Mathematics

Year 1
Above satisfactory

WORK SAMPLE PORTFOLIO

Annotated work sample portfolios are provided to support implementation of the Foundation – Year 10 Australian Curriculum.

Each portfolio is an example of evidence of student learning in relation to the achievement standard. Three portfolios are available for each achievement standard, illustrating satisfactory, above satisfactory and below satisfactory student achievement. The set of portfolios assists teachers to make on-balance judgements about the quality of their students' achievement.

Each portfolio comprises a collection of students' work drawn from a range of assessment tasks. There is no pre-determined number of student work samples in a portfolio, nor are they sequenced in any particular order. Each work sample in the portfolio may vary in terms of how much student time was involved in undertaking the task or the degree of support provided by the teacher. The portfolios comprise authentic samples of student work and may contain errors such as spelling mistakes and other inaccuracies. Opinions expressed in student work are those of the student.

The portfolios have been selected, annotated and reviewed by classroom teachers and other curriculum experts. The portfolios will be reviewed over time.

ACARA acknowledges the contribution of Australian teachers in the development of these work sample portfolios.

THIS PORTFOLIO: YEAR 1 MATHEMATICS

This portfolio provides the following student work samples:

Sample 1   Number: Skip counting

Sample 2   Number: One half

Sample 3   Number: Money mind map

Sample 4   Geometry: 2D

Sample 5   Statistics: Our fruit today

Sample 6   Number: I dropped my counters

Sample 7   Number: What is the number?

Sample 8   Number: Growing patterns

Sample 9   Statistics: Familiar events

Sample 10   Measurement: Time

Sample 11   Geometry: Direction

This portfolio of student work shows an ability to describe the properties of 2D shapes (WS4), represent addition and subtraction (WS6, WS3) and skip count (WS1). The student models and compares representations of a half (WS2). The student uses concrete objects to describe locations (WS11) and position, and to continue a pattern (WS8). The student describes, collects and displays data (WS5 and WS9) and recognises Australian coins and their value (WS3). The student tells the time to the half hour (WS2) and shows how two-digit numbers can be partitioned (WS7).

Mathematics

Number: Skip counting

Year 1 Mathematics achievement standard

The parts of the achievement standard targeted in the assessment task are highlighted.

> *By the end of Year 1, students describe number sequences resulting from skip counting by 2s, 5s and 10s.* *They identify representations of one half. They recognise Australian coins according to their value. Students explain time durations. They describe two-dimensional shapes and three-dimensional objects. Students describe data displays.*

> *Students count to and from 100 and locate numbers on a number line.* *They carry out simple additions and subtractions using counting strategies. They partition numbers using place value. They continue simple patterns involving numbers and objects. Students order objects based on lengths and capacities using informal units. They tell time to the half hour. They use the language of direction to move from place to place. Students classify outcomes of simple familiar events. They collect data by asking questions and draw simple data displays.*
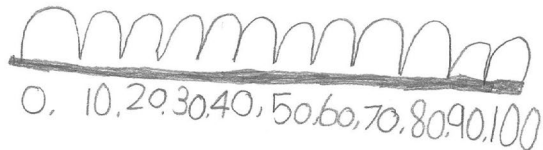
Summary of task

Students were given a number line. They chose a number to start and then demonstrated how they would skip count to reach another number.

Mathematics

Number: Skip counting

2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50

0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

0, 10, 20, 30, 40, 50,

3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 50

Annotations

Skip counts by 2s, 3s, 5s and 10s.

Mathematics

Number: One half

Year 1 Mathematics achievement standard

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Students count to and from 100 and locate numbers on a number line. They carry out simple additions and subtractions using counting strategies. They partition numbers using place value. They continue simple patterns involving numbers and objects. Students order objects based on lengths and capacities using informal units. They tell time to the half hour. They use the language of direction to move from place to place. Students classify outcomes of simple familiar events. They collect data by asking questions and draw simple data displays.

Summary of task

Students were given a number of different items and were asked to show how they would use them to demonstrate one half. They were asked to relate their knowledge of 'half' to half-hour time on an analog clock.
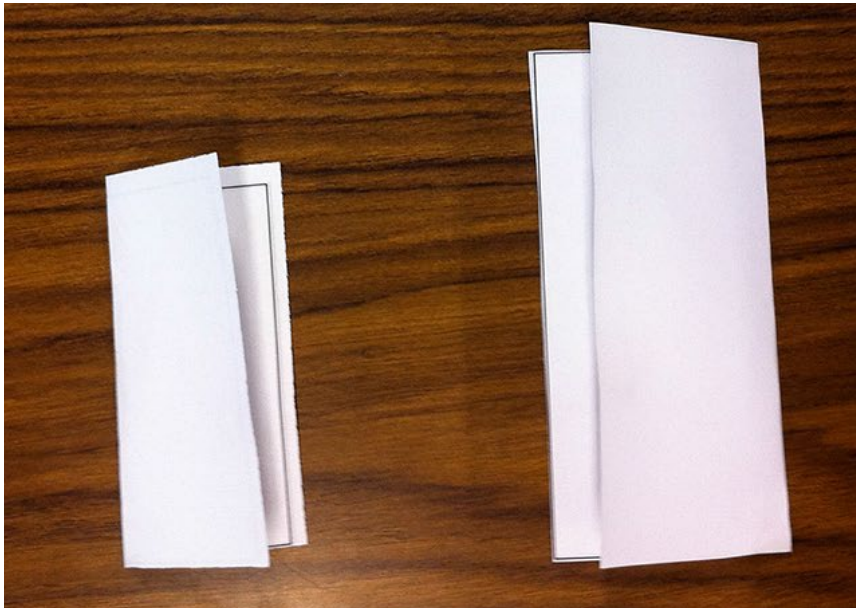
Mathematics

Number: One half

Annotations

Folds rectangular objects to model half.

Demonstrates understanding of the concept of one half using length to compare parts directly by placing one next to the other and aligning the ends.

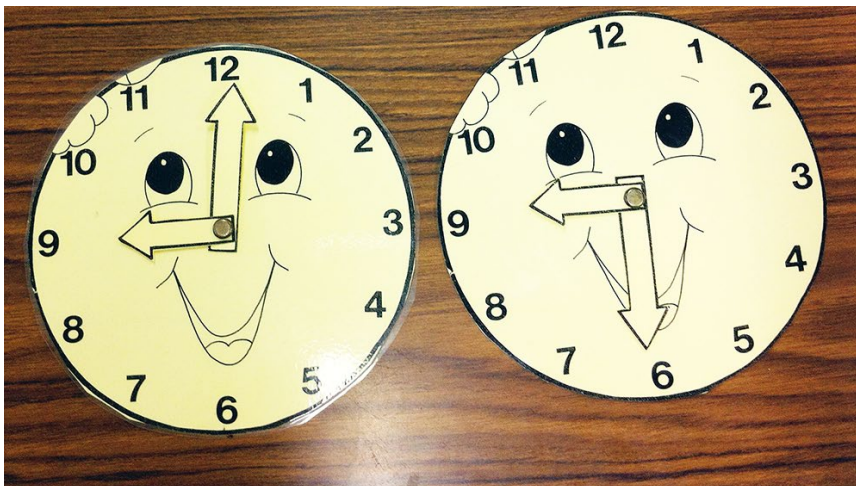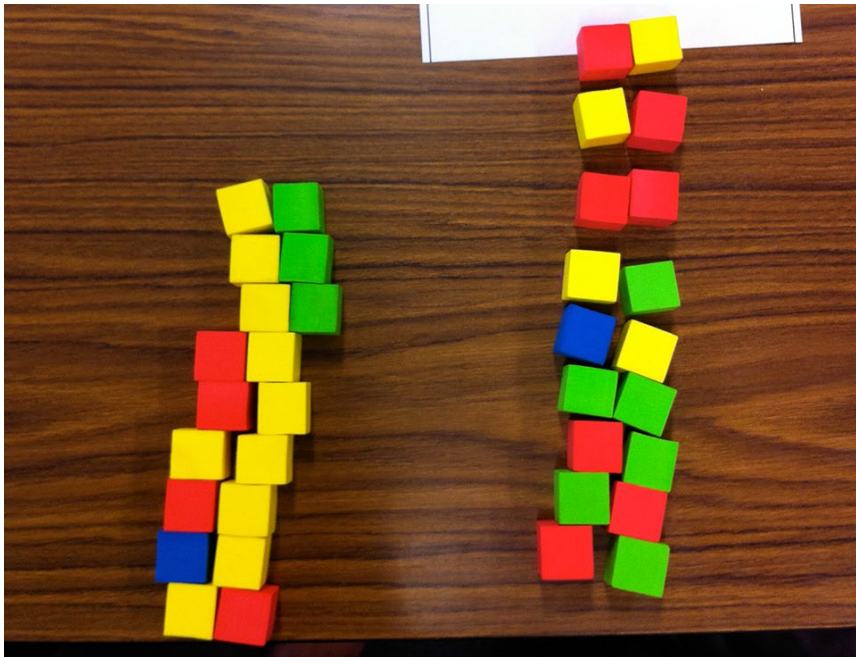acara AUSTRALIAN CURRICULUM, ASSESSMENT AND REPORTING AUTHORITY

Mathematics

Year 1
Above satisfactory

Number: One half

Annotations

Shares a collection of objects into two equal parts or halves.

Arranges each part of the collection into nine rows of two.

Tells time to the hour when asked to show 9 o'clock on an analog clock.

Places the minute hand in the correct position to show half-hour time on an analog clock but incorrectly positions the hour hand.

Mathematics

Number: Money mind map

Year 1 Mathematics achievement standard

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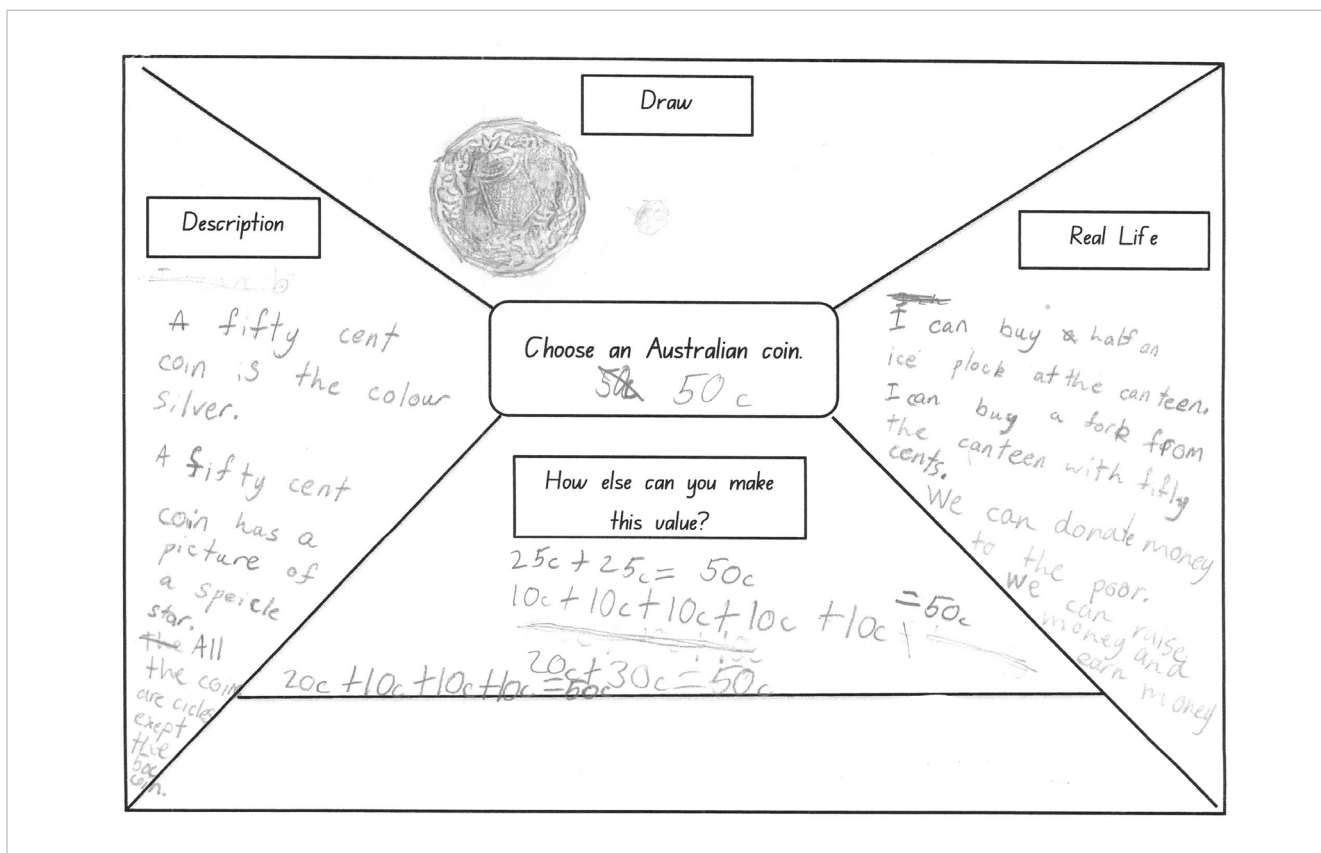
Summary of task

A unit on money and financial mathematics was taught for a period of two weeks in conjunction with number and place value. Students had experienced mind maps and a class shop in other learning areas. Students selected an Australian coin, described it and identified what could be bought with it. For the second part of the task students were given $1.00 to spend at the class shop and had to calculate as many different combinations of items they could buy as possible.

Mathematics

Year 1
Above satisfactory

Number: Money mind map

Draw

Description

Real Life

A fifty cent coin is the colour silver.

A fifty cent coin has a picture of a spercile star. All the coin are circles exept the 50c coin.

Choose an Australian coin.
50c

I can buy a half an ice plock at the can teen. I can buy a fork from the canteen with fifty cents. We can donate money to the poor. we can raise money and earn money

How else can you make this value?

$25c + 25c = 50c$

$10c + 10c + 10c + 10c + 10c = 50c$

$20c + 10c + 10c + 10c = 50c$ $20c + 30c = 50c$

Annotations

Describes a number of features of coins that make it possible to identify them.

Traces an accurate representation of an Australian coin.

Recognises the functionality of money.

Recognises that total amounts can be made using different denominations.

Mathematics

Number: Money mind map

Annotations

Use the symbols for plus (+) and equals (=).

Records number sentences using numerals and mathematical symbols.

Calculates eight different combinations of items that can be purchased for one dollar.

Uses a range of mental strategies and recording methods for addition involving one-and two-digit numbers.

Mathematics

Geometry: 2D

Year 1 Mathematics achievement standard

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Students count to and from 100 and locate numbers on a number line. They carry out simple additions and subtractions using counting strategies. They partition numbers using place value. They continue simple patterns involving numbers and objects. Students order objects based on lengths and capacities using informal units. They tell time to the half hour. They use the language of direction to move from place to place. Students classify outcomes of simple familiar events. They collect data by asking questions and draw simple data displays.

Summary of task

The students had completed a unit of work on two-dimensional shapes and had been taught how to use the photograph application Comic Touch to apply special effects. Students had completed an artwork for their school art show and they were given a photograph of the artwork and asked to use Comic Touch to record as many things about the 2D shapes and lines that they could. Students were given approximately 30 minutes to complete the task.

Mathematics

Geometry: 2D

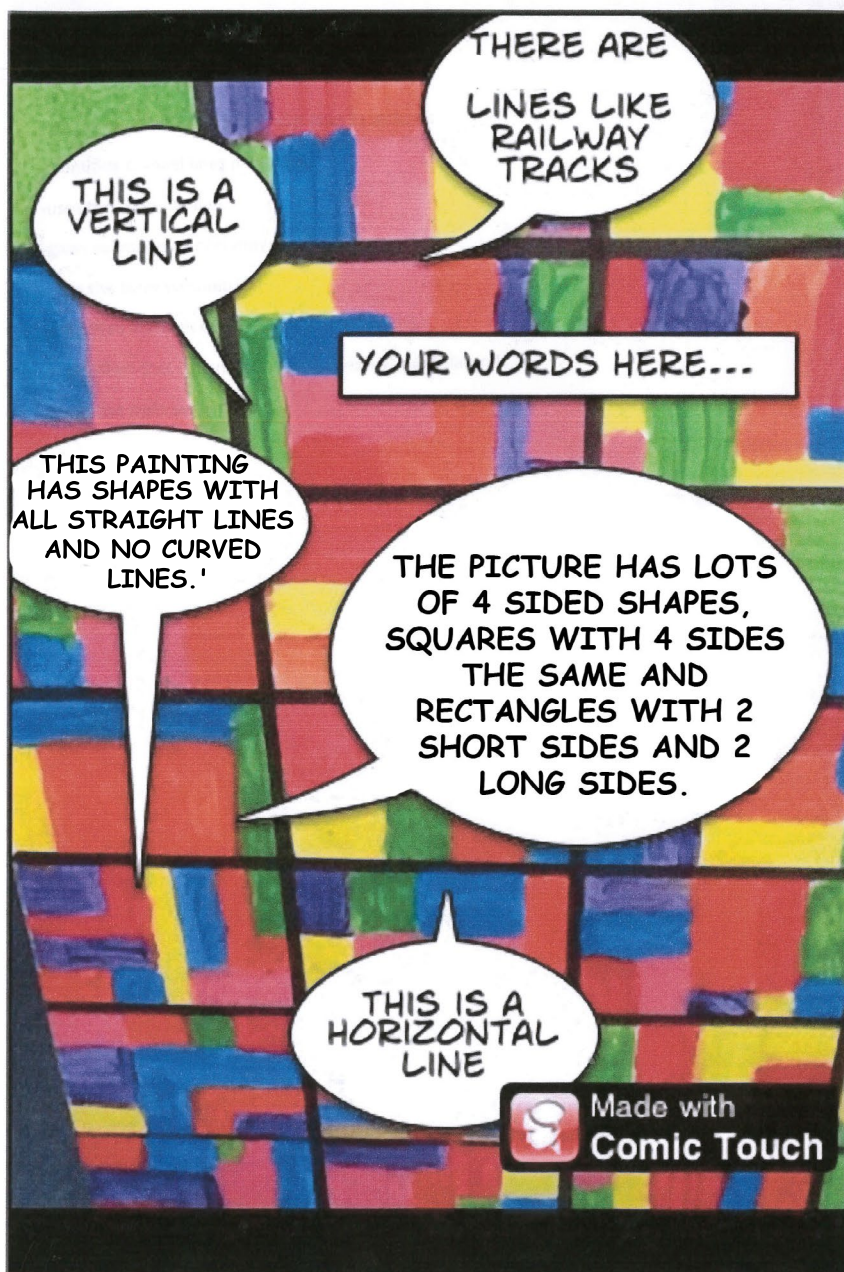Comic Touch application image used with permission of plasq, www.plasq.com.

Annotations

Identifies parallel lines in pictures.

Demonstrates an understanding of straight and curved lines.

Describes features of two-dimensional shapes identifying features of the difference between rectangles and squares.

Mathematics

Statistics: Our fruit today

Year 1 Mathematics achievement standard

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Summary of task

Students discussed what fruit they had brought to school. They looked at different ways of showing how to describe the fruit and were asked to draw the displays.

Mathematics

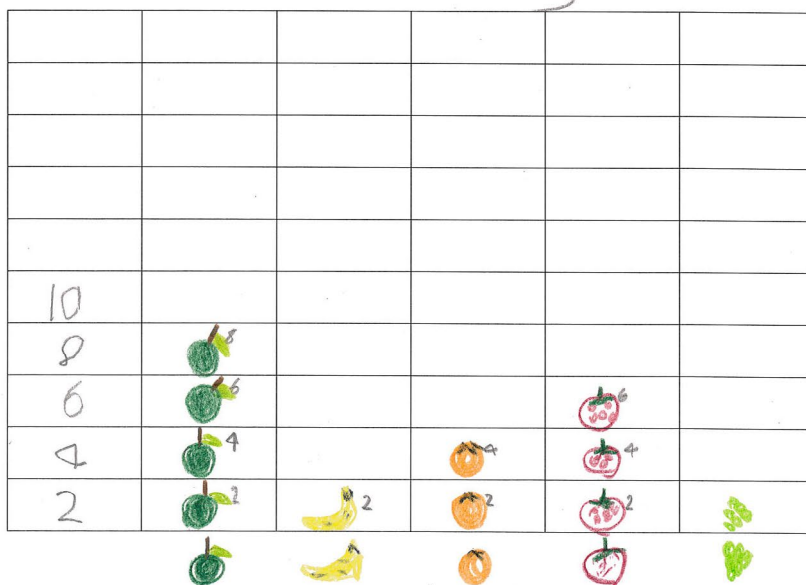## Statistics: Our fruit today

Annotations

Data and Graphs

1. Investigate which fruits were brought to school today by our class for recess. Show this using tally marks in the table below.

Fruit	Tally Marks	Total
🍏	⦀⦀⦀ ⦀⦀⦀	8
🍌	⦀⦀	2
🍊	⦀⦀⦀⦀	4
🍓	⦀⦀⦀⦀⦀ ⦀	6
🍇	⦀⦀	2

Gathers data.

Tracks data using tally marks.

Records data in a table and correctly totals the tally marks.

2. Show your data on a picture graph. Make sure you include all the information you need.

Our fruit today

Transfers data from a table into a picture graph using many-to-one correspondence where one picture represents two data values.

Mathematics

Number: I dropped my counters

Year 1 Mathematics achievement standard

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Summary of task

Students were given a bundle of counters to hold in their hand. They were asked to drop some of the counters and then figure out how many were on the floor and how many were still in their hand. They described their results both numerically and with a picture. Some prompts were given to those students who were unable to use any strategies to describe the number of counters they had in mathematical terms.

Mathematics

Number: I dropped my counters

Annotations

Represents and solves addition and subtraction problems involving two-digit numbers using diagrams.

Recognises that together the number of counters dropped plus the number of counters in their hand gives the starting number of counters.

Writes a number sentence involving two two-digit numbers to match the problem and their diagram.

Mathematics

Number: What is the number?

Year 1 Mathematics achievement standard

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Summary of task

The unit number and place value was taught in semester one and two. Students had experienced open-ended problems. Students had experienced this problem previously and understood the language of 'more', 'two-digit' and 'pattern'.

Students were given the open-ended problem: 'A two-digit number has more tens than ones; what could the number be?' Students had concrete material on the table to access if required. The teacher explained and modelled the task to the students. Students were given 20 minutes to complete the task.

Mathematics

Year 1
Above satisfactory

Number: What is the number?

What is the NUMBER???

A two digit number has more tens than ones.

What could the number be?
Show how you know your number is correct.

Can you think of other two digit numbers that have more tens than ones?
Show how you know your numbers are correct.
Can you find a pattern?

Annotations

Understands partitioning of numbers using place value.

Justifies an answer.

Models numbers with diagrams showing groups of tens.

States the place value of digits in two-digit numbers.

Chooses an appropriate strategy to solve the problem.

Identifies and describes how the pattern is made.

Mathematics

Number: Growing patterns

Year 1 Mathematics achievement standard

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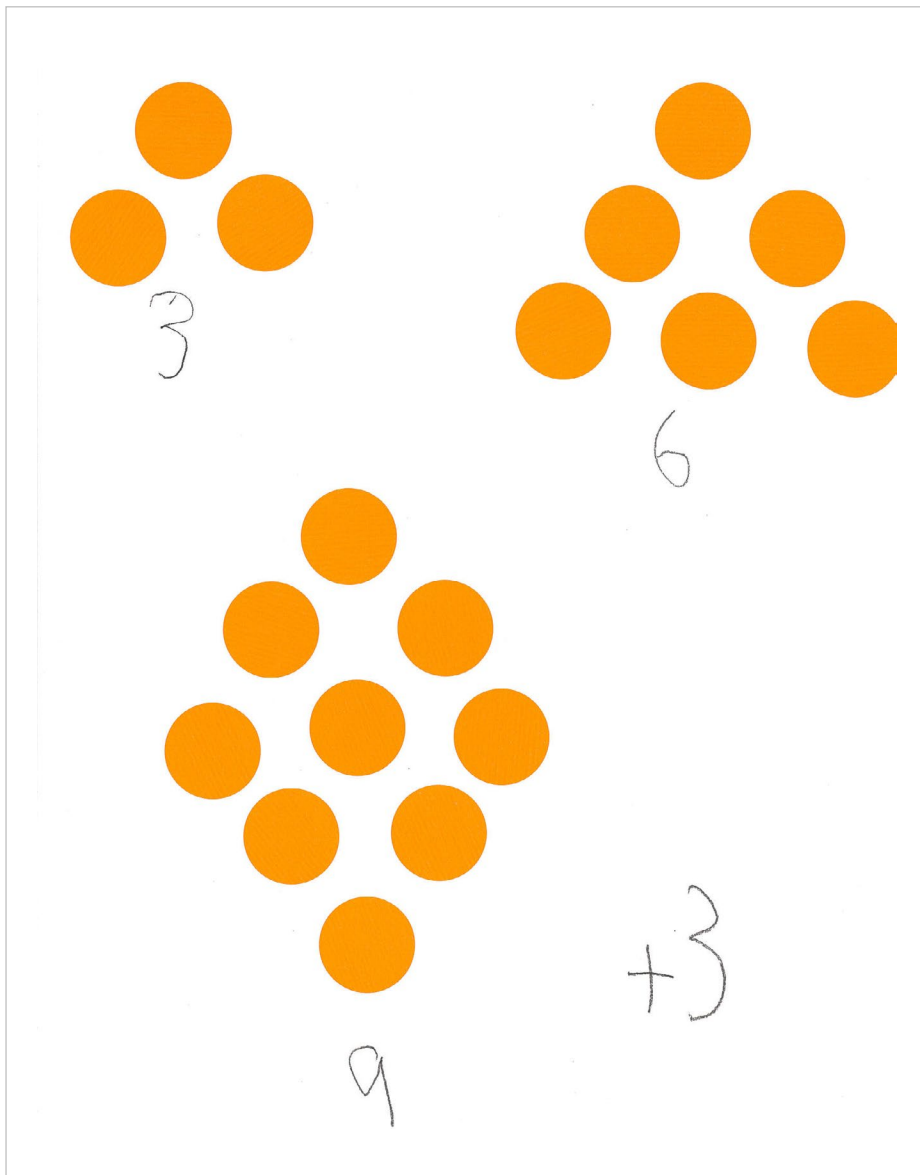
Summary of task

Students were asked to use objects to continue a given pattern of a number sequence.

Mathematics

Number: Growing patterns

Annotations

Creates an increasing number pattern using objects and skip counting by 3s.

Records the number pattern using numerals.

Arranges objects into a distinct visual pattern.

Uses symbolic notation to represent a number sequence.

Mathematics

Statistics: Familiar events

Year 1 Mathematics achievement standard

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Summary of task

Students had discussed things which are familiar events in their day-to-day lives. They were asked to complete a worksheet linking familiar events to display their information.
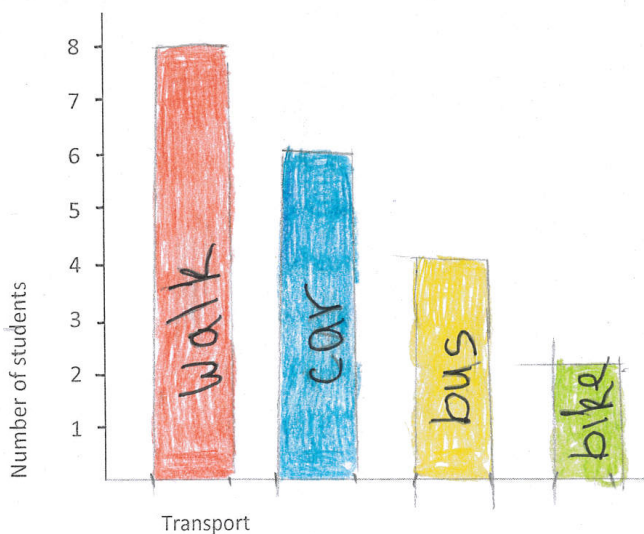
Mathematics

Statistics: Familiar events

1. What time do you get up on school days? _7am_

2. What time do you get up on weekends? _8am_

3. What transport do you use to get to school? _walk and car_

   WALK   CAR   BUS   BIKE

4. What time do you have dinner? _7pm_

5. What time do you go to bed? _8:30 pm_

From the class results below, draw bar chart of the results. Describe how you compare with the class.

Transport	Number of students
WALK	8
CAR	6
BUS	5
BIKE	2

On the diagram colour the columns.

WALK – RED
CAR – BLUE
BUS – YELLOW
BIKE - GREEN

Annotations

Differentiates between weekends and weekdays.

Recognises that even when travelling by car there is still some walking to be done to get from the car to the school.

Differentiates the time of events and tells the time to the half hour.

Displays data as a column graph with evenly-spaced columns of equal width which mostly matches the data in the table.

Labels the columns with the correct categories.

Mathematics

Measurement: Time

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Summary of task

Students had completed tasks on telling the time. The students were individually questioned and used a clock to demonstrate their understanding of reading and writing time to the half-hour.

Mathematics

Measurement: Time

Annotations

Mathematics

Geometry: Direction

Year 1 Mathematics achievement standard

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Summary of task

Students had discussed the language of direction. They were asked to draw a map and indicate a pathway from their classroom to the canteen. They described their pathway using the language of direction.
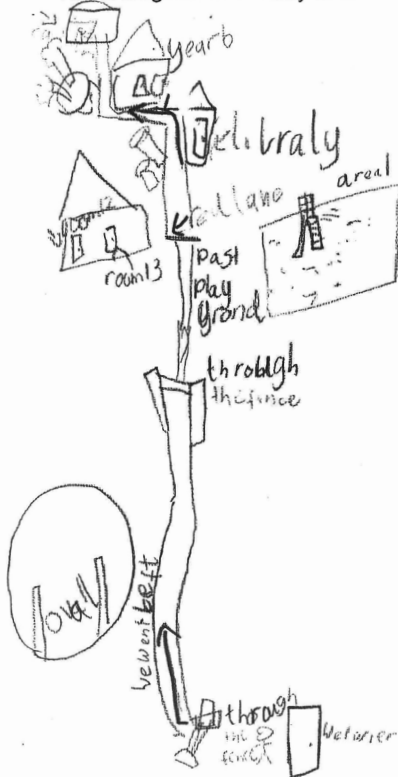
Mathematics

Year 1
Above satisfactory

Geometry: Direction

Take the walking school bus on a tour to the canteen.

Draw a diagram of the way to the canteen.

(student diagram with labels: yearb, AC, libraly, vallane, area1, room13, Past play grond, throllgh the fence, oval, ve went left, through the fence, We turn er)

Label you diagram to show which way the bus turned.

How many turns are there?

How far is it to the canteen? 173 steps

Annotations

Highlights direction of movement using arrows.

Draws a diagram of a familiar location and labels landmarks.

Uses everyday language of location to describe the route taken.
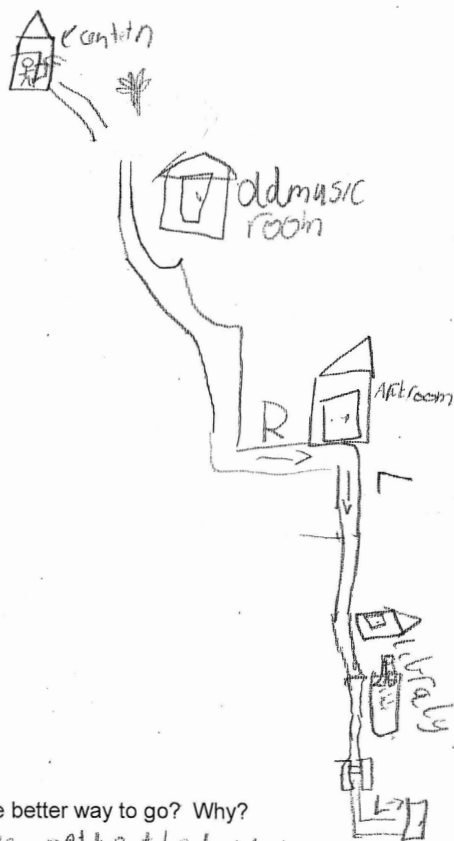
Uses the term 'left' to describe the direction travelled to a familiar location.

Identifies the distance travelled using an informal unit of measurement.

Mathematics

Geometry: Direction

Annotations

Draws a diagram, labels landmarks and highlights an alternate path.

Justifies and gives reasons about which is the better route.