



#### 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 predetermined 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 3 MATHEMATICS

This portfolio provides the following student work samples:

- Sample 1 Number: Addition and subtraction
- Sample 2 Number: All about a fraction
- Sample 3 Measurement: How much is there?
- Sample 4 Geometry: What is on my island?
- Sample 5 Number: Neighbourly numbers
- Sample 6 Geometry: Symmetry
- Sample 7 Geometry: Smaller than a square
- Sample 8 Statistics: Ice-cream flavours
- Sample 9 Number: Apple orchard
- Sample 10 Algebra: 20 Charlie
- Sample 11 Measurement: Time
- Sample 12 Number: What's my change?
- Sample 13 Probability: Chance experiment

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This portfolio of student work demonstrates addition and subtraction computation strategies (WS1) and the classification of odd and even numbers (WS5). The student identifies and creates number patterns (WS5, WS10) and models unit fractions (WS2). The student measures capacities (WS3), draws maps and locates features (WS4). The student identifies symmetry and angles in their environment (WS6, WS7) and creates tables and graphs from given information (WS8). The student solves problems using multiplication and addition (WS9) and creates a presentation to teach others how to tell the time to the minute (WS11). The student role plays a financial transaction, selecting the notes and coins to pay for an item and calculating the correct change (WS12). The student conducts a chance experiment and identifies possible outcomes (WS13).

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### **Number: Addition and subtraction**

#### Year 3 Mathematics achievement standard

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

By the end of Year 3, students recognise the connection between addition and subtraction and solve problems using efficient strategies for multiplication. They model and represent unit fractions. They represent money values in various ways. Students identify symmetry in the environment. They match positions on maps with given information. Students recognise angles in real situations. They interpret and compare data displays.

Students count to and from 10 000. They classify numbers as either odd or even. They recall addition and multiplication facts for single digit numbers. Students correctly count out change from financial transactions. They continue number patterns involving addition and subtraction. Students use metric units for length, mass and capacity. They tell time to the nearest minute. Students make models of three-dimensional objects. Students conduct chance experiments and list possible outcomes. They carry out simple data investigations for categorical variables.

#### Summary of task

The assessment task was given at the end of a unit of work in which students explored the relationships and connections between addition and subtraction.







### **Number: Addition and subtraction**



#### Annotations

Represents addition facts, using the equals sign to indicate the result of an operation.

Repositions numbers in a modelled number sentence to show an equivalent number sentence.

Selects four numbers that cannot be used to generate equivalent number sentences.

Understands the larger number is placed at the beginning of subtraction number sentence.

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### **Number: All about a fraction**

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#### Summary of task

Students had completed a unit of work on fractions, looking at fractions as part of a whole and fractions as part of a collection. They also investigated which fractions are bigger and smaller and where they fit on a number line.

Students were asked to choose a fraction and record everything they knew about it. They were given access to all classroom resources to complete the task. They were also asked to answer the following question:

• Explain how fractions are useful in everyday life.





### Number: All about a fraction







### **Measurement: How much is there?**

#### Year 3 Mathematics achievement standard

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#### Summary of task

Students had completed a unit of work on metric units for capacity, including hefting buckets of water, predicting, measuring using scales, reading and working with millilitres and litres.

Students were asked to complete a series of questions based on the previous classwork on estimating and reading capacity levels.







#### **Measurement: How much is there?**



#### **Annotations**

Demonstrates an awareness of the relationship between metric units for

Estimates capacity of familiar items.

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# **Measurement: How much is there?**

<u>4.</u> The jugs below can hold <u>1 litre</u> each when filled to the top. Colour in each jug for each different measurement below:

#### Annotations



1 L



500ml





250 ml



750 ml

Estimates relative capacity of familiar items.





### Geometry: What is on my island?

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#### Summary of task

Students had completed a unit of work on mapping that involved exploration of a range of maps with interactive whiteboard activities, atlases and games such as Battleships.

Students were given grid references linked to entry and exit points of locations on a map. From the information given, they had to draw a map and write directions for locations on the map. Students were given a week to complete the task.



#### Year 3 Below satisfactory

#### **Geometry: What is on my island?**



#### Annotations

Describes a route around the island using positional language.

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# **Number: Neighbourly numbers**

#### Year 3 Mathematics achievement standard

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#### Summary of task

Students had investigated odd and even numbers and whether they could be grouped into twos. They had also investigated the results of adding two even and two odd numbers.

Students brainstormed all they knew about odd and even numbers. They then completed the task. They were encouraged to try adding mentally first and to check their total using a calculator for larger calculations. Students used colour to highlight patterns that they identified. Neighbourly numbers had been discussed and investigated.





### **Number: Neighbourly numbers**



make.



4000	400	r400=	=1200	
000-	+1.000+	1000	3000	
10007	-200-	-200-	=1400	
50-	50	50	= 150	
3000°	- 100 -	- 100-	- 3200	
200-	- 100	-100:	=400	
5-	- 3 -	- 2=	=/0	
10-	-10-1	- 10 =	-30	
50	-26	t 203	=90	

Annotations

Labels numbers as odd or even.

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### **Number: Neighbourly numbers**

### ODD and Even numbers

I know that three is a odd number but it can equal up to a lot of numbers like 3+7=10 3+3=6

#### Annotations

Identifies an odd number.





# **Geometry: Symmetry**

#### Year 3 Mathematics achievement standard

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#### Summary of task

Students had completed a unit of work on identifying symmetry in shapes and objects in the environment.

Students were given two lines of symmetry and asked to find shapes and objects that had the lines of symmetry and to record their findings.









### **Geometry: Symmetry**



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#### **Geometry: Smaller than a square**

#### Year 3 Mathematics achievement standard

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#### Summary of task

Students had completed a unit of work on identifying angles as measures of turn and the comparison of angle sizes.

Students were asked to identify angles that were smaller than, the same as and larger than a corner of a square.







### **Geometry: Smaller than a square**





This is a acute angle because the ends tounch together

#### **Annotations**

Identifies objects that make an angle.

Identifies and describes an acute angle.





### **Statistics: Ice-cream flavours**

#### Year 3 Mathematics achievement standard

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#### Summary of task

Students had completed a unit of work that included collecting data, drawing tables and graphs and discussing their findings compared with other students.

Students were given a task to survey the class about their favourite ice-cream flavour. Using the data they had collected they were asked the following questions:

- Can you create a table and a graph to show what these findings could look like?
- What type of graph is most suitable and why?
- How will you record your work?
- How can you explain your graph?
- How do your results compare with others?









#### **Statistics: Ice-cream flavours**

#### Copyright





## **Number: Apple orchard**

#### Year 3 Mathematics achievement standard

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

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#### Summary of task

Students had completed a unit of work on addition, multiplication and their connection and also using efficient mental and written strategies to solve problems.

Students were asked to answer the following question:

• Sandie grew apple trees in orchards. One sunny Sunday she picked 24 apples from the trees in one of her orchards. Each tree had the same number of apples on it. How many trees could be in that orchard and how many apples on each tree?







#### **Number: Apple orchard**



#### **Annotations**

Demonstrates a connection between a picture representation and a multiplication number sentence.

Draws a picture to model multiplication.

Demonstrates an understanding of the link between multiplication and addition for one fact.

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# Algebra: 20 Charlie

#### Year 3 Mathematics achievement standard

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#### Summary of task

Students had completed a unit of work identifying the rules for number patterns and then continuing the patterns or creating patterns.

Students were asked to solve the following problem:

- Charlie created an addition number pattern which contained the number 20. What could the pattern be?
- What other possibilities are there? Can you describe the rules for each of your patterns? How do you know if you have found all of the possibilities? What if your pattern also had to contain the number 36? If you had to create a subtraction pattern containing the number 20, explain why or why not the patterns could be the same as before.







### Algebra: 20 Charlie



#### Annotations

Identifies the counting sequence in the number pattern.

Creates and continues number patterns involving addition.

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### **Measurement: Time**

#### Year 3 Mathematics achievement standard

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#### Summary of task

Students completed a unit of work involving o'clock, half past, quarter to and quarter past, as students didn't have this prior knowledge. Then the class progressed to telling the time to five-minute intervals and to the minute.

Students were asked to use an interactive environment to teach someone how to tell the time to the minute.



#### Year 3 **Below** satisfactory

# **Measurement: Time**



#### **Annotations**





# Number: What's my change?

#### Year 3 Mathematics achievement standard

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#### Summary of task

The students had spent two weeks learning about how to make different amounts of money using different coins and notes. They also practised buying items and giving change using play money. At the time of the task the school was busy preparing and planning for the school fair.

Students had to choose items from the plant stall, lolly stall or craft stall and work out what note they should use to buy the item and how much change they would receive.

Stall A: Plant Stall		Stall B: Lolly Stall		Stall C: Craft Stall				
Bunch of flowers	\$6.50	Nougat	\$1.50	Headband	\$4.50			
Strawberry plant	\$4.75	Mint Slice	\$3.20	Hairbands	\$3.75			
Aloe Vera	\$7.00	Lolly Jar	\$6.00	Crotchet flower	\$5.50			
Cactus	\$5.20	Choc Top	\$1.75	Fingerprint	\$3.00			
Bunch of Roses	\$8.60	Coconut Ice	\$1.30	Playdough	\$5.95			
Parsley	\$2.80	Gingerbread	\$1.00	Knitting	\$1.50			
Tomatoes	\$3.15	Choc Balls	\$2.75	Sock Snowmen	\$7.55			
Fern plant	\$12.00	Chocolates	\$1.65		1			
Lillies	\$6.00	Fairy floss	\$3.50	PRICE LIST				



#### Year 3 Below satisfactory

### Number: What's my change?



#### Annotations

Calculates change for transactions involving whole-dollar values using hands-on materials.

Selects dollar note with smallest possible value to purchase item.

Selects items that have a whole-dollar value and avoids items involving dollars and cents.

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#### Number: What's my change?



**Annotations** 

Identifies alternative ways of representing whole-dollar values but does not consider denominations smaller than one dollar.

Provides a solution to an open problem selecting items with

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### **Probability: Chance experiment**

#### Year 3 Mathematics achievement standard

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#### Summary of task

The assessment task was given at the end of a unit of work in which students had completed different experiments to identify the possible outcomes of events. They were introduced to the mathematical term 'outcome'. The students were instructed to play a game of chance using two dice and then investigate if the game was fair.







Annotations

### **Probability: Chance experiment**



Do you have more chance of getting one answer than any other? If so, what is

Adjusts opinion about the fairness of the game based on the result of the chance experiment.

Identifies some of the possible outcomes

Provides an opinion about the fairness of a game and explains their thinking.

Conducts a simple chance experiment.

of a chance experiment.

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that answer? And why?