Level 3

Mathematics

Mathematics Level Description

In Level 3, students increasingly use mathematical terms and symbols to describe computations, measurements and characteristics of objects.

Students recognise, model and order numbers to at least 10 000 and place four digit numbers on a number line with regard for scale. They partition and re-arrange to facilitate calculations involving addition and subtraction. Students have facility with single digit addition and related subtraction facts, and recall multiplication and related division facts for twos, threes, fives and tens. They formulate and solve simple multiplication and division problems, estimate answers and use technology to check calculations. Students group money to a specified value in several ways, and calculate change required in simple transactions. They model and represent multiples of unit fractions up to a whole, using arrays on a number line. They write simple rules for number patterns and generate those patterns.

Students use metric units of length, mass and capacity to measure, order and compare objects. They associate angle with measure of turn and compare angles in everyday situations. They tell the time in minutes and convert between units of time. They use simple grids in maps and identify symmetry.

Students carry out investigations, collect and organise data into categories and use different methods with and without technology to display the data. They conduct experiments involving chance, describe possible outcomes and recognise variability in results.

Mathematics Content Descriptions

Number and Algebra

Number and place value

Investigate the conditions required for a number to be odd or even and identify odd and even numbers (VCMNA129)

Recognise, model, represent and order numbers to at least 10 000 (VCMNA130)

Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (VCMNA131)

Recognise and explain the connection between addition and subtraction (VCMNA132)

Measurement and Geometry

Using units of measurement

Measure, order and compare objects using familiar metric units of length, area, mass and capacity (VCMMG140)

Tell time to the minute and investigate the relationship between units of time (VCMMG141)

Shape

Make models of three-dimensional objects and describe key features (VCMMG142)

Statistics and Probability

Chance

Conduct chance experiments, identify and describe possible outcomes and recognise variation in results (VCMSP147)

Data representation and interpretation

Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording (VCMSP148)

Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and

Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (VCMNA133)

Recall multiplication facts of two, three, five and ten and related division facts (VCMNA134)

Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (VCMNA135)

Fractions and decimals

Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole (VCMNA136)

Money and financial mathematics

Represent money values in multiple ways and count the change required for simple transactions to the nearest

five cents (VCMNA137)

Patterns and algebra

Describe, continue, and create number patterns resulting from performing addition or subtraction (VCMNA138)

Use a function machine and the inverse machine as a model to apply mathematical rules to numbers or shapes (VCMNA139)

Location and transformation

Create and interpret simple grid maps to show position and pathways (VCMMG143)

Identify symmetry in the environment (VCMMG144)

Identify and describe slides and turns found in the natural and built environment (VCMMG145)

Geometric reasoning

Identify angles as measures of turn and compare angle sizes in everyday situations (VCMMG146)

column graphs, with and without the use of digital technologies (VCMSP149)

Interpret and compare data displays (VCMSP150)

Mathematics Achievement Standard

Number and Algebra

Students count and order numbers to and from 10 000. They recognise the connection between addition and subtraction, and solve problems using efficient strategies for multiplication with and without the use of digital technology. Students recall addition and multiplication facts for single-digit numbers. They represent money values in various ways and correctly count out change from financial transactions. Students model and represent unit fractions for halves, thirds, quarters, fifths and eighths, and multiples of these up to one. They classify numbers as either odd or even, continue number patterns involving addition or subtraction, and explore simple number sequences based on multiples.

Measurement and Geometry

Students use metric units for length, area, mass and capacity. They tell time to the nearest minute. Students identify symmetry in natural and constructed environments. They use angle size as a measure of turn in real situations and make models of three-dimensional objects. Students match positions on maps with given information and create simple maps.

Statistics and Probability

Students carry out simple data investigations for categorical variables. They interpret and compare data displays. Students conduct chance experiments, list possible outcomes and recognise variations in results.