



Sample assessment task				
Year level	3			
Learning area	Mathematics			
Subject	Fractions and Decimals			
Title of task	Cooking a carrot cake			
Task details				
Description of task	Students are to calculate the fractional amounts required to cook a carrot cake, using only a one-quarter measure.			
Type of assessment	Summative			
Purpose of assessment	To determine students' understanding of fractions in a real-life context.			
Assessment strategy	Written			
Evidence to be collected	Booklet containing questions and answers			
Suggested time	1 hour			
Content description				
Content from the Western Australian Curriculum	Number and Algebra Fractions and Decimals Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and their multiples to a complete whole			
Proficiencies	Understanding	Fluency	Problem Solving	Reasoning
	✓	✓	✓	✓
Task preparation				
Prior learning	Students have prior knowledge of: <ul style="list-style-type: none"> recognising and describing one-half as one of two equal parts of a whole recognising and interpreting common uses of halves, quarters and eighths of shapes and collections. 			
Assessment differentiation	Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged. Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.			
Assessment task				
Assessment conditions	This is an individual, in-class assessment.			
Resources	Writing materials			

Instructions for teacher

Distribute the booklet of questions. Read through each question in the booklet with students. Ensure students understand they can use the boxes to show their thinking, or 'working out'.

Instructions to students

You would like to cook a cake for your family. You have found a recipe for a yummy carrot cake. The list of ingredients for the recipe is below:

Carrot cake ingredients

- 1 cup self-raising flour
- $\frac{1}{2}$ cup wholemeal flour
- $\frac{1}{3}$ cup grated carrot
- $\frac{1}{4}$ cup brown sugar
- $\frac{1}{3}$ cup oil
- 2 eggs, lightly beaten



Problem

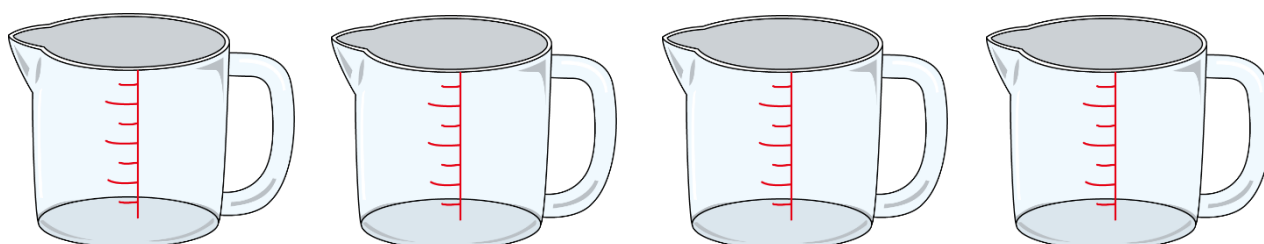
You only have a one-quarter cup measuring cup. How will you work out the correct fraction for all the ingredients you need in your cake?

There are different methods you can use to help you. Choose one or a combination (below) to help you work out the correct amounts of the fraction you need for your cake. Use one or more of these methods to answer the questions that follow.

1. Cup measurement example



2. Blank cups (if needed, for use in your working out)



3. Number line with whole numbers *(if you need it)*



4. Create your own number line *(if you need it, to help you find the fractions of the amounts you need)*



5. Draw any diagrams that may help to explain how you would make the correct calculations *(if you need to)*

A large, empty rectangular box with a thin black border, intended for drawing diagrams to explain calculations.

Questions

Use your working out (above) to answer the following questions:

1. How did you find the measurement for 1 cup? *Hint: How many quarters of a cup makes 1 whole cup?*

2. How did you find the measurement for $\frac{1}{2}$ cup?

3. How many $\frac{1}{3}$ cup measurements make up 1 cup? _____

4. Place the following fractions in order on the number line below: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$.

ACKNOWLEDGEMENTS

Carrot cake image: Ajimian. (2011). *File:Diabetic carrot cake recipe best.jpg*. Retrieved May, 2017, from https://commons.wikimedia.org/wiki/File:Diabetic_Carrot_Cake_Recipe_Best.jpg
Used under Creative Commons Attribution-ShareAlike 3.0 Unported licence.

Measuring cups image: *Measure cups*. (n.d.). Retrieved May, 2017, from <http://www.publicdomainpictures.net/view-image.php?image=3566&picture=measure-cups>
Used under Creative Commons Public Domain licence.

Measuring jug image: *Cookware-free food clipart-illpop.com*. (n.d.). Retrieved May, 2017, from <http://www.clipartbest.com/clipart-KijenggeT>

Sample marking key

Description	Marks
Question 1	
Uses evidence of repeated doubling and effective mental strategies to find correct answer. Writes fractions as symbols and uses multiplicative thinking with the correct operation in working out.	3
Uses assistive images and shows evidence of a range of mental strategies used to find the answer.	2
Uses assistive diagrams and some mental strategies to find the answer.	1
Subtotal	3
Description	Marks
Question 2	
Uses evidence of repeated doubling and effective mental strategies to find the correct answer. Writes fractions as symbols and uses multiplicative thinking with the correct operation in working out.	3
Uses assistive images and shows evidence of a range of mental strategies used to find the answer.	2
Uses assistive images and some mental strategies to find answer. May draw diagrams to assist in finding the answer.	1
Subtotal	3
Description	Marks
Question 3	
Uses evidence of repeated doubling and effective mental strategies to find the correct answer. Writes fractions as symbols and uses multiplicative thinking with the correct operation in working out.	3
Uses assistive images and shows evidence of a range of mental strategies used to find the answer.	2
Uses assistive diagrams and some mental strategies to find the answer. May draw own diagrams to assist in finding the answer.	1
Subtotal	3
Description	Marks
Question 4	
Places unit fractions in order, using denominators. Demonstrates an understanding of the size of the parts of the whole, with working out and the correct order of unit fractions.	3
Places unit fractions in order, using diagrams and/or other strategies.	2
Uses some diagrams to assist in determining the order of the fractional amounts.	1
Subtotal	3
Total	12

