The Australian Curriculum

Subjects	Mathematics
Year levels	Year 5

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Year 5 Content Descriptions

Number and Algebra

Number and place value

Identify and describe factors and multiples of whole numbers and use them to solve problems (ACMNA098 - Scootle)

Elaborations

exploring factors and multiples using number sequences

using simple divisibility tests

Use estimation and rounding to check the reasonableness of answers to calculations (ACMNA099 - Scootle)

Elaborations

recognising the usefulness of estimation to check calculations

applying mental strategies to estimate the result of calculations, such as estimating the cost of a supermarket trolley load

Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies (ACMNA100 - Scootle)

Elaborations

exploring techniques for multiplication such as the area model, the Italian lattice method or the partitioning of numbers

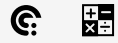
applying the distributive law and using arrays to model multiplication and explain calculation

strategies

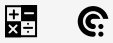
Solve problems involving division by a one digit number, including those that result in a remainder (ACMNA101 - Scootle)

Elaborations

using the fact that equivalent division calculations result if both numbers are divided by the same factor



interpreting and representing the remainder in division calculations sensibly for the context



Use efficient mental and written strategies and apply appropriate digital technologies to solve problems (ACMNA291 - Scootle)

Elaborations

using calculators to check the reasonableness of answers

Fractions and decimals

Compare and order common unit fractions and locate and represent them on a number line (ACMNA102 - Scootle)

Elaborations

recognising the connection between the order of unit fractions and their denominators

Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator (ACMNA103 - Scootle)

Elaborations

modelling and solving addition and subtraction problems involving fractions by using jumps on a number line, or making diagrams of fractions as parts of shapes

Recognise that the place value system can be extended beyond hundredths (ACMNA104 - Scootle)

Elaborations

using knowledge of place value and division by 10 to extend the number system to thousandths and beyond

recognising the equivalence of one thousandths and 0.001

Compare, order and represent decimals (ACMNA105 - Scootle)

Elaborations

locating decimals on a number line

Money and financial mathematics

Create simple financial plans (ACMNA106 - Scootle)

Elaborations

creating a simple budget for a class fundraising event

identifying the GST component of invoices and receipts

Patterns and algebra

Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction (ACMNA107 - Scootle)

Elaborations

using the number line or diagrams to create patterns involving fractions or decimals

Find unknown quantities in number sentences involving multiplication and division and identify equivalent number sentences involving multiplication and division (ACMNA121 - Scootle)

Elaborations

using relevant problems to develop number sentences

Measurement and Geometry

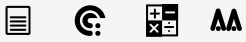
Using units of measurement

Choose appropriate units of measurement for length, area, volume, capacity and mass (ACMMG108 - Scootle)

Elaborations

recognising 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

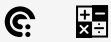
investigating alternative measures of scale to demonstrate that these vary between countries and change over time, for example temperature measurement in Australia, Indonesia, Japan and USA



Calculate perimeter and area of rectangles using familiar metric units (ACMMG109 - Scootle)

Elaborations

exploring efficient ways of calculating the perimeters of rectangles such as adding the length and width together and doubling the result



exploring efficient ways of finding the areas of rectangles

Compare 12- and 24-hour time systems and convert between them (ACMMG110 - Scootle)

Elaborations

investigating the ways time was and is measured in different Aboriginal Country, such as using tidal change

using units hours, minutes and seconds

Shape

Connect three-dimensional objects with their nets and other two-dimensional representations (ACMMG111 - Scootle)

Elaborations

identifying the shape and relative position of each face of a solid to determine the net of the solid, including that of prisms and pyramids

representing two-dimensional shapes such as photographs, sketches and images created by digital technologies

Location and transformation

Use a grid reference system to describe locations. Describe routes using landmarks and directional language (ACMMG113 - Scootle)

Elaborations

comparing aerial views of Country, desert paintings and maps with grid references

creating a grid reference system for the classroom and using it to locate objects and describe routes from one object to another

Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries (ACMMG114 - Scootle)

Elaborations

identifying and describing the line and rotational symmetry of a range of two-dimensional shapes, by manually cutting, folding and turning shapes and by using digital technologies

identifying the effects of transformations by manually flipping, sliding and turning two-dimensional shapes and by using digital technologies

Apply the enlargement transformation to familiar two dimensional shapes and explore the properties of the resulting image compared with the original (ACMMG115 - Scootle)

Elaborations

using digital technologies to enlarge shapes

using a grid system to enlarge a favourite image or cartoon

Geometric reasoning

Estimate, measure and compare angles using degrees. Construct angles using a protractor (ACMMG112 - Scootle)

Elaborations

measuring and constructing angles using both 180° and 360° protractors

recognising that angles have arms and a vertex, and that size is the amount of turn required for one arm to coincide with the other

Statistics and Probability

Chance

List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions (ACMSP116 - Scootle)

Elaborations

commenting on the likelihood of winning simple games of chance by considering the number of possible outcomes and the consequent chance of winning in simple games of chance such as jan-ken-pon (rock-paper-scissors)

Recognise that probabilities range from 0 to 1 (ACMSP117 - Scootle)

Elaborations

investigating the probabilities of all outcomes for a simple chance experiment and verifying that their sum equals 1

Data representation and interpretation

Pose questions and collect categorical or numerical data by observation or survey (ACMSP118 - Scootle)

Elaborations

posing questions about insect diversity in the playground, collecting data by taping a one-metre-square piece of paper to the playground and observing the type and number of insects on it over time

Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies (ACMSP119 - Scootle)

Elaborations

identifying the best methods of presenting data to illustrate the results of investigations and justifying the choice of representations

Describe and interpret different data sets in context (ACMSP120 - Scootle)

Elaborations

using and comparing data representations for different data sets to help decision making