## Scope and sequence Mathematics <br> Reception to year 6

V1.0

September 2020

## Mathematics: Scope and sequence reception to year 6

## Contents

Context statement
Achievement standards
Scope and sequence

- Strand: Number and algebra
- Sub-strand: Number and place value
- Sub-strand: Fractions and decimals
- Sub-strand: Real numbers
- Sub-strand: Money and financial mathematics
- Sub-strand: Patterns and algebra
- Sub-strand: Linear and non-linear relationships


## Achievement standards

Scope and sequence

- Strand: Measurements and geometry
- Sub-strand: Using units of measurement
- Sub-strand: Shape
- Sub-strand: Location and transformation
- Sub-strand: Geometric reasoning
- Sub-strand: Pythagoras and trigonometry


## Achievement standards

Scope and sequence

- Strand: Statistics and probability
- Sub-strand: Chance
- Sub-strand: Data representation and interpretation


## Context statement

 probability.
 describe how content is explored or developed.
 strategies used and when they compare and contrast ideas and explain their choices.
Links between the various components of mathematics, are made clear and taught as interconnected skills.
 communicators of mathematics.

The South Australian Mathematics Scope and Sequence R-10:

- provides the achievement standards positioned with related strands; number and algebra, measurement and geometry statistics and probability
- makes the relationship between achievement standards and content explicit through listing the achievement standards alongside the relevant content descriptors
- emphasises the progression of skills by highlighting the verbs to emphasise the development of skills across the curriculum
- supports clarity by breaking achievement standards into dot points
- provides the sequence of content and sequence of achievement
- includes content descriptors listed with their associated elaborations.


## Achievement standards

## Strand: Number and algebra


 describe relationships and formulate generalisations. They recognise equivalence and solve equations and inequalities. They apply their number and algebra skills to conduct investigations, solve problems and communicate their
reasoning.

| Reception |
| :--- |
| By the end of reception, <br> students: |

- count to and from 20
- use counting strategies to solve problems using manipulatives
- represent, continue and create simple patterns
- compare and order small collections
- group objects based on common characteristics
- connect number names and numerals with sets of up to 10 elements.

| Year 1 |
| :--- |
| By the end of year 1, students: |

- count to and from 100 and locate these number on a number line
- partition numbers using place value
- carry out simple addition and subtractions using counting strategies
- recognise Australian coins according to their value
- identify representations of one half
- describe number sequences resulting from skip counting by $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10s
- continue simple patterns involving numbers and objects, with and without the use of digital technology.

| Year 2 | Year 3 |
| :--- | :--- |

By the end of year 3, students:

- count and order numbers to and from 10000
- recognise the connection between addition and subtraction
- solve problems using efficient strategies for multiplication, with and without the use of digita technology
- recall addition and multiplication facts for single-digit numbers
- represent money values in various ways and correctly count out change from financial transactions
- model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these, up to one
- classify numbers as either odd or even
- continue number patterns involving addition or subtraction
- explore simple number sequences based on multiples.

Year 4

| Vear 4 | Year 5 |
| :--- | :--- |

- recall multiplication facts to $10 \times 10$ and related division facts
- choose appropriate strategies for calculations involving multiplication and division, with and without the use of digital technology
- solve simple purchasing problems, with and without the use of digital technology
- locate familiar fractions on a number line
- recognise common equivalent fractions in familiar contexts
- make connections between fractions and decimal notations up to two decimal places
- identify and explain strategies for finding unknown quantities in number sentences
- use the properties of odd and even numbers and describe number pattern resulting from multiplication
- continue number sequences involving multiples of single-digit numbers.

Year 5
By the end of year 5, students:

- solve simple problems involving the four operations using a range of strategies, including strategies that use digita technology
- check the reasonableness of answers using estimation and rounding
- identify and describe factors and multiples
- explain plans for simple budgets
- order decimals and unit fractions and locate them on a number line
- add and subtract fractions with the same denominator
- identify and explain strategies for finding unknown quantities in number sentences
- continue patterns by adding or subtracting fractions and decimals.

Year 6
By the end of year 6, students:

- recognise the properties of prime, composite, square and triangular numbers
- solve problems that involve all four operations with whole numbers
- describe the use of integers in everyday contexts
- locate fractions and integers on a number line
- connect fractions, decimals and percentages as different representations of the same number
- solve problems involving the addition and subtraction of related fractions
- calculate a simple fraction of a quantity
- calculate common percentage discounts on sale items, with and without the use of digital technology
- make connections between the powers of 10 and the multiplication and division of decimals
- add, subtract, and multiply decimals and divide decimals where the result is rational
- write number sentences using brackets and order of operations



## Scope and sequence

| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number and place value | Establish understanding of the language and processes of counting. Do this by naming numbers in sequences, initially to and from 20, moving from any starting point: <br> - read stories from other cultures featuring counting in sequence to assist students to recognise ways of counting in local languages and across cultures <br> - identify the number words in sequence, backwards and forwards, and reasoning with the number sequences. This, establishes the language on which subsequent counting experiences can be built <br> - develop fluency with forwards and backwards counting in meaningful contexts, including stories and rhymes <br> - understand that numbers are said in a particular order and there are patterns in the way we say them. | Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by $2 s, 5 s$ and $10 s$ starting from 0 : <br> - use the popular Korean counting game (sam-yuk-gu) for skip counting <br> - develop fluency with forwards and backwards counting in meaningful contexts such as circle games. | Investigate number sequences, initially those increasing and decreasing by $2 \mathrm{~s}, 3 \mathrm{~s}, 5 \mathrm{~s}$ and 10 s from any starting point, then moving to other sequences: <br> - develop fluency and confidence with numbers and calculations by saying number sequences <br> - recognise patterns in number sequences, such as adding 10 always results in the same final digit. | Investigate the conditions required for a number to be odd or even and identify odd and even numbers: <br> - identify even numbers using skip counting by 2 s or by grouping even collections of objects in 2. Repeat for odd numbers <br> - explain why all numbers that end in the digits $0,2,4,6$ and 8 are even and that numbers ending in 1, 3, 5, 7 and 9 are odd. | Investigate and use the properties of odd and even numbers: <br> - use the four operations with: <br> - pairs of odd numbers <br> - pairs of even numbers <br> - one odd and one even number <br> - use the relationships established to check the accuracy of calculations. | Identify and describe factors and multiples of whole numbers and use them to solve problems: <br> - explore factors and multiples using number sequences <br> - use simple divisibility tests. | Identify and describe properties of prime, composite, square and triangular numbers: <br> - understand that some numbers have special properties and that these properties can be used to solve problems <br> - represent composite numbers as a product of their prime factors. Use this form to simplify calculations by cancelling common primes <br> - understand that if a number is divisible by a composite number then it is also divisible by the prime factors of that number. For example 112 is divisible by 8 and hence 112 is also divisible by 2 and 7 . |
|  | Connect number names, numerals and quantities, including 0, initially up to 10 and then beyond: <br> - understand that: each object must be counted only once <br> - the arrangement of objects does not affect how many there are | Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line: <br> - model numbers with a range of material and images <br> - identify numbers that are represented on a number line and place numbers on a | Recognise, model, represent and order numbers to at least 1000: <br> - recognise there are different ways of representing numbers and identifying patterns going beyond 100 <br> - develop fluency with writing numbers in meaningful contexts. | Recognise, model, represent and order numbers to at least 10 000: <br> - place four-digit numbers on a number line using an appropriate scale <br> - reproduce numbers in words using their numerical representations and vice versa. | Recognise, represent and order numbers to at least tens of thousands: <br> - Use place value to recognise and order numbers <br> - reproduce five-digit numbers in words using their numerical representations, and vice versa. | Use estimation and rounding to check the reasonableness of answers to calculations: <br> - recognise the usefulness of estimation to check calculations <br> - apply mental strategies to estimate the result of calculations, such as estimating the cost of a |  |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - the last number counted answers the 'how many' question <br> - use scenarios to help students recognise that other cultures count in a variety of ways, such as the Wotjoballum number systems. | prepared number line. |  |  |  | supermarket trolley load. |  |
|  | Subitise small collections of objects: <br> - use subitising as the basis for ordering and comparing collections of numbers. | Count collections to 100 by partitioning numbers using place value: <br> - understand partitioning of numbers and the importance of grouping in tens <br> - understand two-digit numbers as comprised of tens and ones/units. | Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting: <br> - use an abacus to model and represent numbers <br> - understand threedigit numbers as comprised of hundreds, tens and ones/units <br> - demonstrate and using models such as linking blocks, sticks in bundles, placevalue blocks and Aboriginal bead strings and explaining reasoning. | Apply place value to partition, rearrange and regroup numbers to at least 10000 to assist calculations and solve problems: <br> - recognise that 10000 equals 10 thousands, 100 hundreds, 1000 tens and 10000 ones <br> - justify choices about partitioning and regrouping numbers in terms of their usefulness for particular calculations <br> - partition numbers using place value <br> - introduce ascending and descending and arrange numbers from 'smallest to biggest' and 'biggest to smallest'. | Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems: <br> - use place value to demonstrate the addition and subtraction of numbers <br> - recognise and demonstrating that the place-value pattern is built on the operations of multiplication or division of tens. |  |  |
|  | Compare, order and make correspondences between collections, initially to 20 , and explain reasoning: <br> - compare and order items of like and unlike characteristics using the words 'more', 'less', 'same as' and 'not the same as' and giving reasons for these answers <br> - understand and using terms such as 'first' and 'second' to indicate ordinal position in a sequence <br> - use objects which are personally and | Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts: <br> - develop a range of mental strategies for addition and subtraction problems. | Explore the connection between addition and subtraction: <br> - become fluent with partitioning numbers to understand the connection between addition and subtraction <br> - use counting on to identify the missing element in an additive problem. | Recognise and explain the connection between addition and subtraction: <br> - demonstrate the connection between addition and subtraction using partitioning or by writing equivalent number sentences. <br> Recall addition facts for singledigit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation: <br> - recognise that certain single-digit number | Investigate number sequences involving multiples of $3,4,6$, 7,8 , and 9 : <br> - investigate multiples and patterns in number sequences <br> - recognise that number sequences can be extended indefinitely, and determining any patterns in the sequences. |  | Investigate everyday situations that use integers. Locate and represent these numbers on a number line: <br> - understand that integers are ...-3, -2, $1,0,1,2,3, \ldots .$. <br> - use number lines to show the operations of addition, subtraction, multiplication and division with whole numbers <br> - solve everyday additive problems using a number line <br> - investigate everyday situations that use |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | culturally relevant to students. <br> Represent practical situations to model addition and subtraction: <br> - use a range of practical strategies for adding small groups of numbers, such as visual displays or concrete materials <br> - use Aboriginal and Torres Strait Islander methods of adding, including spatial patterns and reasoning. |  | Solve simple addition and subtraction problems using a range of efficient mental and written strategies: <br> - become fluent with a range of mental strategies for addition and subtraction problems, such as commutativity for addition, building to 10, doubles, 10 facts and adding 10 <br> - model and representing simple additive situations using materials such as 10 frames, 20 frames and empty number lines <br> - Use partitioning as a strategy for addition and subtraction. | combinations always result in the same answer for addition and subtraction, and using this knowledge for addition and subtraction of larger numbers <br> - combine knowledge of addition and subtraction facts and partitioning to aid computation (for example $57+19=57$ $+20-1$ ) <br> establish column addition and column subtraction <br> - establish words for addition such as plus, add, how many, sum, increase, total, <br> - establish words for subtraction such as subtract, less, decrease, difference, takeaway, minus, from, deduct <br> - solve worded problems. |  |  | integers, such as temperatures <br> - use number lines to position and order integers around zero. |
|  |  |  | Recognise and represent multiplication as repeated addition, groups and arrays: <br> - represent array problems with available materials and explain reasoning <br> - visualise a group of objects as a unit and use this to calculate the number of objects in several identical groups. | Recall multiplication facts of 2, 3,5 and 10 and related division facts: <br> - establish multiplication facts using number sequences. | Recall multiplication facts up to $10 \times 10$ and related division facts: <br> - known multiplication facts to calculate related division facts <br> - establish words for multiplication such as multiply, by, times, lots of, and product. |  |  |
|  |  |  | Recognise and represent division as grouping into equal sets and solve simple problems using these representations: <br> - divide the class or a collection of objects | Recognise and represent division as grouping into equal sets and solve simple problems using these representations: <br> - use diagrams or counters to share | Recognise and represent division as grouping into equal sets and solve problems using these representations: <br> - use diagrams or counters to share | Solve problems involving division by a one digit number, including those that result in a remainder: <br> - use the fact that equivalent division calculations result if |  |



| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | materials into 2 equal portions <br> - split an object into 2 equal pieces and describe how the pieces are equal. | partitioned in different ways to demonstrate fractions <br> - relate the number of parts to the size of a fraction. | collections to create $1 / 2,1 / 3,1 / 4$ and $1 / 5$. For example folding the same sized sheets of paper to illustrate different unit fractions and comparing the number of parts with their sizes <br> - locate unit fractions on a number line <br> - establish the terminology numerator, and denominator <br> - Establish the relationship between the concept of division and the line between the numerator and denominator in a fraction <br> - recognise that in English the term ${ }^{1} /{ }^{\prime}$ ' is used (order: numerator, denominator). In other languages like Japanese this concept may be expressed as 'three parts, one of them' (order: denominator, numerator) <br> - explore equal fractions. | the concept of division and the line between the numerator and denominator in a fraction <br> - explore the relationship between families of fractions $(1 / 2 s, 1 / 45$ and $1 / 8$ or $1 / 35$ and $1 / 5$ ) by folding a series of paper strips to construct a fraction wall. | - use the terminology numerator, and denominator <br> - recognise the relationship between the concept of division and the line between the numerator and denominator in a fraction <br> - recognise the connection between the order of unit fractions and their denominators <br> - write fractions in the simplest form <br> - order fractions with different denominators <br> - use and record proper fractions, improper fractions and mixed numbers. | the concept of division and the line between the numerator and denominator in a fraction <br> - write fractions in the simplest form <br> - order fractions with different denominators <br> - use and record proper fractions, improper fractions and mixed numbers <br> - demonstrate equivalence between fractions using drawings and models. |
|  |  |  |  |  | Count by quarters, halves and thirds, including counting with mixed numerals. Locate and represent these fractions on a number line: <br> - convert mixed numbers to improper fractions and vice versa <br> - investigate the use of fractions and sharing as a way of managing Country. For example take no more than half the eggs from a | Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator: <br> - model and solve addition and subtraction problems involving fractions: <br> - using jumps on a number line <br> - making diagrams of fractions as parts of shapes <br> - use manipulative materials to represent the addition and subtraction of fractions. | Solve problems involving addition and subtraction of fractions with the same or related denominators: <br> - explain using manipulative materials to learn parts of wholes to add and subtract fractions. Investigate fractions with the same or related denominator <br> - understand the processes for adding and subtracting fractions with related denominators and fractions as an operator. |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | nest to protect future bird populations. |  | - This is preparation for calculating with all fractions <br> - solve realistic additive (addition and subtraction) problems involving fractions to develop an understanding of equivalent fractions and the use of fractions as operators <br> - explore multiplying or dividing fractions <br> - model and solve additive problems involving fractions: <br> - using methods such as jumps on a number line, <br> - making diagrams of fractions as parts of shapes <br> - describe equal fractions and express fractions in the simplest form. |
|  |  |  |  |  | Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation: <br> - explore place value to see the links between numbers, fractions and decimals <br> - use division by 10 to extend the placevalue system <br> - use manipulatives to demonstrate knowledge of fractions to establish equivalences between fractions and decimal notation | Recognise that the place value system can be extended beyond hundredths: <br> - explore place value to see the links between numbers, fractions and decimals <br> - use knowledge of place value and division by 10 to extend the number system to thousandths and beyond <br> - recognise the equivalence of one thousandths and 0.001 . | Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies: <br> - recognise that finding one third of a quantity is the same as dividing by 3 . |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Compare, order and represent decimals: <br> - locate decimals on a number line. Consider 10 equal divisions and 100 equal divisions <br> - explore rounding decimals using the number line <br> - relate to everyday measures such as thermometer, tape measure, and other measuring tools. | Add and subtract decimals, with and without digital technologies. Use estimation and rounding to check the reasonableness of answers: <br> - Place decimals on a number line <br> - extend wholenumber strategies to explore and develop meaningful written strategies for addition and subtraction of decimal numbers to thousandths <br> - explore and practice efficient methods for solving problems requiring operations on decimals. Do this to gain fluency in calculating with decimals and in recognising appropriate operations. |
|  |  |  |  |  |  |  | Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies: <br> - interpret the results of calculations to provide an answer appropriate to the context. <br> - Multiply and divide decimals by powers of 10 . |
|  |  |  |  |  |  |  | Make connections between equivalent fractions, decimals and percentages: <br> - connect fractions, decimals and percentages as different |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | representations of the same number. <br> Move fluently between representations and choose the appropriate one for the problem being solved <br> - convert between decimals and fractions. |
| Real numbers | This sequence starts at year 7 |  |  |  |  |  |  |
| Money and financial mathematics | Represent simple, everyday financial situations involving money. | Recognise, describe and order Australian coins according to their value: <br> - show that coins are different in other countries by comparing Asian coins to Australian coins <br> - understand that the value of Australian coins is not related to the size <br> - describe the features of coins that make it possible to identify them. | Count and order small collections of Australian coins and notes according to their value: <br> - identify equivalent values in collections of coins or notes, such as 25 -cent coins having the same value as 110 -cent coin <br> - count collections of coins or notes to make up a particular value, such as that shown on a price tag. | Represent money values in multiple ways and count the change required for simple transactions to the nearest 5 cents: <br> - discuss the coins and notes in Australian currency <br> - use coins to practice addition, subtraction, multiplication and division <br> - solve simple worded problems with currency <br> - recognise the relationship between dollars and cents. Recognise that not all countries use these denominations and divisions (for example Japanese Yen). | Solve problems involving purchases and the calculation of change to the nearest 5 cents, with and without digital technologies: <br> - discuss the coins and notes in Australian currency <br> - solve simple worded problems related to currency <br> - recognise that not all countries use dollars and cents (for example India uses rupees) <br> - carry out calculations in another currency as well as in dollars and cents, and identify both as decimal systems. | Create simple financial plans: <br> - create a simple budget for a class fundraising event <br> - identify the GST component of invoices and receipts <br> - solve written problems relating to money and budgeting. | Investigate and calculate percentage discounts of $10 \%$, $25 \%$ and $50 \%$ on sale items, with and without digital technologies: <br> - explore percentage as a fraction out of 100 <br> - convert between percentages and fractions <br> - convert between percentages and decimals <br> - find the percentage of a quantity by converting the percentage to a decimal <br> - express one quantity as a percentage of another <br> - find the percentages of a quantity <br> - use authentic information to calculate prices on sale goods. |
| Patterns and algebra | Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings: <br> - observe natural patterns in the world around us | Investigate and describe number patterns formed by skip-counting and patterns with objects: | Describe patterns with numbers and identify missing elements: <br> - describe a pattern created by skip counting and representing the pattern on a number line | Describe, continue, and create number patterns resulting from performing addition or subtraction: <br> - identify and write the rules for number patterns | Explore and describe number patterns resulting from performing multiplication: <br> - recall number patterns and look for patterns in number sequences <br> - identify examples of number patterns in everyday life. | Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction: <br> - use a number line, diagrams or materials to create patterns involving fractions or decimals | Continue and create sequences involving whole numbers, fractions, and decimals. Describe the rule used to create the sequence: <br> - identify and generalise number patterns <br> - identify sequences involving fractions |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - create and describe patterns using materials, sounds, movements or drawings. | - use place-value patterns beyond the teens to generalise the number sequence and predict the next number <br> - investigate patterns in the number system, such as the occurrence of a particular digit in the numbers to 100 . | - investigate features of number patterns resulting from adding $2 \mathrm{~s}, 5 \mathrm{~s}$ or 10 s . | - describe a rule for a number pattern, then create the pattern. |  | - explore: <br> - number sequences <br> - sequences involving fractions <br> - sequences involving decimals. | - identify sequences involving decimals <br> - investigate additive and multiplicative patterns such as: <br> the number of tiles in a geometric pattern <br> - looking for patterns in the way the numbers increase or decrease <br> - explore finding a rule to describe a pattern. |
|  |  |  | Solve problems by using number sentences for addition or subtraction: <br> - represent a word problem as a number sentence <br> - write a word problem to represent a number sentence. | Solve word problems by using number sentences: <br> - represent a word problem as a number sentence <br> - write a word problem to represent a number sentence. | Solve word problems by using number sentences involving multiplication or division where there is no remainder: <br> - represent a word problem as a number sentence <br> - write a word problem using a given number sentence <br> - illustrate possible solutions to a word problem. |  | Explore the use of brackets and order of operations to write number sentences: <br> - appreciate the need for rules to complete multiple operations within the same number sentence <br> - establish the order of operations. |
|  |  |  |  |  | Find unknown quantities in number sentences involving addition and subtraction. <br> Identify equivalent number sentences involving addition and subtraction: <br> - write number sentences to represent and answer questions such as 'When a number is added to 23 the answer is the same as 57 minus 19 . What is the number?' <br> - use partitioning to find unknown quantities in number sentences. | Find unknown quantities in number sentences involving multiplication and division. <br> Identify equivalent number sentences involving multiplication and division: <br> - use relevant problems to develop number sentences. |  |
| Linear and nonlinear relationships | This sequence starts at year 7 |  |  |  |  |  |  |

## Achievement standards

Strand: Measurement and geometry


 peed and density.

| Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| By the end of reception, students: <br> - compare lengths, masses, and capacities of familiar objects <br> - explain the order and duration of events <br> - match days of the week to familiar events <br> - identify shapes in their environment <br> - sort shapes by their common and distinctive features <br> - describe position and movement. | By the end of year 1, students: <br> - use informal units of measurement to order objects based on length and capacity <br> - tell time to the half-hour and explain time durations <br> - describe two-dimensional shapes and threedimensional objects <br> - use the language of distance and direction to move from place to place. | By the end of year 2, students: <br> - order shapes and objects using informal units <br> - tell time to the quarter hour <br> - identify the date, days, weeks, months, and seasons using a calendar <br> - draw two-dimensional shapes and specify their features <br> - explain the effects of one-step transformations <br> - recognise the features of three-dimensional objects <br> - interpret simple maps of familiar locations. | By the end of year 3, students: <br> - use metric units for length, area, mass and capacity <br> - tell time to the nearest minute <br> - identify symmetry in natural and built environments <br> - use angle size as a measure of turn in everyday situations <br> - make models of threedimensional objects <br> - match positions on maps with given information <br> - create and interpret simple grid maps. | By the end of year 4, students: <br> - compare the areas of regular and irregular shapes using informal units <br> - solve problems involving time duration <br> - use scaled instruments to measure length, angle, area, mass, capacity, and temperature of shapes and objects <br> - convert between units of time <br> - create symmetrical simple and composite shapes and patterns, with and without the use of digital technology <br> - classify angles in relation to a right angle <br> - interpret information contained in maps. | By the end of year 5, students: <br> - choose appropriate units of measurement for length, area, volume, capacity and mass <br> - calculate the perimeter and area of rectangles <br> - convert between 12 and 24-hour time <br> - use a grid reference system to locate landmarks <br> - estimate angles <br> - use protractors and digital technology to construct and measure angles <br> - connect threedimensional objects with their two-dimensional representations <br> - describe transformations of two-dimensional shapes <br> - identify line and rotational symmetry. | By the end of year 6, students: <br> - relate decimals to the metric system <br> - choose appropriate units of measurement to perform a calculation <br> - solve problems involving time, length and area <br> - make connections between capacity and volume <br> - interpret a variety of everyday timetables <br> - solve problems using the properties of angles <br> - investigate simple combinations of transformations with and without the use of digital technology <br> - construct simple prisms and pyramids. |

## Scope and sequence

| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Using units of measurement | Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language: <br> - compare objects directly, by placing one object against another to determine which is longer or by pouring from one container into the other to see which one holds more <br> - use suitable language associated with measurement attributes, such as 'tall' and 'taller', 'heavy' and 'heavier', 'holds more' and 'holds less'. | Measure and compare the lengths and capacities of pairs of objects using uniform informal units: <br> - understand that in order to compare objects, the unit of measurement must be the same size. | Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units: <br> - compare lengths using finger length, hand span or a piece of string <br> - compare areas using the palm of the hand or a stone <br> - compare capacities using a range of containers. | Measure, order and compare objects using familiar metric units of length, mass and capacity: <br> - recognise the importance of using common units of measurement <br> - establish terminology related to length, height, and width, such as short, long, tall, wide, narrow, low, and high <br> - recognise and use centimetres and metres, grams and kilograms, and millilitres and litres <br> - convert between centimetre and metre. <br> Units of measurement for mass: <br> - establish the concept of mass <br> - become familiar with the naming conventions used for measurement such as grams and kilograms <br> - convert between gram and kilogram. <br> Units of measurement for capacity <br> - establish the concept of capacity and the relevant units: <br> - millilitres and litres <br> - convert between millilitres and litres. | Use scaled instruments to measure and compare lengths, masses, capacities and temperatures: <br> - establish the units of measure millimetre, centimetre, metre. <br> - Use rulers and other measurement tools effectively <br> - read and interpreting the graduated scales on a range of measuring instruments to the nearest graduation <br> - estimate and measure lengths, mass, capacity and temperature <br> - convert between millimetre, centimetre and metre. <br> Units of measurement for mass <br> - establish the concept of mass <br> - become familiar with the naming conventions used for measurement such as grams and kilograms <br> - convert between gram and kilogram. <br> Units of measurement for capacity <br> - establish the concept of capacity and the relevant units: <br> - millilitres and litres <br> - convert between millilitres and litres. | Choose appropriate units of measurement for length, area, volume, capacity and mass: <br> - recognise that some units of measurement are better suited for some tasks than others. For example kilometres rather than metres to measure the distance between two towns <br> - identify and use the correct operations when converting units related to length, area, volume, capacity and mass <br> - investigate alternative measures of scale to demonstrate that these vary between countries and change over time. For example, temperature measurement in Australia, Indonesia, Japan and USA. | Connect decimal representations to the metric system: <br> - recognise the equivalence of measurements such as 1.25 metres and 125 centimetres. |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Compare and order duration of events using everyday language of time: <br> - know and identify the days of the week and link specific days to familiar events <br> - sequence familiar events in time order. <br> Connect days of the week to familiar events and actions: <br> - choose events and actions that make connections with students' everyday family routines. | Tell time to the half-hour: <br> - read time on analogue and digital clocks and observe the characteristics of halfhour times. <br> Describe duration using months, weeks, days and hours: <br> - describe the duration of familiar situations such as 'how long is it until we next come to school?'. | Tell time to the quarter-hour, using the language of 'past' and 'to': <br> - describe the characteristics of quarter-past times on an analogue clock, and identify that the small hand is pointing just past the number and the big hand is pointing to the 3 . <br> Name and order months and seasons: <br> - investigate the seasons used by Aboriginal people, comparing them to those used in Western society. Recognise the connection between seasons and weather patterns. <br> Use a calendar to identify the date and determine the number of days in each month: <br> - use calendars to locate specific information: <br> - find a given date on a calendar <br> - say what day it is <br> - identify personally or culturally specific days. | Tell time to the minute and investigate the relationship between units of time: <br> - read times on an analogue clock including the small hand and the big hand <br> - discuss clockwise and anticlockwise directions <br> - recognise there are 60 minutes in an hour and 60 seconds in a minute. | Use 'am' and 'pm' notation and solve simple time problems: <br> - establish telling the time using the am and pm notations and time words <br> - calculate the time spent at school during a normal school day <br> - calculate the time required to travel between two locations <br> - determine arrival time when given a departure time. <br> Convert between units of time: <br> - establish units of time such as seconds, minutes, hours, days, and weeks <br> - identify and use the correct operation for converting units of time. | Compare 12-hour and 24-hour time systems and convert between them: <br> - investigate the ways time was and is measured in different Aboriginal country, such as using tidal change <br> - use units of time such as hours, minutes and seconds <br> - explore analogue time, digital time and time calculations. | Interpret and use timetables: <br> - establish that timetables are tables of information <br> - plan a trip involving one or more modes of public transport <br> - develop a timetable of daily activities. <br> Measure, calculate and compare elapsed time. |
|  |  |  | Compare masses of objects using balance scales: <br> - use balance scales to determine whether the mass of different objects is more, less or about the same. Find out how many marbles are needed to balance a tub of margarine or a carton of milk. |  | Compare objects using familiar metric units of area and volume: <br> - compare areas using grid paper <br> - estimate area <br> - establish the units used to measure area <br> - compare volume using centicubes | Calculate perimeter and area of rectangles using familiar metric units: <br> - explore efficient ways of calculating the perimeters of rectangles such as adding the length and width together and doubling the result | Convert between common metric units of length, mass and capacity: <br> - identify and use the correct operations when converting to a smaller or larger unit: <br> - convert length between millimetres, centimetres, metres, or kilometres |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | - establish the units used to measure volume <br> - recognise that metric units are not the only units used throughout the world, for example measuring the area of floor space using tatami mats (Japan), using squares for room and house area (Australia). | - explore efficient ways of finding the areas of rectangles. | - convert weight between milligrams, grams, kilograms or tonnes <br> - convert capacity between millilitres, litres, kilolitres, or megalitres <br> - recognise the significance of the prefixes in units of measurement. <br> Solve problems involving the comparison of lengths and areas using appropriate units: <br> - recognise and investigating familiar objects using concrete materials and digital technologies. <br> Connect volume and capacity and their units of measurement: <br> - recognise that 1 ml is equivalent to 1 cm 3 <br> - explore the volume of a rectangular prism <br> - convert from volume units to capacity units. |
| Shape | Sort, describe and name familiar two-dimensional shapes and three-dimensional objects in the environment: <br> - sort and describe squares, circles, triangles, rectangles, spheres and cubes. | Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features: <br> - focus on geometric features and describe shapes and objects using everyday words such as 'corners', 'edges' and 'faces'. | Describe and draw two-dimensional shapes, with and without digital technologies: <br> - identify key features of squares, rectangles, triangles, kites, rhombuses and circles, such as: <br> - straight lines <br> - curved lines | Make models of three-dimensional objects and describe key features: <br> - recall two-dimensional shapes squares, rectangles, triangles, kites, rhombuses and circles <br> - explore threedimensional objects | Compare the areas of regular and irregular shapes by informal means: <br> - compare areas using metric units. For example overlay each area with centimetre square grid paper and count the number of squares required to cover each area. | Connect three-dimensional objects with their nets and other two-dimensional representations: <br> - identify the shape and relative position of each face of a solid. Determine the net of the solid, Include prisms and pyramids | Construct simple prisms and pyramids: <br> - consider the history and significance of pyramids from a range of cultural perspectives including China, Korea and Indonesia <br> - explore solids and their cross sections, |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | - counting the edges and <br> - counting the corners. | naming the faces, edges and corners <br> - explore three- <br> dimensional objects such as: <br> - cube <br> - rectangular prism <br> - square based <br> pyramid <br> - triangular based <br> pyramid <br> cylinder <br> - explore the creation of three-dimensional objects using origami, including prisms and pyramids. |  | - represent twodimensional shapes such as photographs, sketches and images created by digital technologies. | including cylinders, triangular prisms, rectangular prisms, hexagonal prisms, cones, and spheres <br> - construct prisms and pyramids from nets, and skeletal models. |
|  |  |  | Describe the features of three-dimensional objects: <br> - identify geometric features such as the number of faces, corners or edges. |  | Compare and describe two-dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies: <br> - establish properties of shapes <br> - identify and create composite shapes that are made up of common twodimensional shapes <br> - create a twodimensional shapes from verbal or written instructions. <br> Explain and compare the geometric properties of twodimensional shapes and threedimensional objects. |  |  |
| Location and transformation | Describe position and movement: <br> - interpret the everyday language of location and direction <br> - between <br> - near <br> - next to <br> - forward <br> - toward <br> - follow and give simple directions to move around obstacles. | Give and follow directions to familiar locations: <br> - understand that people need to give and follow directions to and from a place. This involves turns, direction and distance <br> - understand the meaning and importance of these | Interpret simple maps of familiar locations and identify the relative positions of key features: <br> - understand that we represent objects and their positions on maps to allow us to: <br> - receive directions <br> - give directions <br> - describe place | Create and interpret simple grid maps to show position and pathways: <br> - identify key features of maps <br> - create a map of the classroom or playground. | Use simple scales, legends and directions to interpret information contained in basic maps: <br> - establish the concept of scale and why it is used <br> - identify the scale used on maps of: <br> - cities in Australia <br> - rural areas in Australia <br> - a city in Indonesia | Use a grid reference system to describe locations. Describe routes using landmarks and directional language: <br> - compare aerial views of country, desert paintings and maps with grid references <br> - create a grid reference system for the classroom. Use it to locate objects and | Investigate combinations of translations, reflections and rotations, with and without the use of digital technologies: <br> - Identify lines of symmetry <br> - Identify rotational symmetry <br> - perform combination of translations one after the other |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | words when giving or following instructions: <br> - clockwise <br> - anticlockwise <br> - forward <br> - under <br> - interpret and following directions around familiar locations. | - construct arrangements of objects from a set of directions. |  | - describe the different scales <br> - use directions to find features on a map and explore map references. | describe routes from one object to another. | - design a school or brand logo using transformation of one or more shapes <br> - understand that translations, rotations and reflections can change the position and orientation but not shape or size. |
|  |  |  | Investigate the effect of onestep slides and flips with and without digital technologies: <br> - understand that objects can be moved but changing the position does not alter an object's size or features <br> Identify and describe half and quarter turns: <br> - predict and reproduce a pattern based around half and quarter turns of a shape. Sketch the next element in the pattern. | Identify symmetry in the environment: <br> - identify symmetry in Aboriginal rock carvings or art <br> - identify symmetry in the natural and built environment. | Create symmetrical patterns, pictures and shapes with and without digital technologies: <br> - establish line symmetry and patterns <br> - use stimulus materials like: <br> - the motifs in Central Asian textiles <br> - Tibetan artefacts <br> - Indian lotus designs <br> - Yolngu or Central and Western Desert art. | Describe translations, reflections and rotations of twodimensional shapes. Identify line and rotational symmetries: <br> - identify and describe the line and rotational symmetry of a range of two-dimensional shapes. Use techniques like: <br> - cutting <br> - folding <br> - turning <br> - using digital technologies <br> - identify the effects of transformations on twodimensional shapes by: <br> - flipping <br> - sliding <br> - turning <br> - using digital technologies. | Introduce the Cartesian coordinate system using all four quadrants: <br> - understand that the Cartesian plane provides a graphical or visual way of describing location <br> - explore map references using numbers on the $x$-axis and $y$-axis <br> - establish the origin and its coordinates <br> - describe a point using coordinates <br> - plot points on a set of axes <br> - extend the axes (number lines) to include negative numbers <br> - establish positive and negative coordinates. |
|  |  |  |  |  |  | Apply the enlargement transformation to familiar twodimensional shapes and compare the properties of the original and enlarged shapes: <br> - use digital technologies to enlarge shapes <br> - use a grid system to enlarge a favourite image or cartoon. |  |


| Geometric reasoning |  |  | Identify angles as measures of turn and compare angle sizes in everyday situations: <br> - open doors partially and fully and compare the size of the angles created <br> - recognise that analogue clocks use the turning of arms to indicate time. Compare the size of the angles between the arms in familiar times <br> - discuss hands on the clock with quarter turn, half turn and full turn. | Compare angles and classify them as equal to, greater than, or less than, a right angle: <br> - establish the concept of a right angle in degrees <br> - compare angles that are less than, equal to, or greater than a right angle <br> - create angles and compare them to a right angle using digital technologies. | Estimate, measure and compare angles using degrees. Construct angles using a protractor: <br> - measure and construct angles using both $180^{\circ}$ and $360^{\circ}$ protractors <br> - recognise that angles have arms and a vertex. <br> Recognise that the size of an angle is the amount of turn required to get from one arm to the other. | Investigate angles on a straight line, angles at a point, and vertically opposite angles with and without digital technologies. Use the results to find unknown angles: <br> - identify that an angle is made up of a vertex and two arms <br> - identify the size of a right angle as $90^{\circ}$. Define acute, obtuse, straight and reflex angles <br> - measure, estimate and compare angles in degrees. Classify angles according to their sizes <br> - identify that all angles at a point add up to 360 degrees <br> - identify vertically opposite angles <br> - investigate the use of rotation and symmetry in the diagrammatic representations of kinship relationships of Central and Western Desert people |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pythagoras and trigonometry | This sequence starts at year 9 |  |  |  |  |  |

## Achievement standards

Strand: Statistic and probability

 critically evaluate chance and data concepts and make reasoned judgements and decisions, as well as building skills to critically evaluate statistical information and develop intuitions about data.

| Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| By the end of reception, students: <br> - answer simple questions to collect information <br> - make simple inferences about collected information. | By the end of year 1, students: <br> - describe data displays <br> - ask questions to collect data <br> - draw simple data displays <br> - make simple inferences about collected data <br> - classify the outcomes of simple familiar events. | By the end of year 2, students: <br> - collect data from relevant questions to create lists, tables and picture graphs with and without the use of digital technology <br> - make simple inferences about collected data <br> - use everyday language to describe outcomes of familiar events. | By the end of year 3, students: <br> - carry out simple data investigations using categorical variables <br> - interpret and compare data displays <br> - conduct chance experiments, list possible outcomes, and recognise variations in actual results. | By the end of year 4, students: <br> - describe different methods for data collection and representation, then evaluate their effectiveness <br> - construct data displays from given or collected data, with and without the use of digital technology <br> - list the probabilities of everyday events <br> - identify dependent and independent events. | By the end of year 5, students: <br> - pose questions to gather data <br> - construct various displays that are appropriate for the data, with and without the use of digital technology <br> - compare and interpret different data sets <br> - list outcomes of chance experiments with equally likely outcomes <br> - assign probabilities as a number from 0 to 1. | By the end of year 6, students: <br> - interpret and compare a variety of data displays including those for two categorical variables <br> - analyse and evaluate data from secondary sources <br> - compare observed and expected frequencies of events <br> - specify, list and communicate the probability of events using simple ratios, fractions, decimals and percentages. |

## Scope and sequence

| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chance |  | Identify outcomes of familiar events involving chance. Describe them using everyday language such as 'will happen', 'won't happen' or 'might happen': <br> - justify that some events are certain or impossible. | Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible': <br> - classify a list of everyday events according to how likely they are to happen. Use the language of chance and explaining reasoning. | Conduct chance experiments, identify and describe possible outcomes and recognise variation in results: <br> - use outcome terminology such as 'likely', ‘unlikely', 'certain' or 'impossible' <br> - conduct repeated trials of chance experiments such as tossing a coin or drawing a ball from a bag. Identify the variations between trials. | Describe possible everyday events and order their chances of occurring: <br> - use lists of events familiar to students and order them from 'least likely' to 'most likely' to occur <br> - investigate the chances of events occurring and assign probabilities such as 50\%. | List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions: <br> - comment on the likelihood of winning simple games of chance. Consider the number of possible outcomes and the chance of winning. Use simple games of chance such as jan-ken-pon (rock-paperscissors). | Describe probabilities using fractions, decimals and percentages: <br> - record the probabilities of outcomes between 0 and 1. Establish that all outcomes of an event added together equal 1 <br> - establish the probability of certain events and impossible events <br> - investigate games of chance popular in different cultures. Evaluate the relative benefit to the organisers and participants (for example Pachinko) <br> - calculate the probabilities where possible outcomes are equally likely. |
|  |  |  |  |  | Identify everyday events where one cannot happen if the other happens: <br> - use examples such as weather which cannot be dry and wet at the same time | Recognise that probabilities range from 0 to 1 : <br> - investigate the probabilities of all outcomes for a simple chance experiment. Verify that the sum of all probabilities equals 1. | Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies: <br> - conduct repeated trials of chance experiments, identifying the variation between trials. Realise that the results tend to the prediction with larger numbers of trials. |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Identify events where the chance of one will not be affected by the occurrence of the other: <br> - explain why the probability of a new baby being either a boy or a girl does not depend on the sex of the previous baby. |  | Compare observed frequencies across experiments with expected frequencies: <br> - predict likely outcomes from a run of chance events. Distinguish these from surprising results. |
| Data representation and interpretation | Answer yes or no questions to collect information and make simple inferences: <br> - pose questions about themselves, familiar objects, and events <br> - represent question responses using simple displays, like grouping students according to their answers <br> - use data displays to answer simple questions such as 'how many students answered 'yes' to having brown hair?'. | Choose simple questions, gather responses, and make simple inferences: <br> - determine which questions will gather appropriate responses for a simple investigation. | Identify a question of interest based on one categorical variable. Gather data relevant to the question: <br> - determine the variety of birdlife in the playground and use a prepared table to record observations. | Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording: <br> - plan investigations that involve collecting data and refine the questions. For example narrowing the focus of a question from 'which is the most popular breakfast cereal?' to 'which is the most popular breakfast cereal from the following options. | Select and trial methods for data collection, including survey questions and recording sheets: <br> - introduce the importance of recoding data and using a table <br> - compare the effectiveness of different methods of collecting data <br> - establish ways to record data that is collected <br> - choose the most effective way to collect data for a given investigation. | Pose questions and collect categorical or numerical data by observation or survey: <br> - establish the two types of data: <br> - categorical data - numerical data <br> - pose questions about insect diversity in the playground. Collect data by taping a one-metresquare piece of paper to the playground and observe the type and number of insects on it over time. | Construct, interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables: <br> - establish the types of data: <br> - categorical data <br> - numerical data <br> - compare different student-generated diagrams, tables and graphs. Describe their similarities and differences and comment on the usefulness of each representation for interpreting that specific data <br> - understand that data can be represented in different ways, sometimes with one symbol representing more than one piece of data. Understand that it is important to read all the information about a representation before making judgements <br> - establish the mean or average in a set of data <br> - Establish the meanings in |


| Sub-strand | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Organise the answers to yes or no questions into simple data displays that use objects and drawings. | Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays: <br> - understand one-to-one correspondence <br> - describe displays by identifying categories with the greatest or least number of objects. | Collect, check and classify data: <br> - recognise the usefulness of tally marks <br> - identify categories of data and use them to sort data. | Collect data, organise it into categories and create displays using lists, tables, picture graphs and simple column graphs. Do this with and without the use of digital technologies: <br> - explore meaningful and increasingly efficient ways to record data. Represent and report the results of investigations <br> - collect data to investigate features in the natural environment. | Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs, and picture graphs where one picture can represent many data values: <br> - introduce the importance of labelling graphs <br> - explore ways of presenting data and showing the results of investigations <br> - investigate data displays using many-to-one correspondence. | Construct displays that are appropriate for the data, with and without the use of digital technologies. Include column graphs, dot plots, and tables: <br> - identify the best method of presenting data to illustrate the results of an investigation. Justify the choice of representation. | Interpret secondary data presented in digital media and elsewhere: <br> - investigate and discuss data representations in the media and consider what the author wanted to convey <br> - identify potentially misleading data representations in the media like: <br> - graphs with broken axes <br> - non-linear scales <br> - graphics not drawn to scale <br> - claims made using data that is not related to the claim. |
|  |  |  | Create displays of data using lists, tables, and picture graphs, then interpret them: <br> - create picture graphs to represent data using one-to-one correspondence <br> - compare the usefulness of different data displays. | Interpret and compare data displays: <br> - compare various student-generated data representations and describe their similarities and differences. | Evaluate the effectiveness of different displays in illustrating data features including variability: <br> - interpret data representations in the media and other forums in which symbols represent more than one data value <br> - suggest questions that can be answered by a given data display. Use the display to answer questions. | Describe and interpret different data sets in context: <br> - use and comparing data representations for different data sets to help decision making. | Pose and refine questions to collect categorical or numerical data by observation or survey. |

