Mathematics

WORK SAMPLE PORTFOLIO

The 2012 portfolios are a resource to support teachers in planning and implementation of the Foundation to Year 10 Australian Curriculum in the learning area. Each portfolio comprises a collection of student work illustrating evidence of student learning in relation to the achievement standard. At every year level there are three portfolios illustrating satisfactory, above satisfactory and below satisfactory achievement in relation to the standard.

Each portfolio comprises a collection of different student work selected by state and territory nominees, and annotated and reviewed by classroom teachers and other curriculum experts. Each work sample in the portfolio varies in terms of how much time was available to complete the task and/or the degree of scaffolding provided by the teacher.

There is no pre-determined number of student work samples in a portfolio nor are they sequenced in any particular order. Together as a portfolio, the samples provide evidence of all aspects of the achievement standard unless otherwise specified.

As the Australian Curriculum is progressively implemented in schools, the portfolios will continue to be reviewed and enhanced in relation to their comprehensiveness in coverage of the achievement standard and their representation of the diversity of student work that can be used to highlight evidence of student learning.

THIS PORTFOLIO – Year 1 Mathematics

This portfolio comprises a number of work samples drawn from a range of assessment tasks, namely:

Sample 1	Numbers – Count to 100 (skip counting by 5's and 10's)
Sample 2	Numbers – One half
Sample 3	Numbers – Coins
Sample 4	Geometry - Shapes
Sample 5	Statistics – Data and graphs - Our fruit today
Sample 6	Numbers – Addition and subtraction - I dropped my counters
Sample 7	Numbers – My number
Sample 8	Numbers – Growing patterns
Sample 9	Measurement - Capacity
Sample 10	Statistics - Familiar events
Sample 11	Measurement - Direction

This portfolio of student work shows an ability to draw and describe pictures using shapes (WS4), represent addition and subtraction (WS6) and skip count by 5s and 10's (WS1). The student models and compares representations of a half (WS2) and represents money in various ways (WS3) 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 WS10). The student uses informal units to order objects based on capacities (WS9) and partitions numbers using place value (WS7).

The following aspects of the achievement standard are not evident in this portfolio:

- explain time durations
- tell time to the half hour
- order objects based on lengths using informal units.

Mathematics

Count to 100 - Skip counting

Relevant parts of the achievement standard

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

Count to 100 - Skip counting

Annotations

Demonstrates skip counting by 5's and 10's.

Describes a number sequence using skip counting by 5's

Uses a number line to demonstrate skip counting by 10's

Mathematics

Fractions and Decimals

Relevant parts of the achievement standard

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Summary of task:

Students were given a number of different shapes and were asked to show how they would use the shape to demonstrate a half.

Mathematics

Fractions and Decimals

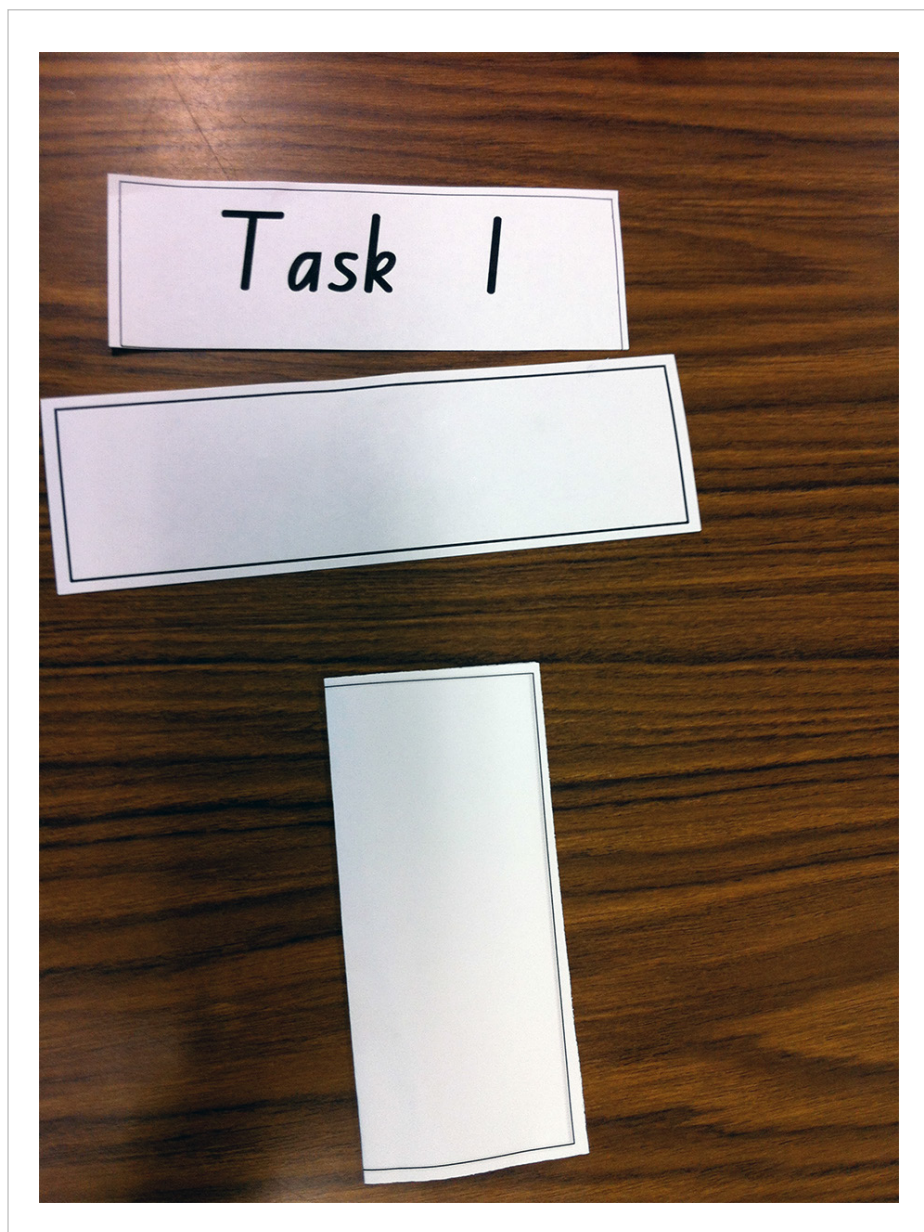## Annotations

Folds a two-dimensional object to model half

Mathematics

Year 1
Satisfactory

Fractions and Decimals

Annotations

Folds a two-dimensional object to model half

Mathematics

Year 1
Satisfactory

Fractions and Decimals

Annotations

Demonstrates how a whole has two equal parts or 2 halves
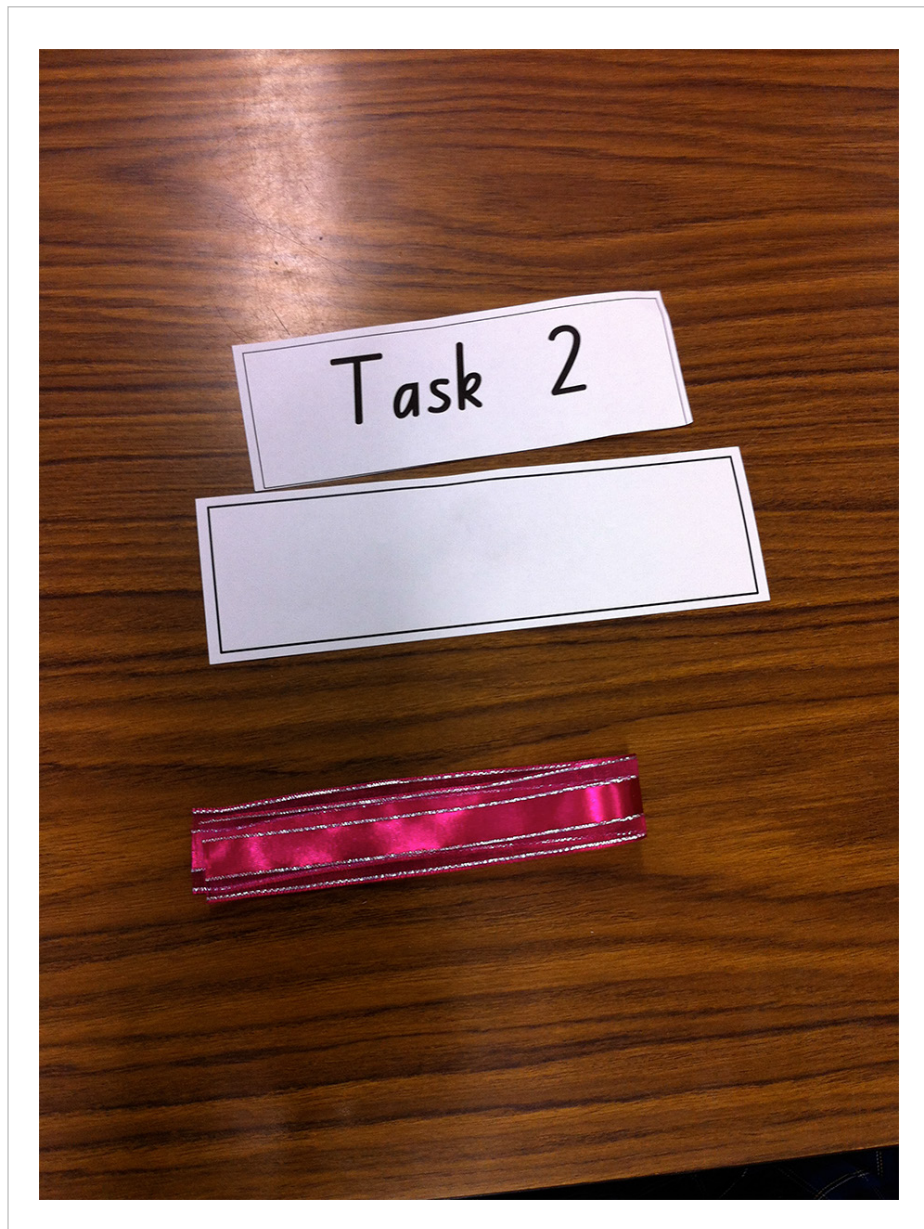
Mathematics

Fractions and Decimals

Annotations

Compares fractional parts based on length

Compares objects directly by placing one on top of another and aligning ends
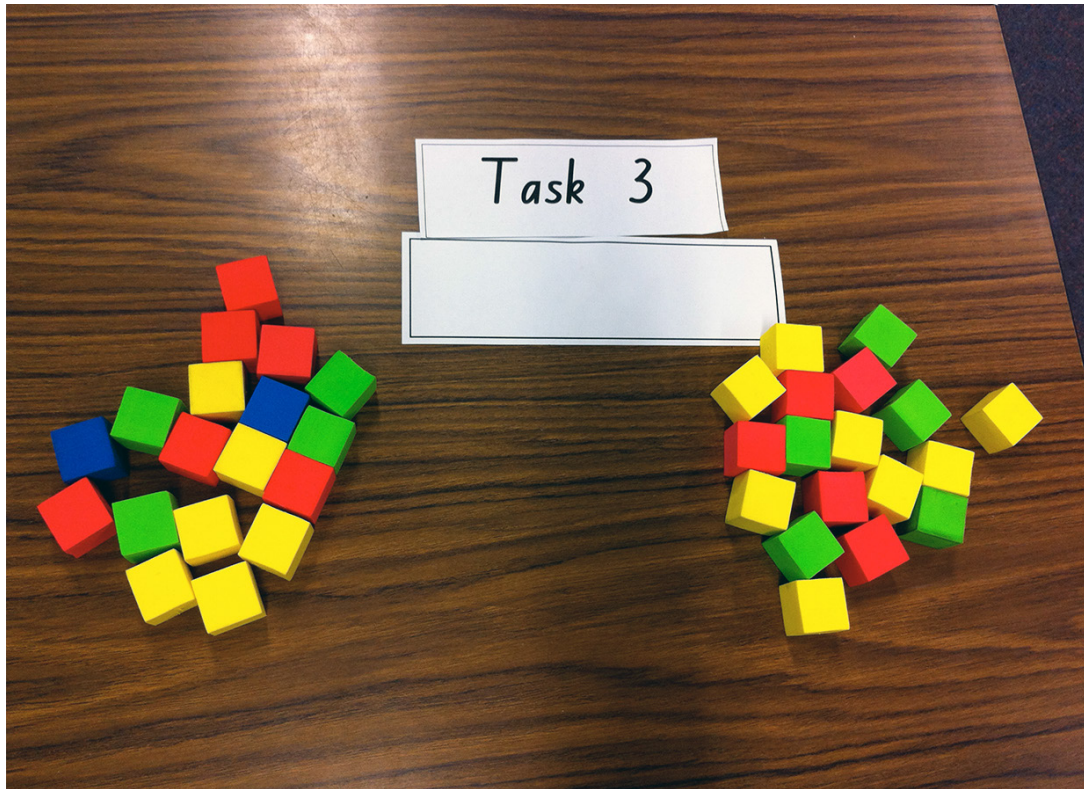
Mathematics

Fractions and Decimals

Annotations

Shares a collection of objects into 2 equal portions or halves

Mathematics

Fractions and Decimals

Annotations
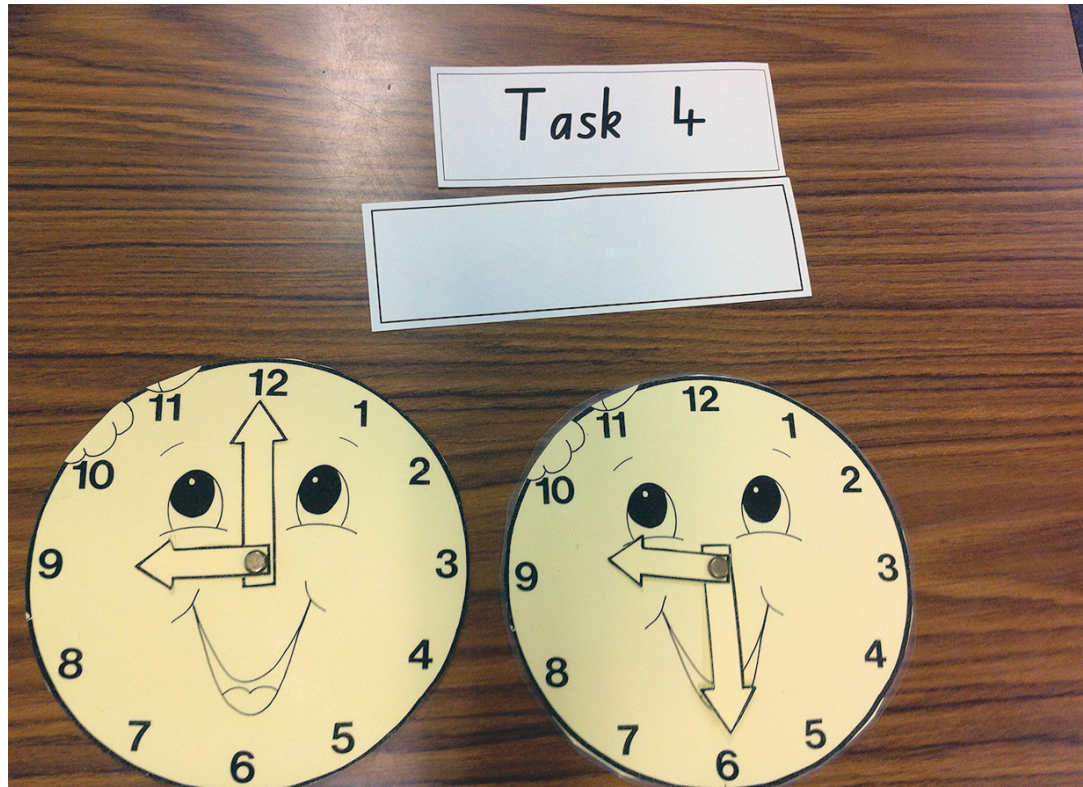
Tells time to the hour on a clock

Demonstrates the correct position of the minute hand on a clock when showing half past but incorrectly positions the hour hand

Mathematics

Year 1
Satisfactory

Coins

Relevant parts of the achievement standard

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.

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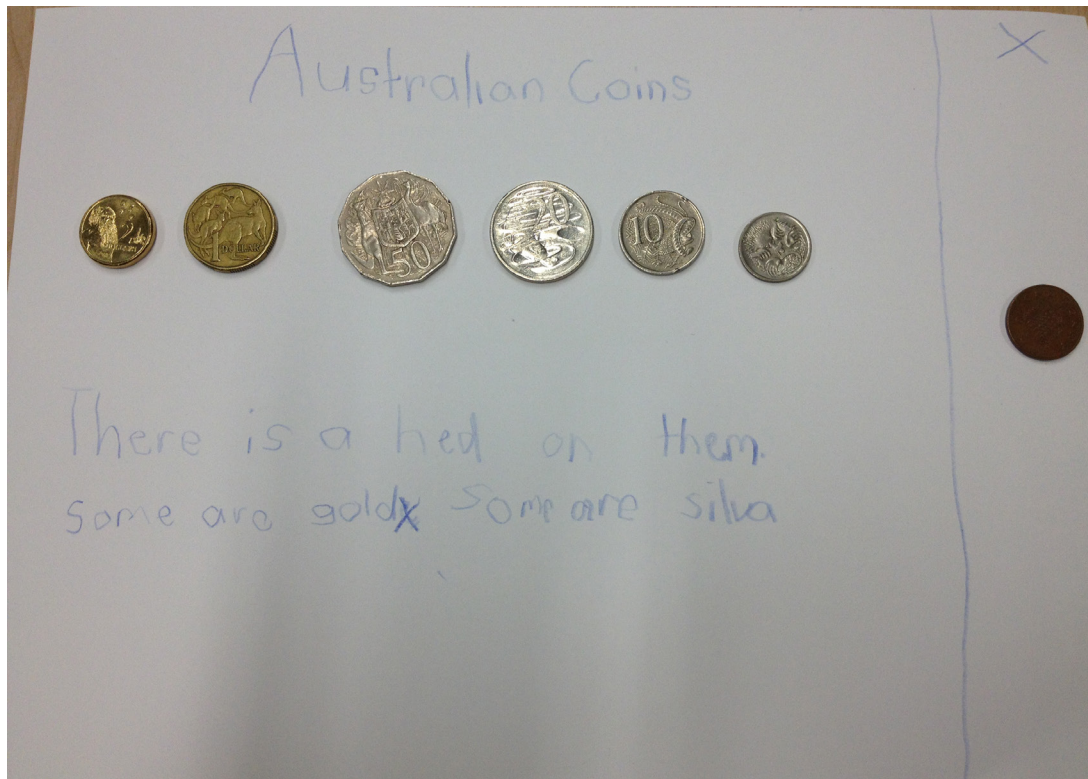
Summary of task:

Students were given a number of different Australian coins and coins of other currencies. Students discussed the features of the coins. They were asked to group the Australian coins and order them according to their value.

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Coins

Annotations

Describes some of the features of Australian coins.

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Shapes

Relevant parts of the achievement standard

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Summary of task:

Students were given a number of different shapes and were asked to show how they would group them together by different characteristics. They were asked to describe the different features of each shape.
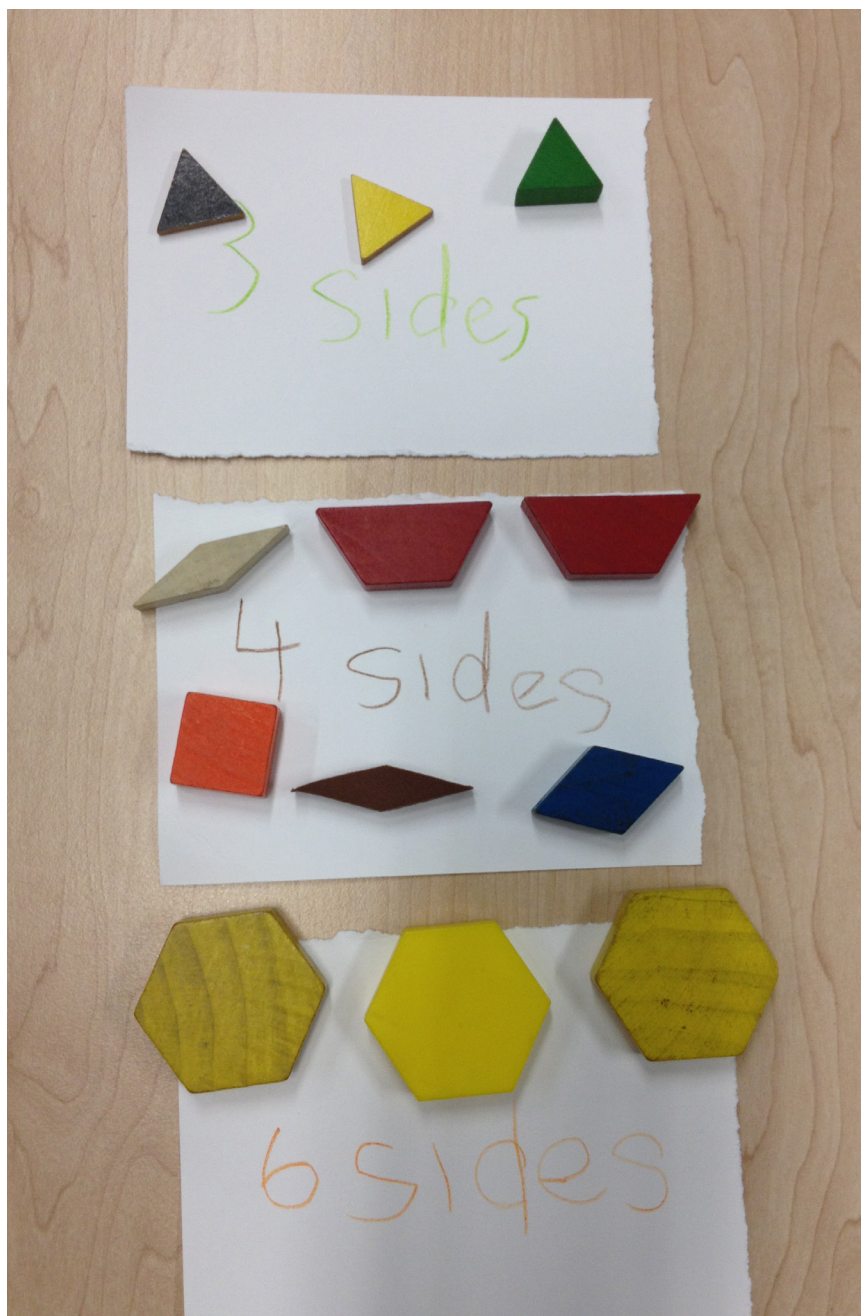
Mathematics

Shapes

Annotations

Uses some 3-D objects to look at their top view and then looking at the uppermost face count the number of sides of the 2-D plane shape

Mathematics

Our Fruit Today

Relevant parts of the 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 all of the fruit and were asked to draw the displays.

Mathematics

Year 1
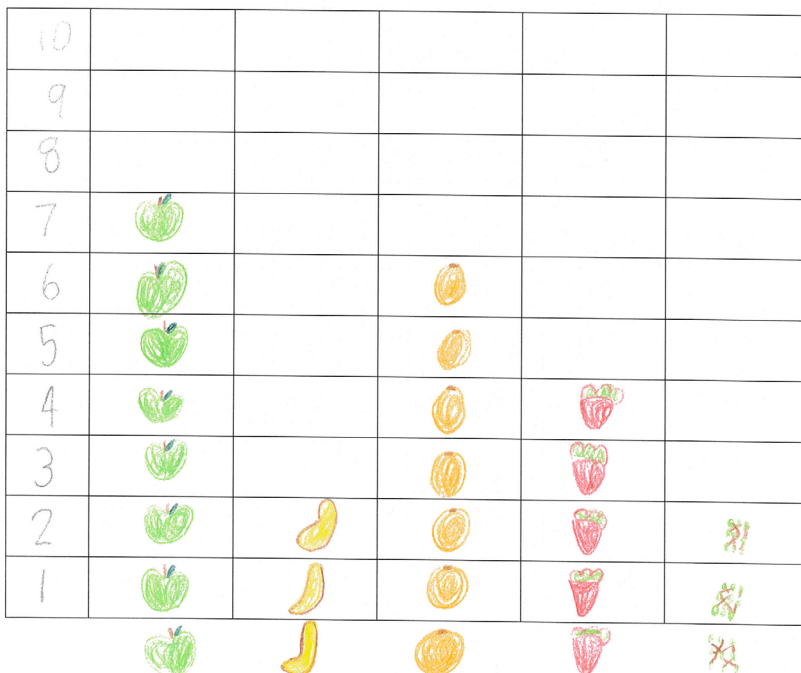Satisfactory

Our Fruit Today

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
🍏	IIII III	7
🍌	II	2
🍊	IIII	4
🍓	IIII I	6
🍇	II	2

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

Our Fruit Today

Annotations

Gathers data

Tracks data using tally marks

Records data in a table

Provides an appropriate title for a data display

Transfers data from a table into a picture graph

Understands one-to-one correspondence where one picture represents one data value

Mathematics

I dropped my counters

Relevant parts of the 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

I dropped my counters

I drop six and I have Uine in My hand.

$6 + 9 = 15$

I drop five and I have Ten in My hand.

$5 + 10 = 15$

I drop four and I have Three in My hand.

$4 + 3 = 7$

I drop Ten and I have nine in My hand.

$+ 9 = 19$

I drop Three and I have six in My hand.

$10 + 6 = 14$

Annotations

Demonstrates visually the given scenarios

Shows that together the number of coins dropped plus the number of coins in their hand gives the starting number of coins

Writes a number sentence to match the scenario and the drawn picture

Mathematics

My Number

Relevant parts of the achievement standard

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Summary of task:

Students were asked to choose a number and place it in the middle of their sheet. They then had to describe their number in different ways.

Mathematics

My Number

Write the number in words

Thirty-eight

Make the number with 10s and 1s

30 + 8

38

3 tens   8 ones

Before and After

37   39

Count on from this number

39 40 41 42 43 44 45 46 47 48

Annotations

Recognises, reads and writes two digit numbers

Models numbers using concrete material

Partitions numbers using place value

Identifies the number before and after a given two digit number

Understands two-digit numbers as comprised of tens and ones

Counts forwards by ones from a given two digit number

Mathematics

Growing Patterns

Relevant parts of the achievement standard

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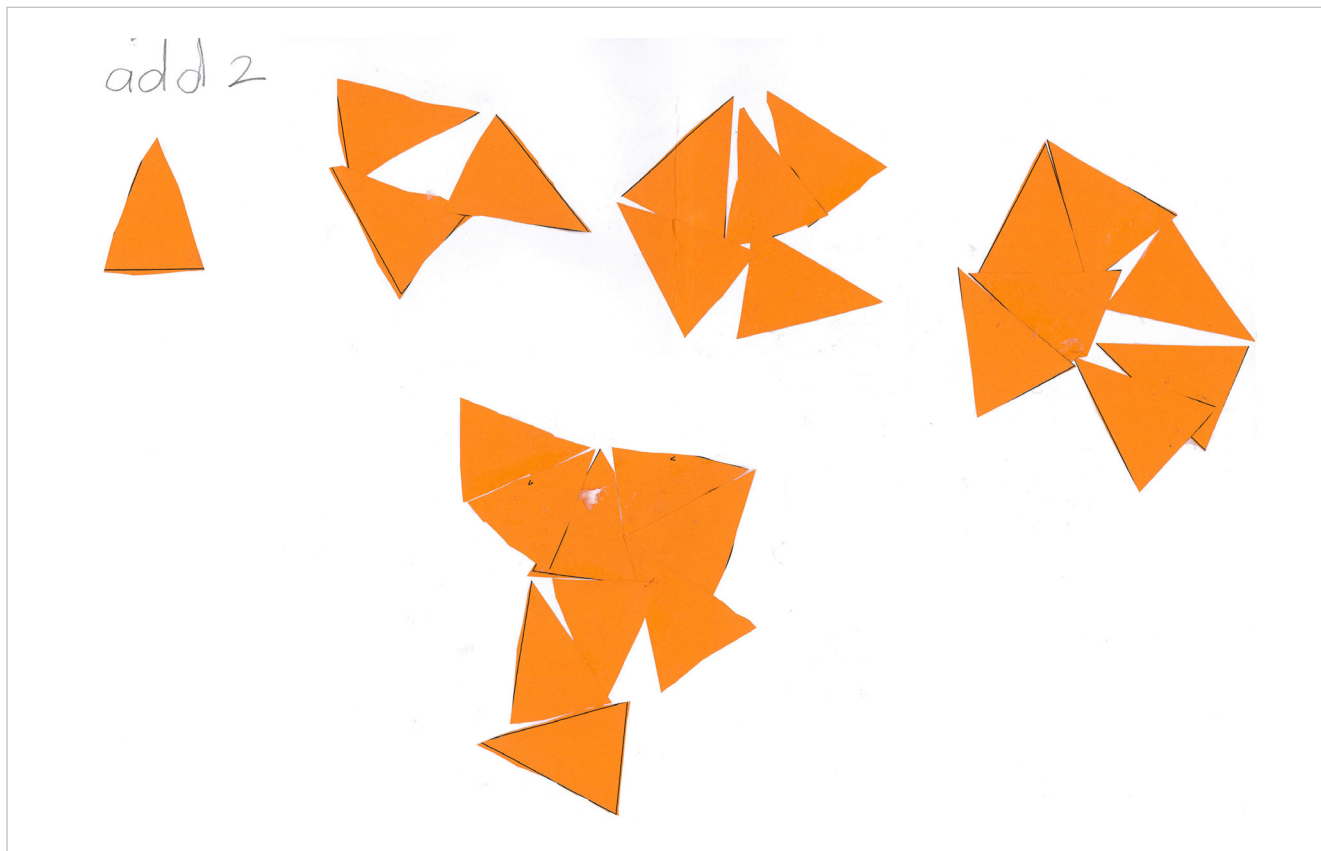
Summary of task:

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

Mathematics

Growing Patterns

add 2

Annotations

Create a simple growing/increasing pattern formed by skip counting

Mathematics

Capacity

Relevant parts of the achievement standard

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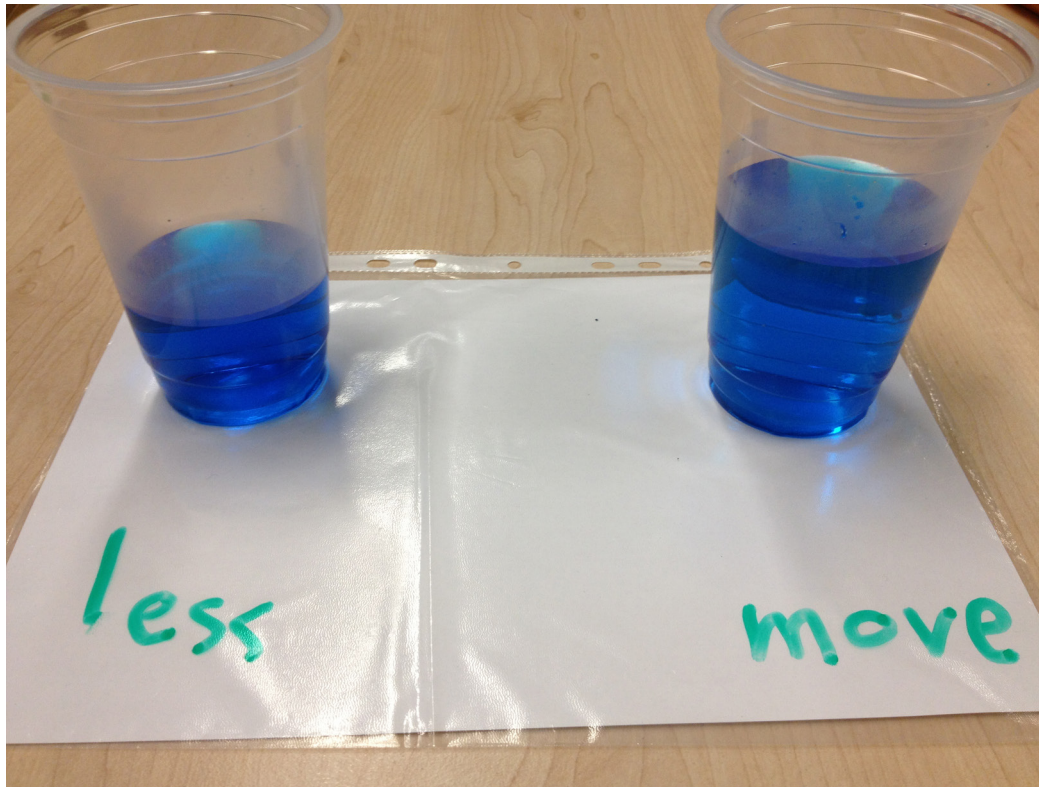
Summary of task:

Students had been comparing the capacity of different containers. They were asked to describe in words a comparison of the capacity of a number of different containers.

Mathematics

Capacity

Annotations

Uses informal language to order capacities as more or less

Understands the difference between which has more of the liquid and which has less of the liquid

Mathematics

Year 1
Satisfactory

Familiar Events

Relevant parts of the achievement standard

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Summary of task:

Students had been talking about familiar events in their day-to-day lives. They were asked to complete a worksheet linking familiar events and to display their information.
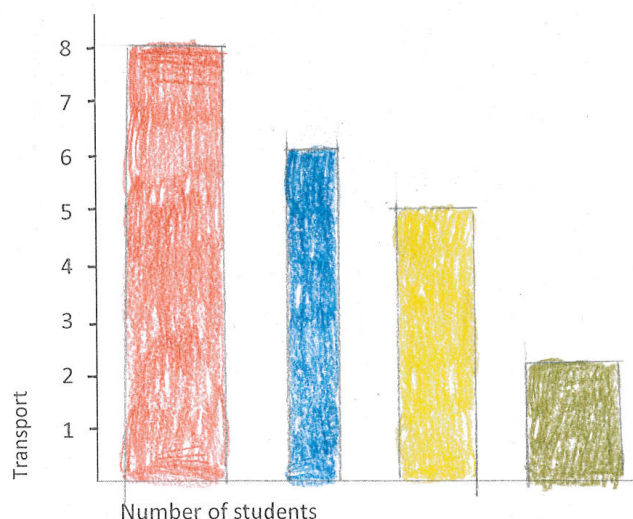
Mathematics

Familiar Events

Annotations

1. What time do you get up on school days? *7 am*
2. What time do you get up on weekends? *8 am*
3. What transport do you use to get to school? *Walk*

   WALK   CAR   BUS   BIKE

4. What time do you have dinner? *6:30 pm*
5. What time do you go to bed? *7:30 pm*

Differentiates between weekends and weekdays

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

Represents information in the table as a bar graph.

The label on the axes are reversed.

Mathematics

Direction

Relevant parts of the achievement standard

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Summary of task

Students had discussed the language of direction in class. They were asked to demonstrate on a map how they would go from their classroom to the canteen. They described their pathway using the language of direction.
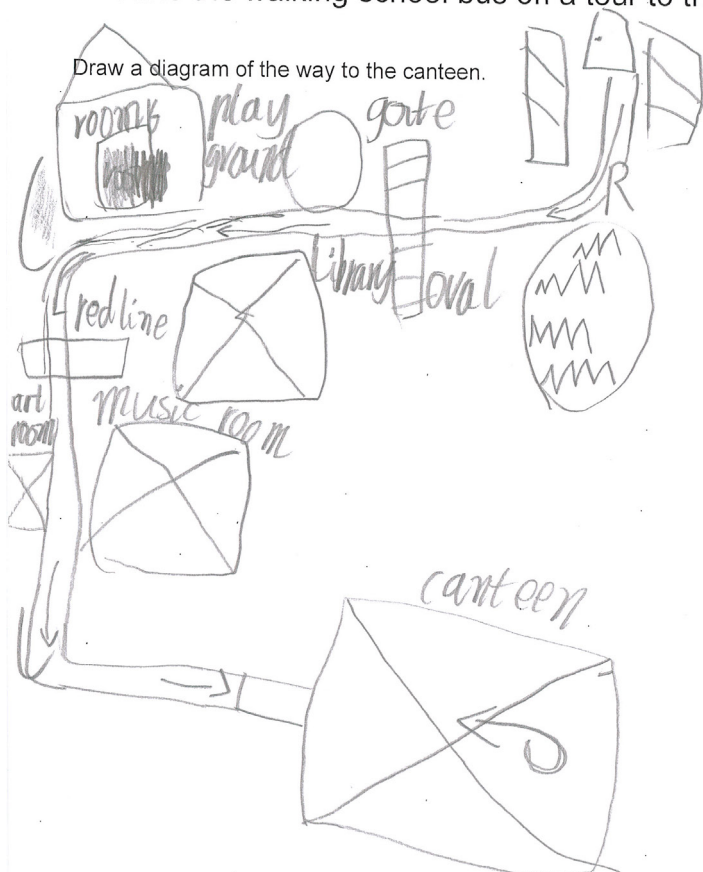
![acara AUSTRALIAN CURRICULUM, ASSESSMENT AND REPORTING AUTHORITY]

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Year 1
Satisfactory

Direction

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

Draw a diagram of the way to the canteen.

rooms   play ground   gate
red line
art room   music room
library   oval
canteen

Label you diagram to show which way the bus turned.

How many turns are there?

How far is it to the canteen?

Annotations

Highlights direction of movement using arrows

Draws a diagram including landmarks to a familiar location

Interprets a two-dimensional representation

Mathematics

Direction

Annotations

Justifies and gives reasons about which is the best route