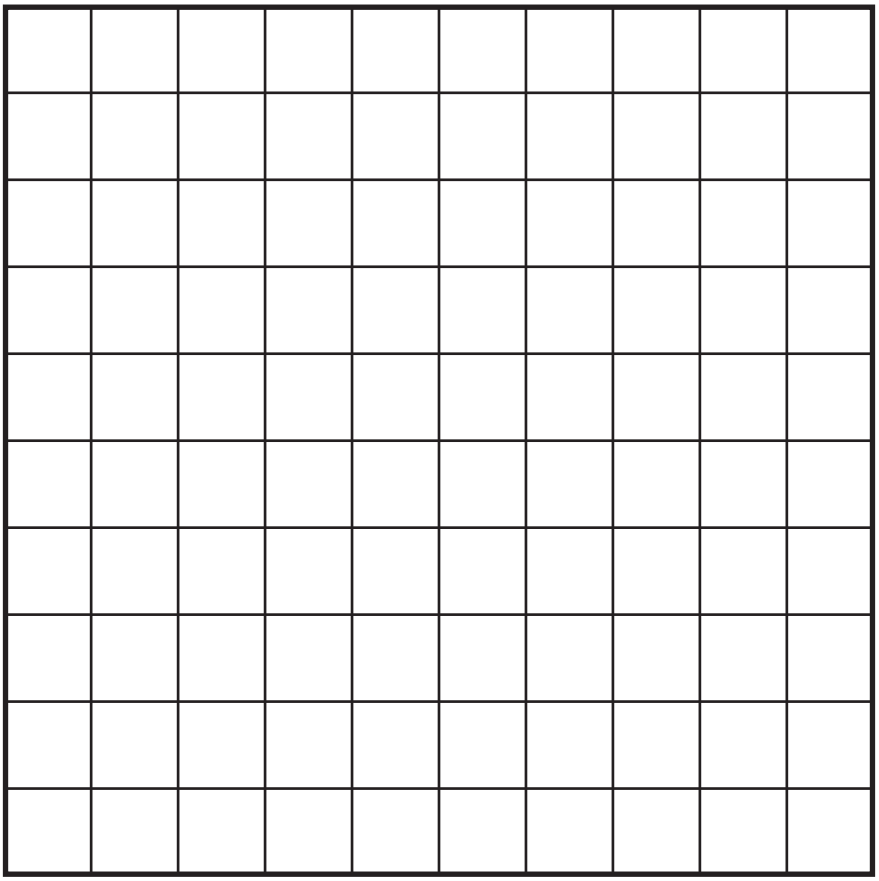
BLM 6

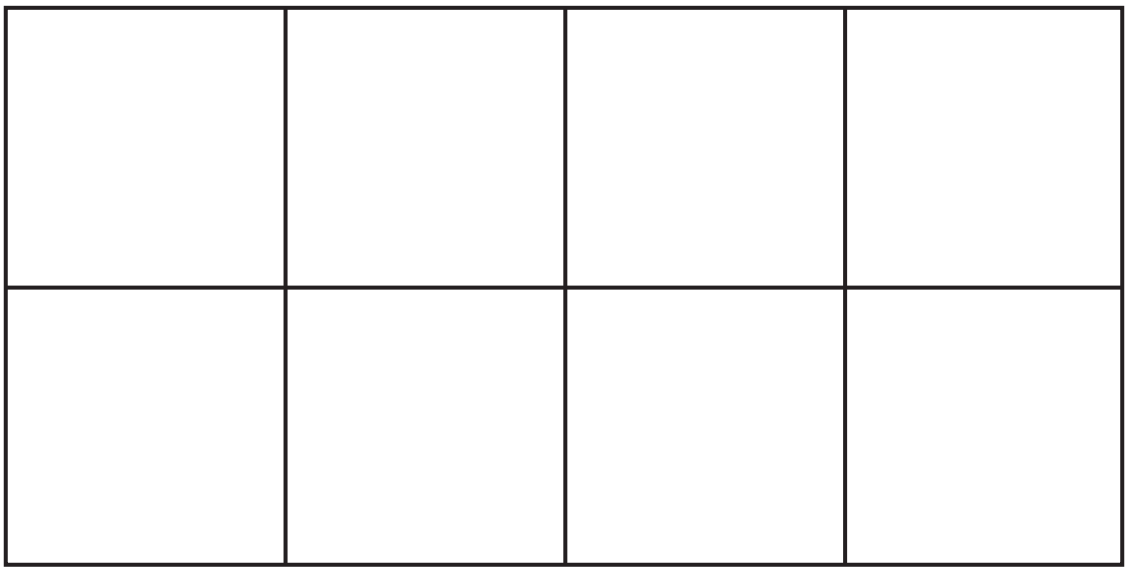
Hundred Squares

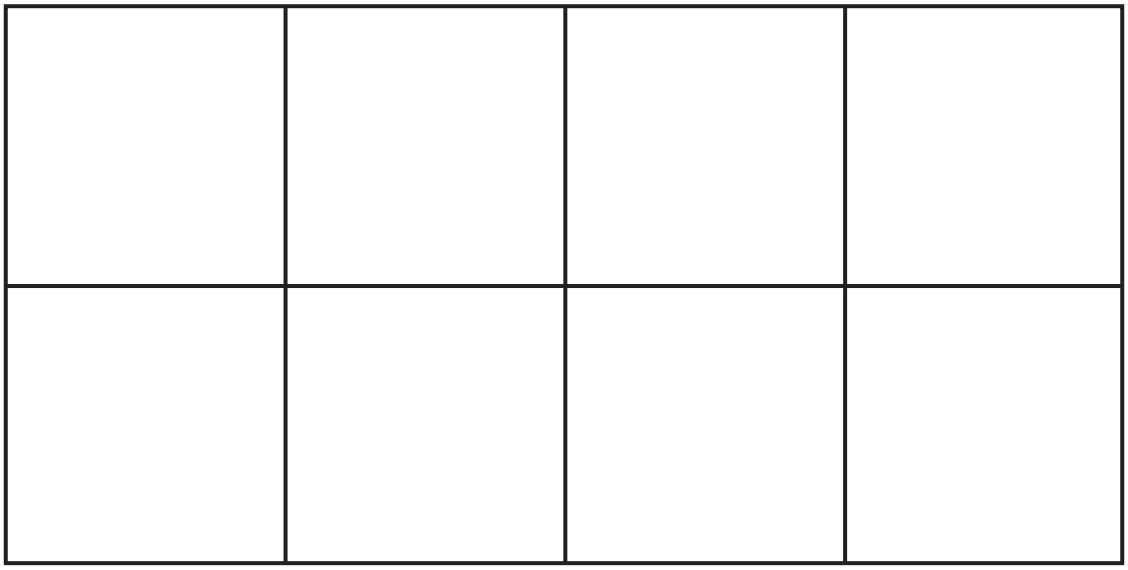


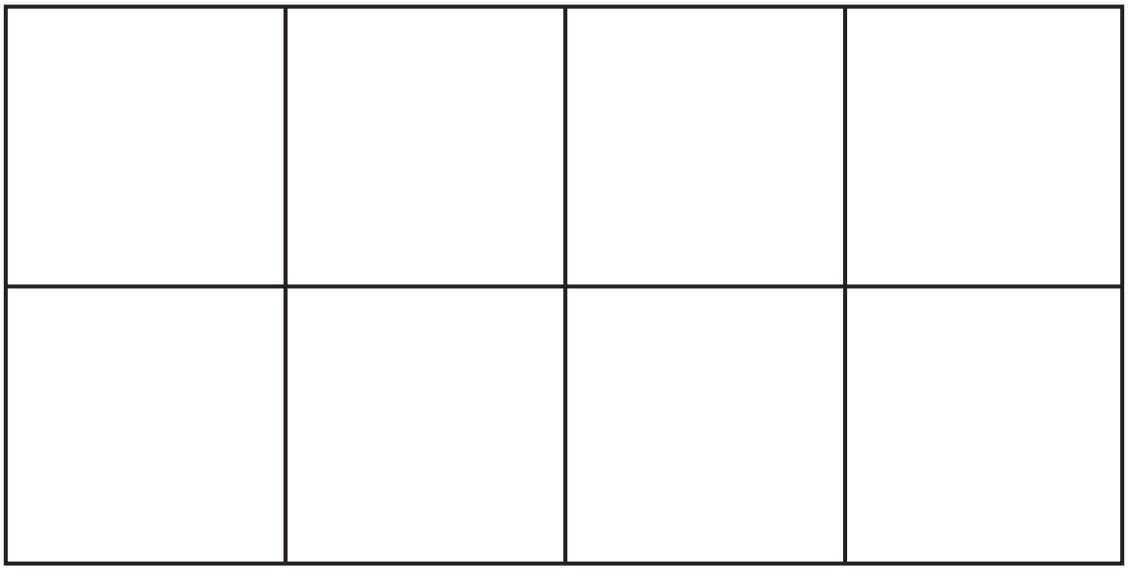


BLM 7

Bingo Cards







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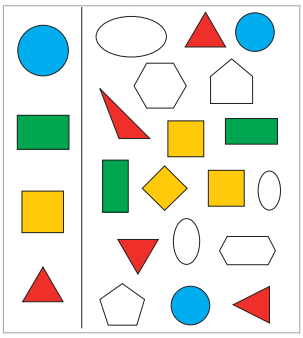
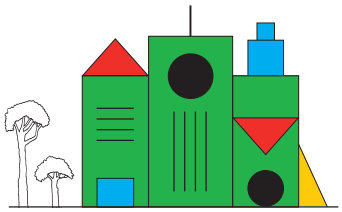
Assessment Answers

Assessment 1
Numbers to 5
Page 107
1 4, 2, 5
2 5, 1, 4, 2, 3
3 3 snails, 5 trees, 1 apple
4 2, 5, 3
Numbers to 10
Page 108
5 3, 2; 6, 5, 4, 3, 2, 1
6 6, 7, 8, 10

Assessment 2
2D Shapes
Page 109
1



Page 110
2

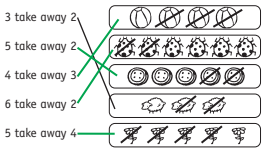


3 2, 3, 2, 3, 1

Assessment 3
Addition to 5
Page 111
1 4, 1, 5
2 3, 2, 5
3 2, 2, 4
4 1, 4, 5
Page 112
5 2, 1; 2, 2
6 4, 1; 1, 3
7 3, 3, 6; 3, 4, 7

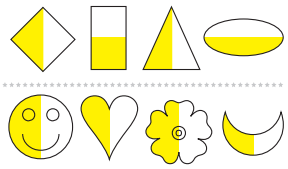
Assessment 4
Time
Page 113
1 long: plane, house, movie, gardening; short: eating
2 Answers will vary depending on the day.

Assessment 5
Subtraction to 5
Page 114
1 2; 2; 2; 1
Page 115
2 3; 3; 2; 0
3

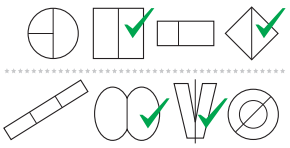


Assessment 6
Mass
Page 116
3 or more balls; 1 ball; 3 or fewer balls

Assessment 7
Halves
Page 117
1



2



Assessment 8
Capacity
Page 118
1 bin, mug
2

3 4, 1, 3, 2

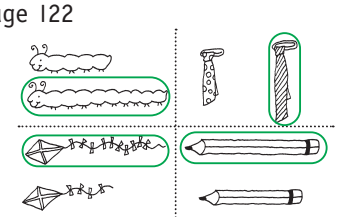
Assessment 9
Number
Page 119
1 14; 12; 17
2 4, 9, 12, 13; 4, 7, 8, 15; 2, 6, 11, 14; 7, 10, 16, 19
3 12, 15, 16, 18

Assessment 10
Addition to 10
Page 120
1 5; 8; 2; 9
2 7; 6; 8; 8
Page 121
3 **a** 8; **b** 9; **c** 8; **d** 10; **e** 6; 7, 10
4 **a** 4, 2, 6; **b** 2, 2, 4; **c** 4, 4, 8; **d** 6, 2, 8

Assessment Answers

Assessment 11
Length
Page 122

1



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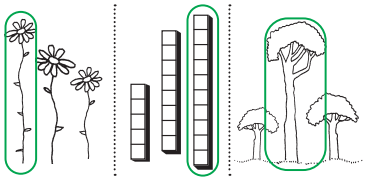
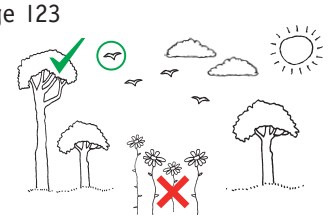


Page 123

3



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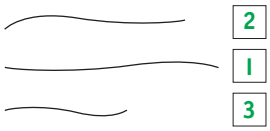
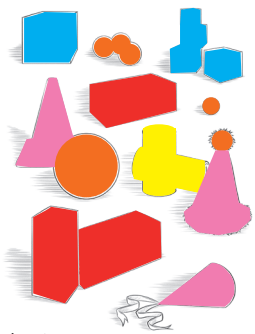


Assessment 12
Take Away
Page 124

1 6; 8; 2; 0; 7; 4
2 3, 4, 1
Page 125
3 6; 6; 7; 7
4 4; 4; 7; 5

Assessment 13
3D Objects
Page 126



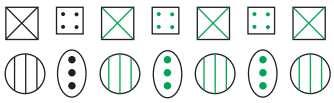
5; 2; 3; 6; 3

Assessment 14
O'clock
Page 127

1 7; 10
2 12; 9

Assessment 15
Patterns
Page 128

1 Answers will vary.
2



3

4

Assessment 16
Position
Page 129

1

2

3 2 flowers in the vase; a tree beside the house

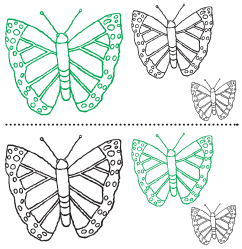
Assessment 17
Numbers to 30
Page 130

1 12; 19; 16
2 15, fifteen
3 14, 15, 16, 17; 11, 12, 13, 14; 16, 17, 18, 19

Numbers to 30
Page 131

4 18, 17, 15, 13; 23, 24, 27, 28
5 25, 26, 27, 22
6 20c, 5c; 10c, 5c

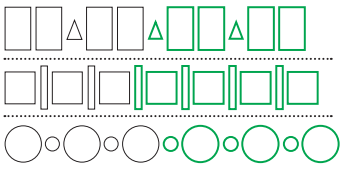
Assessment 18
Area
Page 132



Answers will vary but be smaller than the butterfly shown.

Assessment 19
Shapes and Patterns
Page 133

1



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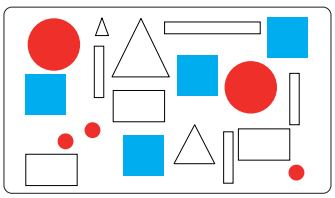
Assessment Answers

2

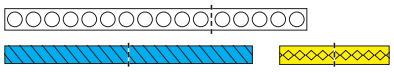


Assessment 20
Sharing
Page 134
1 Draw circles around groups of two dogs.
2 Draw circles around groups of three flowers.
3 Cross the group with four kites.
Cross the middle row of 4 candles.
Page 135
4 Draw three balls in each box.
Draw circles around 5 groups of 2 penguins.
5 4
6 4 toys each

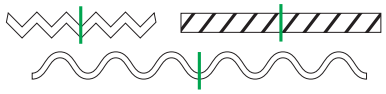
Assessment 21
Addition
Page 136
1 6 + 4 = 10; 5 + 5 = 10; 8 + 2 = 10; 9 + 1 = 10
2 12; 14; 13
Page 137
3 3 + 2 + 2 = 7; 2 + 1 + 4 = 7; 3 + 2 + 4 = 9; 3 + 4 + 1 = 8
4 7; 8
5 3; Answers will vary but total 12

Assessment 22
Seasons
Page 138
1 Answers will vary
2 after

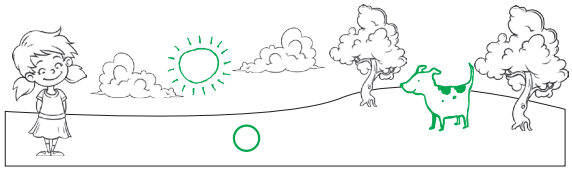
Assessment 23
Length
Page 139
1



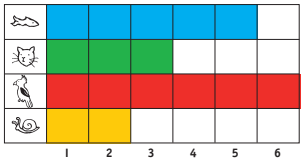
2



3 6, 3, between 3 and 4
4

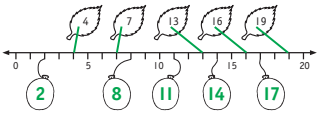


Assessment 24
Data Displays
Page 140
1 5; 3; 6; 2
2

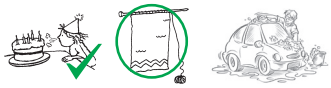


snails

Assessment 25
Numbers
Page 141
1 3, 7, 4, 6, 2
2 21, twenty-one; 29 twenty-nine; 24 twenty-four
3 24, 25, 26, 28, 30; 29, 28, 27, 25, 24, 22
Page 142
4 25; 28; 21; 29; 23; 26
5



Assessment 26
Time
Page 143
1 Answers will vary
2



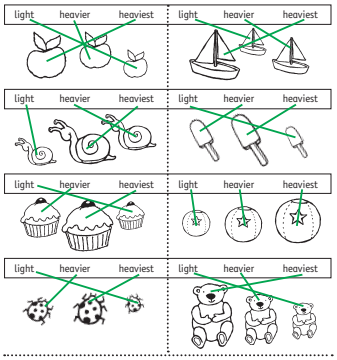
Assessment 27
Volume
Page 144
1 bottle, carton, die, candle
2 Glass with 3 linked blocks in the bottom and fluid just over halfway; Glass with 12 blocks in the bottom and fluid $\frac{3}{4}$ full

Assessment 28
Subtraction
Page 145
1 3
2 6; 2; 2, 4; 2, 5
3 10 mice with 3 crossed out; 3, 7

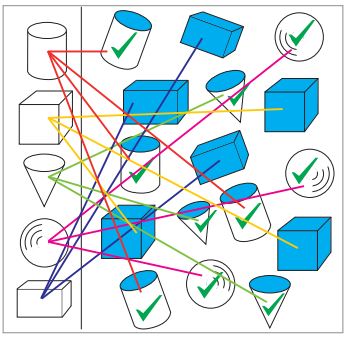
Assessment 29
Sharing
Page 146
1 5 each
2 4 each
3 4 each

Assessment Answers and Student Book Answers

Assessment 30
Mass
Page 147



Assessment 31
3D Objects
Page 148



Assessment 32
Data
Page 149
1 6; 5
2 Colour 6 giraffes; colour 5 elephants
3 giraffe

Assessment 33
Draw a Diagram
Page 150
Fish bowl with 6 blue fish, 2 red fish, 3 yellow fish; 11

Assessment 34
Act it Out
Page 151
Each dog has 4 bones. 4

Assessment 35
Draw a Diagram
Page 152
6 marbles; 7 marbles; 7

Assessment 36
Read, Plan, Work, Check
Page 153
2 eggs in every nest. 20

Student Book Answers
Term 1
Unit 1
One, two, three
Page 2
Teacher/Parent to check

Four, five
Page 3
- 2 5
  3 1
  4 5
- Teacher/Parent to check

Number names to five
Page 4
- 1 2 3 4 5
- 3 2
  5 4

Counting back to zero
Page 5
- 5 4 3
  2 1 0
- 5 4 3 2 1 0

Six, seven, eight
Page 6
Teacher/Parent to check

Nine, ten
Page 7
- 1 3 9
  4 1 2
  3 7 10

Number names six to ten
Page 8
- 6 7 8 9 10
  8 7

Problem solving: Ten fish
Page 9
Teacher/Parent to check

Unit 2
2D Shapes
Page 10
Teacher/Parent to check

2D Shapes
Page 11
Teacher/Parent to check

Patterns with shapes
Page 12
Teacher/Parent to check

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Student Book Answers

Closed shapes and lines
Page 13
Teacher/Parent to check

Problem solving: Addition
Page 14
- 4
- 5
- 7
- 5

Unit 3

Addition to five
Page 15
1 1
2 2
3 1 and 4
4 5 and 0

Combinations to 3, 4 and 5
Page 16
Teacher/Parent to check

Making numbers using five
Page 17
Teacher/Parent to check

Investigation 1: One to ten
Page 18
Teacher/Parent to check
Page 19
Teacher/Parent to check

Revision
Page 20
Teacher/Parent to check
Page 21
Teacher/Parent to check

Unit 4

Day and night
Page 22
Teacher/Parent to check

Longer and shorter time
Page 23
- Tick the second
  Tick the second
  Tick the second
- Teacher/Parent to check
- Circle the first
  Circle the first

Yesterday, today and tomorrow
Page 24
Teacher/Parent to check

Days of the week
Page 25
Teacher/Parent to check

Unit 5

Subtraction stories
Page 26
1 3
2 1
3 2
4 3
Challenge: 5

Unit 6

Take away
Page 27
- 3 6
  3 6
- 4 take away 1 3
  3 take away 2 1
  5 take away 1 4
  2 take away 2 0
  4 take away 2 2
  7 take away 2 5

Heavy and light
Page 28
- Teacher/Parent to check
- Circle the shoe
  Circle the pencil

Light, heavier, heaviest
Page 29
Teacher/Parent to check

Unit 7

Halves
Page 30
Teacher/Parent to check

Halves
Page 31
Teacher/Parent to check

Unit 8

Full, empty and half full
Page 32
Teacher/Parent to check

Comparing capacities
Page 33
Teacher/Parent to check

Student Book Answers

Revision Term 1

Page 34

1 5 10 7

2 2 8 0 10 1 9

3 Three four

4 Teacher/Parent to check

Page 35

5 Teacher/Parent to check

6 Circle the bucket Cross the mug

7 Monday Tuesday
Wednesday Thursday
Friday Saturday
Sunday

Term 2

Unit 9

Counting to twenty

Page 36

Teacher/Parent to check

- 2 4 7 10

Challenge: 17 red flowers 32 blue flowers

Counting back from ten

Page 37

Ladder 7 6 4

Snake 8 7 4 2 1

Rocket 9 8 6 4 2 1

Challenge: 10

Ordering numbers to ten

Page 38

- 8 5 10 4 2 6
- 2 4 5 6 8 10

Challenge: 1 3 7 9

Ordering numbers to ten

Page 39

1 2 3 4 5

2 5 6 7 8

3 7 8 9 10

4 3 4 7 10

Unit 10

Adding

Page 40

- 3 and 1 makes 4
- 3 and 2 makes 5
- 5 and 3 makes 8
- 2 and 1 makes 3

Counting on

Page 41

- 7 7
  8 8
  10 10

Challenge: 6 9 12

Combinations to 10

Page 42

1 2

2 5

3 8

4 6

Explore: 5 + 5, 4 + 6

Problem solving: Animal zoo

Page 43

Teacher/Parent to check

Challenge! 9 18 28 (most butterflies have 6 legs)

Unit 11

Tallest and shortest

Page 44

Teacher/Parent to check

Length words

Page 45

Teacher/Parent to check

Comparing lengths

Page 46

Teacher/Parent to check

Problem solving: Heights

Page 47

Teacher/Parent to check

Unit 12

Take away

Page 48

- 10
  8 6
  5 4
  3 0
- 5 take away 2 3
  6 take away 4 2
  3 take away 3 0

Take away

Page 49

- 5, 3 6, 4
  8, 6 7, 5
  9, 7 10, 8

Subtraction as cover up

Page 50

- 3 1
- 5 2
- 6 0
- 8 4
- 10 5

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Student Book Answers

Counting back
Page 51
- 3 6 4
- 2 7 9
- 4 2 6
  3 0 7
- 5 5

Investigation 2: How old are we?
Page 52
Teacher/Parent to check
Page 53
Teacher/Parent to check

Revision
Page 54
1 4 6
2 4 7
3 12 15
Page 55
4 5 balls 6 fish
5 2 3 4 5 6
6 Teacher/Parent to check

Unit 13
3D objects
Page 56
Teacher/Parent to check

Objects that roll
Page 57
How many roll? 7 Do not roll? 10
How many stack? 5 Do not stack? 12

Unit 14
Ordering the days of the week
Page 58
Monday Wednesday Friday Sunday Tuesday Thursday
- 6 3

O'clock
Page 59
Teacher/Parent to check

O'clock times
Page 60
Teacher/Parent to check

Unit 15
Shape patterns
Page 61
Teacher/Parent to check

Number patterns
Page 62
The pattern is add 1

Patterns
Page 63
Teacher/Parent to check

Problem solving: Patterns
Page 64
Teacher/Parent to check

Unit 16
Above, below and inside
Page 65
Teacher/Parent to check

Position
Page 66
Teacher/Parent to check

Position
Page 67
- far
- on
- near
- up/on
- on, under

Revision Term 2
Page 68
1 8 8
2 6 8
  3 9
3 Teacher/Parent to check
Page 69
4 3 8 11
5 Teacher/Parent to check

Term 3
Unit 17
Number names to 20
Page 70
Teacher/Parent to check

Making groups to twenty
Page 71
Teacher/Parent to check

Comparing numbers to 20
Page 72
1 12 stars 14 fruit
2 15 17 16 19 20
3 10 13
  16 15

Ordering numbers to 20
Page 73
1 14 15 16
2 12 16 18
3 13 17 20

Student Book Answers

4 11 15 19
5 after 10 11 before 12
after 13 14 before 15
after 18 19 before 20
after 15 16 before 17

Problem solving: On the farm
Page 74
Teacher/Parent to check

Counting to thirty
Page 75
11 pencils 1 coin 6 children 3 marbles 19 lollies
7 dice 1 coin 12 eggs 9 reels of thread 20 stickers

Coins to 30c
Page 76
Teacher/Parent to check

Problem solving: 30 cents
Page 77
Teacher/Parent to check

Unit 18

Area
Page 78
Teacher/Parent to check

Measuring area
Page 79
Teacher/Parent to check

Comparing areas
Page 80
Teacher/Parent to check

Unit 19

2D Shape pictures
Page 81
- 5 squares
- 5 circles
- 4 triangles
- 7 rectangles

Drawing shape patterns
Page 82
Teacher/Parent to check

Problem solving: Shape sort
Page 83
Teacher/Parent to check

Unit 20

Making groups
Page 84
- 4 4
- 3 3 3

Making groups
Page 85
- 5 5

Recognising unequal groups
Page 86
Teacher/Parent to check

Groups of two and three
Page 87
Teacher/Parent to check

Equal groups
Page 88
- 5
- 4
- 9 8 10

Problem solving: 2 fishing boats
Page 89
12 fish

Investigation 3: Paper pets
Page 90
Teacher/Parent to check
Page 91
Teacher/Parent to check

Revision

Page 92
1 1 4 6 8 9
13 17 19
22 23 25
2 10 15 12
18 17 16
Page 93
3 Teacher/Parent to check
4 Teacher/Parent to check
5 Teacher/Parent to check

Unit 21

Addition to ten
Page 94
10
Teacher/Parent to check
Teacher/Parent to check

Counting with money
Page 95
- $5 + $2 = $7
  $5 + $4 = $9
  $5 + $1 = $6
  $5 + $5 = $10
- $3 $4 $5

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Student Book Answers

Adding three numbers
Page 96
- 3 + 2 + 1 = 6 2 + 2 + 2 = 6
  5 + 2 + 2 = 9 4 + 3 + 1 = 8
- 6 8
  7 8
  8 8

Problem solving: A dozen
Page 97
Teacher/Parent to check

Unit 22
The seasons
Page 98
- Teacher/Parent to check
- Summer comes after spring
  Winter comes after autumn

O'clock times
Page 99
- 3 8 10
  2 5 6
  1 7 11

Unit 23
Half a length
Page 100
Teacher/Parent to check

Halfway
Page 101
Teacher/Parent to check

Unit 24
Sorting 2D shapes
Page 102
- 6 pink circles
  4 green squares
  3 blue circles
- Teacher/Parent to check

Weather
Page 103
Teacher/Parent to check

Revision Term 3
Page 104
1 Teacher/Parent to check
2 Teacher/Parent to check

Page 105
3 15 16 17
  19 16 15
4 3 + 5 = 8 4 + 4 = 8
5 15c 25c
6 Teacher/Parent to check

Term 4

Unit 25
First to fifth
Page 106
Teacher/Parent to check

Ordinal numbers to tenth
Page 107
Teacher/Parent to check

Number names to thirty
Page 108
Teacher/Parent to check

Counting forwards and backwards
Page 109
- 17 20
  22
  26 29
- 24 25 26
  21 20
  27 25 24
  29 28 27

Tens and ones
Page 110
13 15 21 26
30 19 27

Using a number line
Page 111
- 3 7 11 14 17
- Teacher/Parent to check
- 1 4 8 11 14 16 19

Challenge! 4 9 16 18

Counting to thirty
Page 112
9 12
15 17
19 21
25 28

Problem solving: Number Problems
Page 113
1 May has 16 balls Nick has 14 balls
2 Amy has 13 rings Cam has 12 rings

Unit 26
Digital and analogue time
Page 114
7 10
12 1
3 5

Problem solving: Your day
Page 115
Teacher/Parent to check

Student Book Answers

Unit 27

Volume
Page 116
Teacher/Parent to check

Measuring capacity
Page 117
Teacher/Parent to check

Unit 28

Comparing groups
Page 118
- 2
- 3
- 3

Shopping with dollar coins
Page 119
$8 $5 $4 $2

Counting back
Page 120
- 6 – 1 = 5 3 – 1 = 2 9 – 1 = 8 7 – 1 = 6
- 8 – 2 = 6 5 – 2 = 3 10 – 2 = 8 9 – 2 = 7

Subtraction
Page 121
4 – 3 = 1 5 – 2 = 3 7 – 2 = 5 6 – 3 = 3
5 – 3 = 2 7 – 3 = 4 8 – 4 = 4 10 – 5 = 5
Challenge: 3

Investigation 4: Block it up
Page 122
- 24 blocks
- 24 blocks
- The first shape has the same blocks as the second shape.

Page 123
Teacher/Parent to check

Revision
Page 124
1 28
2 white white red
more than 20
3 Monday Friday
Page 125
4 Teacher/Parent to check
5 2 + 5 = 7 1 + 6 = 7
7 + 0 = 7 4 + 3 = 7
6 Answers will vary

Unit 29

Sharing
Page 126
3 each 2 each

Sharing
Page 127
4 each 3 each

Equal shares
Page 128
1 cupcake, 2 lollipops, 3 strawberries and 1 orange each

Problem solving: Cars
Page 129
4 children in each car

Unit 30

Comparing mass by hefting
Page 130
Teacher/Parent to check

Using an equal arm balance
Page 131
Teacher/Parent to check

Unit 31

Sorting 3D objects
Page 132
Teacher/Parent to check

3D objects
Page 133
Teacher/Parent to check

Unit 32

Reading a picture graph
Page 134

shirts	4	jumpers	6
girls	5	boys	5
black hair	4	brown hair	3
blonde hair	2	red hair	1

altogether 10 children

Make a picture graph
Page 135
Teacher/Parent to check

Estimation to 20
Page 136
5 10 20 10
15 9 1 11

Revision Term 4

Page 137
1 22 25 24 26
2 26 27 28 29 27 26
3 Teacher/Parent to check
Page 138
4 20c + 5c, 20c + 10c
5 3 8
6 4

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AC Targeting Maths Foundation

This Teaching Guides provides full support and assessment for the *Targeting Maths* Australian Curriculum (Version 9) Student Book for Foundation. Every page of the Student Books, and its topics, aligns with the 32 units in this book.

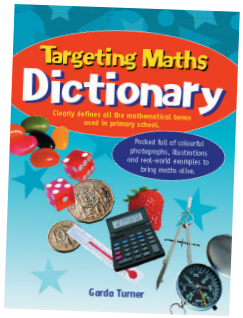
Each unit provides the following:

- **Unit overview** – including ACARA codes and their Description, Key words and the Resources required to support the Student Book activities.
- **Additional resources** – other related books and apps that can be utilised to support the topic.
- **Assessment worksheets** – test skills at three levels of understanding – basic, sound and high.
- **Teach and discuss** – ideas for teasing out the maths topic in the Student Book as well as **Oral and mental strategies**.
- **Activity bank** – a wealth of additional ideas and activities for expanding on the topic.

This book also includes:

- A term-by-term **Year Planner** to assist with programming and preparing for your lessons with an at-a-glance summary of requirements for each teaching session.
- Colourful **Problem Solving Posters** for a variety of strategies, as well as other useful printables like Certificates.
- **Assessment Record Sheets** for every code in the Foundation curriculum with an Assessment Rubric.
- **Answers** for the Student Book as well as for the Assessment activities.

Other Targeting Maths resources



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