

Year 6: Assessment Task Card

6.1

Unit
1

Place Value

Resources: calculators

- 1 On a sheet of paper, have the student write:
 - a. a number between 500 and 700
 - b. a number less than 986
 - c. a number greater than 480
 - d. a number that is a multiple of 10.
- 2 Have the student order the numbers from smallest to largest.
- 3 Have the student use two different operations to create an equation, e.g. $501 + 990 - 485 + 20 =$
- 4 Have the student solve the equation from Question 3.
- 5 Have the student place brackets into their equation, i.e. $501 + (990 - 485 + 20) =$ and solve the equation.
- 6 For the student requiring extension, have them explain what 'order of operations' means, using their equation as an example.

Patterns and algebra

Explore the use of brackets and order of operations to write number sentences (ACMNA134) 

Year 6: Assessment Task Card

6.1

Unit
1

Place Value

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1–2** Review the following aspects of place value: linking numbers and words, ordering numbers and the place-value chart.
- Q3 & 5** Provide the student with numbers and different operations and have them create equations to solve. Have them begin with 1-digit numbers and use two operations before using larger numbers. Revise the use of brackets if necessary.
- Q4** Review the order of operations. Explore one of the mnemonics from Lesson Plan 2. If the numbers are too large, the student can use a calculator to assist.

If the student has demonstrated an understanding beyond the skills, consider:

- Q6** Encouraging the student to work with larger numbers including 2- and 3-digit numbers, and extending to decimals and fractions.

Patterns and algebra

Explore the use of brackets and order of operations to write number sentences (ACMNA134) 

Year 6: Assessment Task Card

6.2

Unit
2

All Four Operations

- 1 On a sheet of paper, have the student write:
 $25\,356 + \square = 30\,548$. Have them solve for the missing number.
- 2 Have the student write an explanation of the strategy they used to find the missing number in Question 1.
- 3 Ask the student to write two related equations that have different missing values,
e.g. $30\,548 - \square = 5\,192$.
- 4 For the student requiring extension, have them write an associated word problem for the equation in Question 3.

Number and place value

Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers (ACMNA123) 

Year 6: Assessment Task Card

6.2

Unit
2

All Four Operations

TARGETED ASSESSMENT

If the student is experiencing difficulty:

Q1 & 3 Review what 'missing value' means. Revisit Lesson Plan 2.

Q2 Review different strategies that could be used to solve equations, e.g. counting on, subtraction, using an open number line, etc. Refer the student to the class poster created in Lesson Plan 3.

If the student has demonstrated an understanding beyond the skills, consider:

Q4 Encouraging the student to work with problems that also require knowledge of the order of operations.

Number and place value

Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers (ACMNA123) 

Year 6: Assessment Task Card

6.3

Unit
3

Integers

Resources: paper, NTO 6.2 'Number Line', thermometers, NTO 6.3 'Thermometer'

- 1 Have the student write three positive numbers and three negative numbers on a sheet of paper.
- 2 Have the student order the numbers from Question 1 from smallest to largest on a number line.
- 3 Have the student write and solve three addition equations related to their numbers from Question 1 and which use negative numbers.
- 4 Have the student draw a thermometer showing the temperature 5°C .
- 5 Have the student use a thermometer to show what the temperature would be if it decreased by 7°C .
- 6 For the student requiring extension, have them find the answer to: $10 + 16 - 23 =$.

Number and place value

Investigate everyday situations that use integers. Locate and represent these numbers on a number line (ACMNA124) 

Year 6: Assessment Task Card

6.3

Unit
3

Integers

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Review the difference between positive and negative numbers. Use NTO 6.2 'Number Line' to aid the review.
- Q2** Use NTO 6.2 'Number Line' to help the student organise the numbers. Examine the numbers that are the closest to 0 and how they increase in size as they move away (just with different signs).
- Q3** Use a tool such as a number line to aid the student in developing equations. Revisit the Teaching Group activity 'On Number Lines' to aid explanations.
- Q4–5** Use NTO 6.3 'Thermometer' to revisit how to use thermometers, including where to locate the numbers and how to move up and down the scale.

If the student has demonstrated an understanding beyond the skills, consider:

- Q6** Encouraging the student to work with larger numbers including 2- and 3-digit numbers, and addition and subtraction of positive and negative numbers.

Number and place value

Investigate everyday situations that use integers. Locate and represent these numbers on a number line (ACMNA124) 

Year 6: Assessment Task Card

6.4

Unit
4

Area and Perimeter

Resources: BLM 5 '1 cm Grid Paper', rulers, NTO 6.4 'Grid Paper'

- 1 Provide the student with a copy of BLM 5 '1 cm Grid Paper' and ask them to draw a rectangle with the dimensions 5 cm by 3 cm.
- 2 Have the student find the perimeter of the rectangle and record on the BLM.
- 3 Have the student find the area of the rectangle and record on the BLM.
- 4 Ask the student to draw a shape that has an area of 30 cm².
- 5 Have the student record the perimeter of the shape.
- 6 For the student requiring extension, have them draw a composite shape comprising of a minimum of three shapes. Then have them find the perimeter and area of the shape.

Using units of measurement

Connect decimal representations to the metric system (ACMMG135) **AC**

Solve problems involving the comparison of lengths and areas using appropriate units (ACMMG137) **AC**

Year 6: Assessment Task Card

6.4

Unit
4

Area and Perimeter

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Provide the student with an initial shape, and then have them find the perimeter (using a ruler) and area (counting squares).
- Q2 & 5** Revise what perimeter is, including how it is found and how it is recorded with units.
- Q3** Revise what area is, including how it is found and how it is recorded with units.
- Q4** Practise with the student how to draw shapes to a specific area on the board. Use NTO 6.4 'Grid Paper' to aid explanations. Look at the different options, and work with a smaller number to begin with, such as 10 cm², which could produce a rectangle of 10 cm × 1 cm, 5 cm × 2 cm, 2 cm × 5 cm or 1 cm × 10 cm.

If the student has demonstrated an understanding beyond the skills, consider:

- Q6** Having the student work with more complex composite shapes, including shapes that have triangles, in order to find both perimeter and area.

Using units of measurement

Connect decimal representations to the metric system (ACMMG135) **AC**

Solve problems involving the comparison of lengths and areas using appropriate units (ACMMG137) **AC**

Year 6: Assessment Task Card

6.5

Unit
5

Mass and Capacity

Resources: an object such as a food container with label removed

- 1 Show the student an object such as a food container with the label removed.
 - a. Have the student write down which units they think the container would be measured in.
 - b. Have the student identify if this would be mass, capacity or volume and why.
- 2 Provide the student with an amount, e.g. 1.5 L.
 - a. Have them write it on their page numerically.
 - b. Have them convert to mL and record.
- 3 Provide the student with a volume, e.g. 1.5 L, and ask them to record the related capacity.
- 4 For the student requiring extension, provide them with the following problem: Draw a jug that has a capacity of 15 mL. Now draw it as a model of cubic centimetres.

Using units of measurement

Convert between common metric units of length, mass and capacity (ACMMG136) 

Connect volume and capacity and their units of measurement (ACMMG138) 

Year 6: Assessment Task Card

6.5

Unit
5

Mass and Capacity

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review the difference between mass, capacity and volume, and the related units, i.e. g, kg, L, mL and cm^3 .
- Q2 Review how to convert between different amounts. Relate this back to the summary sheets and brainstorming tasks in Lesson Plan 3. Review concepts such as $1000 \text{ mL} = 1 \text{ L}$.
- Q3 Revisit the links between capacity and volume, and how $1 \text{ cm}^3 = 1 \text{ mL}$. Revisit practical models if necessary.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4 Having them complete a problem that requires drawing representations, and then applying them to a problem-solving situation.

Using units of measurement

Convert between common metric units of length, mass and capacity (ACMMG136) 

Connect volume and capacity and their units of measurement (ACMMG138) 

Year 6: Assessment Task Card

6.6

Unit
6

Prime Numbers

Resources: calculators

- 1 Provide the student with a number, e.g. 40. Have the student list all of the factors of that number.
- 2 Ask the student to identify whether the number is prime and why/why not.
- 3 Ask the student to identify the next prime number, i.e. after 40.
- 4 For the student requiring extension, ask them to identify two prime numbers that add to give the number 31, e.g. $29 + 2$, and have them look for more than one solution.

Number and place value

Identify and describe properties of prime, composite, square and triangular numbers (ACMNA122) 

Year 6: Assessment Task Card

6.6

Unit
6

Prime Numbers

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Review how to find factors. Utilise calculators or tables charts. Revise processes which will support the student to find all of the factors of the particular number.
- Q2–3** Review the definition of a prime number and some of the activities from Lesson Plan 2. Revise the list of prime numbers 0–50.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4** Providing the student with a variety of problem-solving situations that involve prime numbers.

Number and place value

Identify and describe properties of prime, composite, square and triangular numbers (ACMNA122) 

Year 6: Assessment Task Card

6.7

Unit
7

Composite Numbers

Resources: counters

- 1 Provide the student with a number, e.g. 32. Ask them to identify whether the number is prime and why/why not.
- 2 Ask the student to identify the prime factors of the number, using their preferred method.
- 3 Ask the student to identify whether the number is a square number and why/why not.
- 4 Ask the student to identify whether the number is a triangular number and why/why not. Have the student include a diagram to illustrate their reasoning.
- 5 For the student requiring extension, ask them to find the next composite number, and list the prime factors.

Number and place value

Identify and describe properties of prime, composite, square and triangular numbers (ACMNA122) 

Year 6: Assessment Task Card

6.7

Unit
7

Composite Numbers

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review what a prime number is.
- Q2 Review how to find the factors of a number. Revisit factor trees if necessary.
- Q3 Review the definition of a square number. Represent the number, using counters to check.
- Q4 Review the definition of a triangular number. Have them represent the number using counters, then transfer this to a diagram.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Having the student identify prime and composite numbers from lists of numbers, then list the prime factors of the composite numbers.

Number and place value

Identify and describe properties of prime, composite, square and triangular numbers (ACMNA122) 

Year 6: Assessment Task Card

6.8

Unit
8

2D and 3D Shapes

Resources: rulers, 3D shapes, BLM 14 'Isometric Dot Paper'

- 1 Provide the student with BLM 14 'Isometric Dot Paper', a ruler and a 3D shape (according to their ability). Have the student record:
 - a. the name of the shape
 - b. the 2D shapes that make up the 3D shape.
- 2 Have the student draw a view of the 3D shape on BLM 14 'Isometric Dot Paper'.
- 3 Ask the student to identify three locations where this shape might be found.
- 4 For the student requiring extension, have them draw a net of the shape.

Shape

Construct simple prisms and pyramids (ACMMG140) 

Year 6: Assessment Task Card

6.8

Unit
8

2D and 3D Shapes

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review different 2D and 3D shapes, including names. Revisit hands-on examples, and discuss the different features of the shapes.
- Q2 Have the student practise drawing 2D shapes and then 3D shapes. Use NTO 6.8 'Isometric Dot Paper' to aid the explanation. Break the drawing down into simple steps.
- Q3 Review where shapes are found, e.g. at home, in the classroom, in the playground, etc. and have the student develop a list of the different locations. If required, have the student create the list in a particular environment.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4 Having the student work with more complex nets of shapes including 8-sided and 10-sided 3D shapes.

Shape

Construct simple prisms and pyramids (ACMMG140) 

Year 6: Assessment Task Card

6.9

Unit
9

Prisms and Pyramids

Resources: pipe cleaners

- 1 Provide the student with some pipe cleaners and a sheet of paper. Have the student make a model of a pyramid.
- 2 Have the student sketch their model from different points of view and label the aspects, e.g. faces, vertices, edges, etc.
- 3 Ask the student to list or draw each of the 2D shapes that make up the 3D shape.
- 4 For the student requiring extension, have them sketch a possible net for their 3D shape.

Shape

Construct simple prisms and pyramids (ACMMG140) 

Year 6: Assessment Task Card

6.9

Unit
9

Prisms and Pyramids

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review the difference between pyramids and prisms and discuss the features of a pyramid.
- Q2 Review the terms 'faces', 'vertices' and 'edges', and look at these aspects on a number of different 3D shapes. Have the student identify these features on real-life examples.
- Q3 Revisit the different faces that make up 3D shapes. Start with models before moving onto diagrams, then the student's memories.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4 Having them work with more complex shapes, extending to cones and cylinders and their respective nets.

Shape

Construct simple prisms and pyramids (ACMMG140) 

Year 6: Assessment Task Card

6.10

Unit
10

Mapping and Grid References

Resources: a copy of a map that includes a grid reference, NTO 6.5 'Coordinates Grid', chalk

- 1 Provide the student with a copy of a map that includes a grid reference.
 - a. Ask the student to locate five given features and list the accompanying coordinates.
 - b. Ask the student to locate five features at the given coordinates.
- 2 Provide the student with a starting coordinate, e.g. (A, 7) and have them provide the directions and information to for someone else to follow to reach a given location.
- 3 Ask the student to describe 'orienteeing' in words.
- 4 For the student requiring extension, ask them to list a number of different types of maps.

Location and transformation

Introduce the Cartesian coordinate system using all four quadrants (ACMMG143) 

Year 6: Assessment Task Card

6.10

Unit
10

Mapping and Grid References

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review how to read coordinates on a map, i.e. x, then y. Use NTO 6.5 'Coordinates Grid' to aid the revision, or by having the student plot coordinates onto a grid or axes on the floor drawn with chalk. Review how to write coordinate pairs correctly. Remind the student that the x coordinate is written first, then y.
- Q2 Revise how to describe pathways through a map, and the language that can be used, e.g. compass bearings, left and right, etc.
- Q3 Revisit the orienteeing activities from Lesson Plan 3.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4 Having the student explore different types of maps that are found both in Australia and in other countries and cultures.

Location and transformation

Introduce the Cartesian coordinate system using all four quadrants (ACMMG143) 

Year 6: Assessment Task Card

6.11

Unit
11

Cartesian System

Resources: rulers, BLM 5 '1 cm Grid Paper', NTO 6.5 'Coordinates Grid', chalk

- 1 Provide the student with a copy of BLM 5 '1 cm Grid Paper' and a ruler. Have them draw -5 to 5 axes across the centre of a page.
- 2 Provide the student with a number of points for them to plot, e.g. $(1, 4)$, $(-3, 2)$, $(4, -3)$, $(-4, -5)$.
- 3 Have the student draw a square anywhere they like on the axes. Have them label each of the corners with the relevant coordinates.
- 4 Ask the student to write one real-life example in which the Cartesian system is used.
- 5 For the student requiring extension, have them plot some coordinates that include the fraction $\frac{1}{2}$, e.g. $(2\frac{1}{2}, -3)$.

Location and transformation

Introduce the Cartesian coordinate system using all four quadrants (ACMMG143) 

Year 6: Assessment Task Card

6.11

Unit
11

Cartesian System

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review the construction of the Cartesian system. Use NTO 6.5 'Coordinates Grid' to aid the revision.
- Q2 Revise how to plot coordinates by reviewing which number in the coordinate pair to plot first (x, y) , and how to read the scales. Use NTO 6.5 'Coordinates Grid' to aid the revision, or have the student plot onto a grid or axes drawn on the floor with chalk.
- Q3 Review how to write coordinate pairs correctly. Remind the student that the x coordinate is written first, then y .
- Q4 Review some applications for the Cartesian system, e.g. mapping, locating objects, etc.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Having the student work with scales that are not 1:1 but count by 5s so they have to make estimations of where to plot the coordinate points.

Location and transformation

Introduce the Cartesian coordinate system using all four quadrants (ACMMG143) 

Year 6: Assessment Task Card

6.12

Unit
12

Decimal Representations of the Metric System

Resources: 30 cm rulers; metre rulers

- 1 Provide the student with a sheet of paper. Have them rule a 20 cm line and label it in centimetres, millimetres and metres.
- 2 Provide the student with a mass, e.g. 1.25 kg, and have them express it in grams and tonnes.
- 3 Provide the student with a capacity, e.g. 9.06 L, and have them express it in millilitres.
- 4 Provide the student with a word problem, e.g. 'I had a 1.25 L bottle of soft drink and I drank 75 mL. Write an equation to show how much soft drink I had left, with the capacities expressed in the same units'.
- 5 For the student requiring extension, have them write a word problem involving length and decimal representation.

Using units of measurement

Connect decimal representations to the metric system (ACMMG135) 

Year 6: Assessment Task Card

6.12

Unit
12

Decimal Representations of the Metric System

TARGETED ASSESSMENT

- Q1** Review the different units of length, and the conversion factors between them. Have the student look at the units and the relationships using rulers and metre rulers.
- Q2** Review the different units of mass, and the conversion factors between them. Use the class chart created in Lesson Plan 2 to aid the review.
- Q3** Review the relationship between litres and millilitres. Use measuring equipment and the class chart created in Lesson Plan 3 to aid the review.
- Q4** Revisit what are word-based problems, and strategies for solving them, e.g. underline key amounts, identify the process to be completed (addition/subtraction/multiplication/division), have all the quantities in the same units before adding or subtracting, etc.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5** Having the student solve or create contextual problems involving length, mass or capacity.

Using units of measurement

Connect decimal representations to the metric system (ACMMG135) 

Year 6: Assessment Task Card

6.13

Unit
13

Length and Area Problems

Resources: rulers, BLM 5 '1 cm Grid Paper', NTO 6.4 'Grid Paper'

- 1 Provide the student with a copy of BLM 5 '1 cm Grid Paper'. Have them draw a rectangle 4 cm × 5 cm, label the dimensions and find the perimeter.
- 2 Have the student write an explanation of the difference between area and perimeter.
- 3 Have the student find the area of the rectangle from Question 1.
- 4 Ask the student to find the perimeter of two other shapes with the same area.
- 5 For the student requiring extension, have them find the perimeter of an irregular shape that has an area of 20 cm².

Using units of measurement

Solve problems involving the comparison of lengths and areas using appropriate units (ACMMG137) 

Year 6: Assessment Task Card

6.13

Unit
13

Length and Area Problems

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review how to draw and record the dimensions of the rectangle, using BLM 5 '1 cm Grid Paper'. Use NTO 6.4 'Grid Paper' to aid the explanation. Review how to find the perimeter of rectangles with the student.
- Q2 Revisit what is area and what is perimeter. Use NTO 6.4 'Grid Paper' to aid the review.
- Q3 Review the process of counting squares to find the area of a shape.
- Q4 Revisit the process of finding the same area but of different shapes by using the squares on the grid paper. From there, review how to find perimeter.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Having the student find the area and perimeter of irregular shapes.

Using units of measurement

Solve problems involving the comparison of lengths and areas using appropriate units (ACMMG137) 

Year 6: Assessment Task Card

6.14

Unit
14

Addition and Subtraction of Decimals

Resources: calculators, BLM 20 'Decimal Problems'

- 1 Provide the student with two decimal numbers with 2 or 3 decimal places, according to their ability, e.g. 3.42 and 6.89, or 1.025 and 7.915. Have the student round the numbers to 1 decimal place.
- 2 Have the student add the two numbers from Question 1, using their preferred method.
- 3 Have the student find the difference between the two numbers from Question 1.
- 4 Ask the student to write a word problem that uses the two numbers.
- 5 For the student requiring extension, have them find the total of 3 decimal numbers with different numbers of decimal places, e.g. 1.756, 20.05 and 0.8.

Fractions and decimals

Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers (ACMNA128) 

Year 6: Assessment Task Card

6.14

Unit
14

Addition and Subtraction of Decimals

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review the process of rounding decimal numbers. Revisit the class chart from Lesson Plan 1.
- Q2 Review the process of addition with whole numbers, before moving on to numbers with 1 decimal place. Work with no trading and then trading to build confidence.
- Q3 Review the term 'difference' with students. Review the process of subtraction, working with whole numbers before moving on to numbers with 1 decimal place. Use calculators to support understanding and to check answers.
- Q4 Revisit examples of word problems, e.g. BLM 20 'Decimal Problems'.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Challenging the student with more numbers in the addition equations.

Fractions and decimals

Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers (ACMNA128) 

Year 6: Assessment Task Card

6.15

Unit
15

Multiplication of Decimals

Resources: dice, BLM 21 'Tables Chart 1', BLM 22 'Tables Chart 2'

- 1 Have the student roll two dice. Have them record one of the numbers as a whole number and the other as a decimal number.
- 2 Have the student multiply the two numbers on the dice using their preferred method.
- 3 Have the student multiply the decimal number from Question 1 by a factor of 10.
- 4 Have the student write a related division problem.
- 5 Have the student write an example of when multiplication or division with decimals could be used in real life.
- 6 For the student requiring extension, have them find the result of a provided division algorithm, e.g. $3.25 \div 8 = .$

Fractions and decimals

Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies (ACMNA129) 

Multiply and divide decimals by powers of 10 (ACMNA130) 

Year 6: Assessment Task Card

6.15

Unit
15

Multiplication of Decimals

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review what whole numbers are and what decimals are, as well as decimals to 1 or more decimal place. Include information about decimals with whole numbers, e.g. 3.68.
- Q2 Have the student practise multiplying decimals and a whole number, based on multiplication facts. Note: BLM 21 'Tables Chart 1' and BLM 22 'Tables Chart 2' could be used.
- Q3 Review patterns and the effects of multiplying decimal numbers by factors of 10. Revisit the created class charts in Lesson Plan 2 to aid the review.
- Q4 Review with the student multiplication involving decimals based on multiplication facts. Link this to multiplication of decimals.
- Q5 Revisit practical applications of the use of decimals, e.g. money and measurement. Revisit the activities from Lessons Plans 2 and 3 to aid the review.

If the student has demonstrated an understanding beyond the skills, consider:

- Q6 Challenging the student with more complex division equations based on the algorithm.

Fractions and decimals

Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies (ACMNA129) 

Multiply and divide decimals by powers of 10 (ACMNA130) 

Year 6: Assessment Task Card

6.16

Unit
16

Volume and Capacity

Resources: a variety of containers

- 1 Ask the student to write a description for volume and include the units.
- 2 Ask the student to write a description for capacity and include the units.
- 3 Have the student complete: $1 \text{ cm}^3 = .$
- 4 Ask the student to identify how you could find the volume of an irregularly shaped container.
- 5 For the student requiring extension, ask them to describe how mass is linked to capacity and volume.

Using units of measurement

Convert between common metric units of length, mass and capacity (ACMMG136) 

Connect volume and capacity and their units of measurement (ACMMG138) 

Year 6: Assessment Task Card

6.16

Unit
16

Volume and Capacity

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Review what volume is and the units used to measure it. Revisit some of the activities from Lesson Plan 1.
- Q2** Review what capacity is and the units used to measure it. Revisit some of the activities from Lesson Plan 2.
- Q3** Revisit the relationship between 1 cm^3 and 1 mL . Use activities from Lesson Plan 3 to reinforce understanding.
- Q4** Revisit irregularly shaped containers, and how the relationship $1 \text{ cm}^3 = 1 \text{ mL}$ can be used to find the volume measurement. Revisit Lesson Plan 3, Independent Tasks, Task 1, to assist the revision.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5** Having the student investigate the links between mass, volume and capacity, using containers filled with water.

Using units of measurement

Convert between common metric units of length, mass and capacity (ACMMG136) 

Connect volume and capacity and their units of measurement (ACMMG138) 

Year 6: Assessment Task Card

6.17

Unit
17

Fractions

Resources: Unifix blocks and other fraction-modelling equipment, NTO 6.11 'Make a Fraction', NTO 6.12 'Fraction Number Line'

- 1 Use Unifix blocks to show the student a model representation of a fraction, e.g. $\frac{7}{10}$, where $\frac{7}{10}$ of the blocks are red and the other $\frac{3}{10}$ are blue. Have the student record the fraction information they can from the model.
- 2 Ask the student to draw a different representation for the fraction of red blocks in Question 1.
- 3 Ask the student to write an equivalent fraction (numerically) for the blue blocks in Question 1.
- 4 Provide three more fractions, e.g. $\frac{2}{5}$, $\frac{9}{10}$ and $\frac{1}{4}$, and ask the student to include the first two fractions, and then order the set of five fractions from smallest to largest. Then have them add these to a number line.
- 5 For the student requiring extension, ask them to write an explanation of how the improper fraction $\frac{16}{10}$ could be represented with the modelling equipment.

Fractions and decimals

Compare fractions with related denominators and locate and represent them on a number line (ACMNA125) 

Year 6: Assessment Task Card

6.17

Unit
17

Fractions

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review different model representations of fractions. Use NTO 6.11 'Make a Fraction' to aid the discussion.
- Q2 Review different drawn representations of fractions and how the diagrams are equal (equivalent).
- Q3 Revisit the term 'equivalent fraction' and how to find these numerically. Link this back to the diagrammatic representations from Question 2.
- Q4 Have the student practise ordering fractions from smallest to largest and adding to number lines, using cards. Use NTO 6.12 'Fraction Number Line' to aid the revision.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Having the student explore different representations of improper fractions and their equivalent mixed numbers.

Fractions and decimals

Compare fractions with related denominators and locate and represent them on a number line (ACMNA125) 

Year 6: Assessment Task Card

6.18

Unit
18

Problems with Positive and Negative Numbers

Resources: rulers, NTO 6.2 'Number Line'

- 1 Ask the student to draw a number line between -10 and $+10$ and mark in -10 , 0 , and $+10$.
- 2 Have the student mark in a selection of numbers on the number line from Question 1 in the correct position, e.g. 6 , 2 , -5 , -3 and -9 .
- 3 Select one of the numbers from Question 1, e.g. -5 , and ask the student to circle -5 , then record:
 - a. the number before
 - b. the number after
 - c. the number when 3 is added
 - d. the number when 2 is subtracted.
- 4 For the student requiring extension, ask them to write an explanation of why the number -8 was placed where it was in relation to -5 on the number line.

Number and place value

Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers (ACMNA123) 

Investigate everyday situations that use integers. Locate and represent these numbers on a number line (ACMNA124) 

Year 6: Assessment Task Card

6.18

Unit
18

Problems with Positive and Negative Numbers

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1–2** Review the structure of number lines with positive and negative numbers with. Use NTO 6.2 'Number Line' to aid the discussion.
- Q3** Review the use of a number line including how to identify numbers on the line and using it to solve simple equations. Use NTO 6.2 'Number Line' to aid the revision.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4** Having the student justify the location of numbers, which could be fractions and decimals, on the number line.

Number and place value

Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers (ACMNA123) 

Investigate everyday situations that use integers. Locate and represent these numbers on a number line (ACMNA124) 

Year 6: Assessment Task Card

6.19

Unit
19

Chance

Resources: coloured pencils, dice, packs of playing cards, coins, spinners

- 1 Have the student write as a fraction the chance of rolling a dice to show:
 - a. 3
 - b. an odd number
- 2 Have the student write, when using a standard pack of cards, what the chance is of drawing:
 - a. a red card
 - b. a 7
 - c. a 9 or 10.
- 3 Ask the student to sketch a spinner that gives a 20 percent chance of spinning red and a 60 percent chance of spinning green.
- 4 For the student requiring extension, ask them to describe a situation which would give the chance of 0.25 when using a pack of cards.

Chance

Describe probabilities using fractions, decimals and percentages (ACMSP144) 

Year 6: Assessment Task Card

6.19

Unit
19

Chance

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review different chance situations involving dice. Have the student use dice to work out and check answers.
- Q2 Review different chance situations involving cards. Have the student use a pack of cards to work out answers by sorting the cards to model situations.
- Q3 Have the student describe spinners before moving on to colouring or drawing their own spinners. Revisit how to divide a circle into equal parts.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4 Having the student describe certain situations involving dice, cards, spinners or coins that will result in particular values.

Chance

Describe probabilities using fractions, decimals and percentages (ACMSP144) 

Year 6: Assessment Task Card

6.20

Unit
20

Collecting Data

Resources: coins

- 1 Provide the student with two coins. Have them predict what will be the most common response when the coins are tossed 15 times. Have them record their prediction.
- 2 Have the student toss the coins 15 times and collect the data in the most appropriate way.
- 3 Have the student comment on their prediction made in Question 1.
- 4 Ask the student to comment on what might happen if they completed the activity 100 times.
- 5 For the student requiring extension, have them describe a situation where data could be collected using a Venn diagram.

Chance

Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies (ACMSP145) 

Compare observed frequencies across experiments with expected frequencies (ACMSP146) 

Year 6: Assessment Task Card

6.20

Unit
20

Collecting Data

TARGETED ASSESSMENT

If the student is experiencing difficulty:

Q1 & 3 Review the idea of predicting, emphasising that the prediction does not have to be correct.

Q2 Review different methods of collecting data, e.g. tally tables.

Q4 Review the idea of theoretical results arising from an understanding of the chance of a situation. Discuss how this is often different from actual results, and that this is okay.

If the student has demonstrated an understanding beyond the skills, consider:

Q5 Having the student describe certain situations that use specific data collection methods to provide results and analysis.

Chance

Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies (ACMSP145) 

Compare observed frequencies across experiments with expected frequencies (ACMSP146) 

Year 6: Assessment Task Card

6.21

Unit
21

Number Sequences

- 1 Provide the student with a sheet of paper. Provide them with three number sequences and ask them to write the next three terms:
 - a. 45, 49, 53, 57, ...
 - b. 7.3, 6.6, 5.9, .2, ...
 - c. $1\frac{1}{5}$, $1\frac{4}{5}$, $2\frac{2}{5}$, 3, ...
- 2 For each of the number sequences, have the student write the rules.
- 3 Have the student write a rule that includes addition and fractions.
- 4 For the student requiring extension, have them write two different number sequences that include decimals and subtraction, and a number line representation for each.

Patterns and algebra

Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence (ACMNA133) 

Year 6: Assessment Task Card

6.21

Unit
21

Number Sequences

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 & 3** Review how to determine the number sequence, i.e. by identifying the difference between each pair of numbers, and determine whether it is adding or subtracting.
- Q2** Provide the student with a scaffold for a sentence with gaps to complete. Remind them to include the starting number, determine whether it is adding/subtracting and how much by.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4** Having the student include visual representations with the number sequences. They could also examine more complex number sequences.

Patterns and algebra

Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence (ACMNA133) 

Year 6: Assessment Task Card

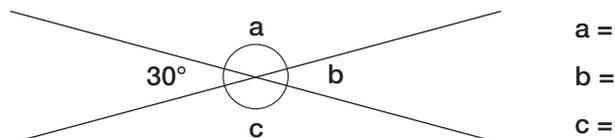
6.22

Unit
22

Angles

Resources: rulers, protractors, NTO 6.15 'Measuring Angles'

- 1 Provide the student with a sheet of paper, a ruler and a protractor. Have them draw a 60° angle and label it.
- 2 Have the student classify the angle (i.e. acute).
- 3 Have the student complete the drawing and indicate the missing angle to a right angle.
- 4 Draw a diagram on the board with vertically opposite angles, e.g.



Label one angle, then have the student find the other missing values.

- 5 For the student requiring extension, have them create their own vertically opposite angle and label the angle set.

Geometric reasoning

Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles (ACMMG141)

Year 6: Assessment Task Card

6.22

Unit
22

Angles

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review how to draw an angle. Use NTO 6.15 'Measuring Angles' to aid the discussion. Remind the student how to read the scale on a protractor.
- Q2 Revisit the different classifications of angles, e.g. acute, obtuse, etc. Use the class posters created in Lesson Plan 1 to aid the revision.
- Q3–4 Review how to find missing angle values by working back from what the student knows. Have the student draw diagrams to aid their understanding.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Having the student develop more of their own questions with missing values, including vertically opposite angles and shapes.

Geometric reasoning

Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles (ACMMG141)

Year 6: Assessment Task Card

6.23

Unit
23

Addition of Fractions

Resources: rulers, NTO 6.12 'Fraction Number Line', NTO 6.16 'Adding Fractions'

- 1 Provide the student with a sheet of paper and a ruler. Have them create a number line showing quarters between 0 and 2.
- 2 Have the student complete the following equation using the number line: $\frac{3}{4} + \frac{5}{4} =$
- 3 Have the student write two addition equations of their own involving fractions, based on the number line.
- 4 Have the student draw a diagram to illustrate this equation: $\frac{3}{4} + \frac{5}{4} =$
- 5 Have the student complete this equation: $\frac{1}{4} + \frac{5}{8} =$
- 6 For the student requiring extension, have them create their own word problem based on this equation:
 $\frac{3}{4} + \frac{5}{4} =$

Fractions and decimals

Solve problems involving addition and subtraction of fractions with the same or related denominators (ACMNA126) 

Year 6: Assessment Task Card

6.23

Unit
23

Addition of Fractions

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Review how to create a number line involving fractions. Use NTO 6.12 'Fraction Number Line' to aid the revision.
- Q2–3** Revisit the process for adding fractions on number lines. Revise identifying the largest number, finding it on the number line, and then adding the other number to find the answer.
- Q4** Review the process for using diagrams to model fraction addition. Use NTO 6.16 'Adding Fractions' to aid the discussion.
- Q5** Revise how to add fractions with related denominators, including how to find the common denominator or modify the existing number line.

If the student has demonstrated an understanding beyond the skills, consider:

- Q6** Having the student develop more of their own questions involving fraction addition, as well as solving word-based problems.

Fractions and decimals

Solve problems involving addition and subtraction of fractions with the same or related denominators (ACMNA126) 

Year 6: Assessment Task Card

6.24

Unit
24

Subtraction of Fractions

Resources: rulers; modelling equipment, e.g. Unifix blocks; NTO 6.12 'Fraction Number Line'; NTO 6.17 'Subtracting Fractions'

- 1 Provide the student with a sheet of paper, a ruler and this equation: $1\frac{2}{5} - \frac{4}{5} =$. Have them write the equation and record answer.
- 2 Have the student create a number line to represent the equation and answer from Question 2.
- 3 Provide the student with this equation: $1\frac{2}{5} - \frac{7}{10} =$. Have them record the equation and the answer.
- 4 Have the student draw a diagram to illustrate this equation: $1\frac{2}{5} - \frac{7}{10} =$
- 5 For the student requiring extension, have them create their own word problem, based on this equation:
 $1\frac{2}{5} - \frac{4}{5} =$

Fractions and decimals

Solve problems involving addition and subtraction of fractions with the same or related denominators (ACMNA126) 

Year 6: Assessment Task Card

6.24

Unit
24

Subtraction of Fractions

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review how to complete the subtraction. Use modelling equipment, e.g. Unifix blocks, to aid the revision.
- Q2 Review how to create a number line involving fractions. Use NTO 6.12 'Fraction Number Line' to aid the revision. Revisit the subtraction of fractions on number lines. Revise identifying the largest number, finding it on the number line, then subtracting the other number to find the answer.
- Q3 Revise how to subtract fractions with related denominators, including finding the improper fraction and then the common denominator, or modifying the existing number line.
- Q4 Review the process for using diagrams to model fraction subtraction. Use NTO 6.17 'Subtracting Fractions' to aid the revision.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Having the student develop more of their own questions involving fraction subtraction, as well as solving word-based problems.

Fractions and decimals

Solve problems involving addition and subtraction of fractions with the same or related denominators (ACMNA126) 

Year 6: Assessment Task Card

6.25

Unit
25

Time (General)

Resources: NTO 6.18 'Clocks'

- 1 Provide the student with a sheet of paper and have them draw an analogue clock to represent a particular time, e.g. 10.50 pm.
- 2 Have the student record the time digitally and in words, i.e. 10 minutes to 11.
- 3 Have the student express the time in 24-hour representation.
- 4 For the student requiring extension, ask them to identify real-life example of where 24-hour time may be used.

Using units of measurement

Interpret and use timetables (ACMMG139) 

Year 6: Assessment Task Card

6.25

Unit
25

Time (General)

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review how to read and use analogue clocks. Use NTO 6.18 'Clocks' to aid the discussion.
- Q2 Link analogue time to digital time. Review with the student how to express the time in words. Use NTO 6.18 'Clocks' to aid the discussion.
- Q3 Revisit with the student how to express time in 24-hour representation, by adding 12 to the pm time.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4 Having the student develop an understanding of when different time representations are used on a daily basis. Extend this activity to include time representations in different cultures.

Using units of measurement

Interpret and use timetables (ACMMG139) 

Year 6: Assessment Task Card

6.26

Unit
26

Timetables

Resources: a timetable

- 1 Provide the student with timetable and a sheet of paper. Have them identify and record the type of timetable, and how the time is represented.
- 2 Have the student use the timetable to find the amount of time to travel between two particular locations.
- 3 Have the student use the timetable to determine at what time they need to catch the transport in order to reach a particular destination at a particular time.
- 4 Ask the student to identify four other types of timetables and list them.
- 5 For the student requiring extension, ask them to create a timetable for the week of the school musical production (or a similar event).

Using units of measurement

Interpret and use timetables (ACMMG139) 

Year 6: Assessment Task Card

6.26

Unit
26

Timetables

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Examine how to identify different types of timetables and how time is expressed on them, i.e. am/pm or 24-hour time.
- Q2–3** Review how to identify different information in the timetable, including locating times and destinations and reading data in the body of the table.
- Q4** Explore different types of timetables, e.g. bus, train, tram, boat, ferry or personal timetables, etc.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5** Having the student develop their own timetables for particular events and activities.

Using units of measurement

Interpret and use timetables (ACMMG139) 

Year 6: Assessment Task Card

6.27

Unit
27

Fraction of a Quantity

Resources: coloured counters, NTO 6.4 'Grid Paper'

- 1 Provide the student with a sheet of paper and a handful of coloured counters. Have them sort the counters and record as a fraction of the whole group.
- 2 Have the student find:
 - a. $\frac{2}{5}$ of 20
 - b. $\frac{3}{4}$ of 24
- 3 Have the student represent Question 2 part **b** as a diagram.
- 4 Ask the student to describe a practical application for the fraction of a quantity.
- 5 For the student requiring extension, have them identify a scenario for the following data: $\frac{1}{3}$ long, $\frac{1}{6}$ short, $\frac{4}{12}$ medium and $\frac{2}{12}$ zero.

Fractions and decimals

Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies

(ACMNA127) **AC**

Year 6: Assessment Task Card

6.27

Unit
27

Fraction of a Quantity

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review how to find the fraction of a group by having the student identify the whole and then each of the parts. Link this to visual representations.
- Q2 Review the algorithm of a fraction of a whole number. Use hands-on equipment to aid the review if necessary.
- Q3 Have the student use NTO 6.4 'Grid Paper' to assist them to create their diagram.
- Q4 Revisit some of the applications explored in Lesson Plan 3.

If the student has demonstrated an understanding beyond the skills, consider:

- Q5 Having the student develop their own scenarios from a set of data.

Fractions and decimals

Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies

(ACMNA127) **AC**

Year 6: Assessment Task Card

6.28

Unit
28

Fractions, Decimals and Percentages

Resources: packs of playing cards, BLM 34 'Decimal Grids: Tenths', BLM 35 'Decimal Grids: Hundredths'

- 1 Provide the student with a sheet of paper and a pack of cards. Have the student take out the picture cards. Then have them select two cards to form a 2-digit decimal number, e.g. 0.25.
- 2 Have the student write the decimal from Question 1 as a fraction (in its simplest form).
- 3 Have the student write the decimal from Question 1 as a percentage.
- 4 Have the student represent the decimal from Question 1 as a diagram.
- 5 Ask the student to write an example that includes the use of their number, e.g. 25% of people in the class have green socks.
- 6 For the student requiring extension, have them select three cards to form a mixed number, i.e. with a whole number and a 2-digit decimal, and then have them repeat Questions 2–5.

Fractions and decimals

Make connections between equivalent fractions, decimals and percentages (ACMNA131) 

Year 6: Assessment Task Card

6.28

Unit
28

Fractions, Decimals and Percentages

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review what a decimal number is. Ask, 'What is a decimal point and what are tenths and hundredths?'
- Q2 Review how to find a fraction from a decimal, either with a diagram or by finding part of 100.
- Q3 Revisit how to find a percentage from a decimal, drawing the links between the decimal and a number out of 100.
- Q4 Use BLM 34 'Decimal Grids: Tenths' and BLM 35 'Decimal Grids: Hundredths' to revisit some diagrammatic representations.
- Q5 Revisit some real-life applications for fractions, decimals and percentages. Use the ideas from Lesson Plan 3 to assist the exploration.

If the student has demonstrated an understanding beyond the skills, consider:

- Q6 Having the student explore decimals and fractions greater than 1 and how that translates to the percentages. Have the student link this to real life and suggest practical examples.

Fractions and decimals

Make connections between equivalent fractions, decimals and percentages (ACMNA131) 

Year 6: Assessment Task Card

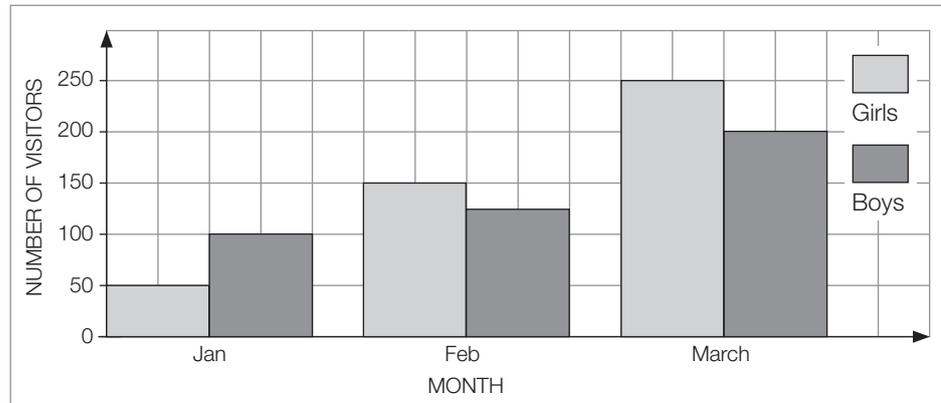
6.29

Unit
29

Data Displays

Resources: an example of a graph

- 1 Provide the student with a graph appropriate to their ability, such as:
Have the student identify:
- the type of graph
 - what the two axes represent.



- 2 Have the student write three comments about the graph in Question 1.
3 Have the student create a chart of data from the graph in Question 1.
4 For the student requiring extension, have them give some examples of where this type of graph may be used.

Data representation and interpretation

Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables (ACMSP147) **AC**

Year 6: Assessment Task Card

6.29

Unit
29

Data Displays

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Review different graph types. Revisit the main elements of a graph, e.g. axes, units, scale, etc.
Q2 Have the student use the graph from Question 1 to practise interpreting data, e.g. most popular, least common, what has the same value, what was the total number of people surveyed, etc.
Q3 Revisit how to create a chart of data. Use Lesson Plan 3 to aid the revision if necessary.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4** Having the student explore examples of how different media uses and applies data collection and graphing.

Data representation and interpretation

Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables (ACMSP147) **AC**

Year 6: Assessment Task Card

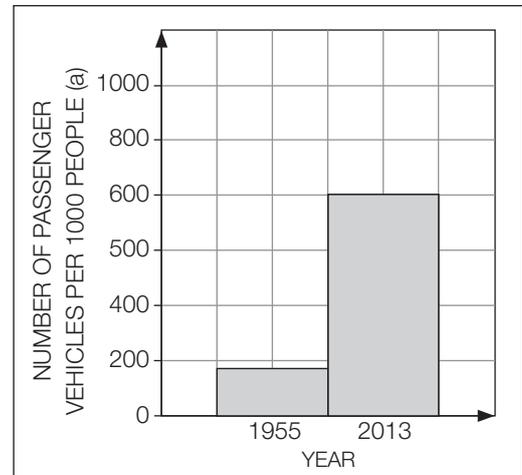
6.30

Unit
30

Interpreting Data

Resources: examples of data sourced from the Australian Bureau of Statistics (available at: abs.gov.au)

- 1 Provide the student with the following graph:
Ask the student to describe what the data shows.
- 2 Have the student create a table of data from the graph in Question 1.
- 3 Have the student write a comment about whether they believe the data is misleading and why or why not.
- 4 For the student requiring extension, have them suggest what else could be included on the graph.



Data representation and interpretation

Interpret secondary data presented in digital media and elsewhere (ACMSP148) 

Year 6: Assessment Task Card

6.30

Unit
30

Interpreting Data

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Review different graph types. Revisit the main elements of a graph, e.g. axes, units, scale, etc.
- Q2** Revisit how to create a chart from data. (Revisit Unit 29 if necessary.)
- Q3** Review why data can be misleading and how this can occur. Revisit Lesson Plan 3 to aid the review.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4** Having the student explore how to provide more accurate data, and what elements could be included, e.g. surveying every year and the practicalities of this.

Data representation and interpretation

Interpret secondary data presented in digital media and elsewhere (ACMSP148) 

Year 6: Assessment Task Card

6.31

Unit
31

Percentage Discounts

Resources: calculators

- 1 Provide the student with two prices such as \$16.00 and \$39.90. Have the student complete the following table:

price	10%	25%	50%
\$16.00			
\$39.90			

- 2 Have the student use the information from the table in Question 1 to determine the new price for:
- \$16.00 when there is a 25% discount
 - \$39.90 when there is a 50% discount.
- 3 Have the student write a comment about how they could check their answer for Question 2 part **b**.
- 4 For the student requiring extension, ask, 'If the new price is \$13.50 and the percentage off is 10%, what was the original amount?'

Money and financial mathematics

Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies (ACMNA132) **AC**

Year 6: Assessment Task Card

6.31

Unit
31

Percentage Discounts

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review how to find the percentage of an amount. Relate this to decimals and/or fractions if necessary. Check that the student is using a calculator correctly.
- Q2 Review how to find the percentage discount by subtracting the percentage amount found from the original amount. Ensure the student is selecting the correct values from the table.
- Q3 Review different strategies for checking answers, e.g. use approximations, think about what is half of the amount, etc.

If the student has demonstrated an understanding beyond the skills, consider:

- Q4 Having the student find the original amounts from the given percentages or discounted prices.

Money and financial mathematics

Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies (ACMNA132) **AC**

Year 6: Assessment Task Card

6.32

Unit
32

Transformations

Resources: NTO 6.20 'Transformations', BLM 5 '1 cm Grid Paper'

- 1 Use NTO 6.20 'Transformations'. Show the student a shape. Have them draw the shape and then:
 - a. reflect it to the left
 - b. translate it to the right
 - c. rotate it 180 degrees to the right.Have the student record each transformation.
- 2 Have the student describe two situations where transformations are used include an example with each.
- 3 For the student requiring extension, have them create a geometric pattern based on transformations. Have the student record the transformations they have used.

Location and transformation

Investigate combinations of translations, reflections and rotations, with and without the use of digital technologies (ACMMG142) 

Year 6: Assessment Task Card

6.32

Unit
32

Transformations

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1** Revisit each of the different transformations:
- a. reflection, by using mirrors or reflective surfaces.
 - b. translation, by having the student 'move' shapes on grid paper (use BLM 5 '1 cm Grid Paper').
 - c. rotation, by having the student cut out shapes and rotating while fixing a corner of the shape on their page.
- Q2** Revisit examples of transformations including images from around the school (Lesson Plan 1), and applications in art, logos and design (Lesson Plan 3).

If the student has demonstrated an understanding beyond the skills, consider:

- Q3** Having the student continue to develop their own patterns and designs, identifying each of the transformations utilised.

Location and transformation

Investigate combinations of translations, reflections and rotations, with and without the use of digital technologies (ACMMG142) 

Year 6: Assessment Task Card

6.33

Unit
33

Angle Applications

Resources: rulers, protractors

- 1 Ask the student to draw a right angle divided to create a missing angle value and an angle of 50° .
- 2 Have the student find the missing angle value in Question 1.
- 3 Ask the student to draw a straight line divided into three: one angle of 40° , a second angle of 70° and the third with a missing angle value.
- 4 Have the student find the missing angle value in Question 3.
- 5 Provide the student with a vertically opposite angle diagram (suited to their abilities) to find the missing values.
- 6 For the student requiring extension, have them find angle sizes for enclosed shapes such as octagons and decagons.

Geometric reasoning

Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles (ACMMG141) **AC**

Year 6: Assessment Task Card

6.33

Unit
33

Angle Applications

TARGETED ASSESSMENT

If the student is experiencing difficulty:

- Q1 Review what a right angle is with the student. Have the student identify some right angles.
- Q2 Divide some right angles and have the student find the missing values using a protractor, before completing the calculation.
- Q3 Review what a straight line is with the student. Have the student identify straight lines and the related properties.
- Q4 Divide straight lines and have the student find the missing values using a protractor, before completing the calculation.
- Q5 Provide the student with vertically opposite angle diagrams and have them measure all of the angles with protractors. The student could also complete matching activities by selecting missing angle values from a provided list.

If the student has demonstrated an understanding beyond the skills, consider:

- Q6 Have the student work with more complex problems involving finding missing angle values.

Geometric reasoning

Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles (ACMMG141) **AC**