



Makes Maths Fun

Level 5

FRACTIONS & DECIMALS

Bloomsmath is a comprehensive mathematics program which provides a fun way for every student to be learning to the best of their ability.

By Rachel McCann (B.Teach; B.Ed Hons; M.ED (Special Ed.))

Fractions & Decimals

Level 5 is designed for students in their fifth year at school often called Year 4. Students will model, compare and represent commonly used fractions and decimals, add and subtract decimals to two decimal places and interpret everyday percentages.

Knowledge: Students will complete decimal algorithms to solve a riddle.



Students who demonstrate proficiency in this activity move on to Comprehension.



Students stop here as they require additional teacher support to master this activity.

Comprehension: Students will shade the given amount such as 10% or 0.33 without using measuring tools.



Students who demonstrate proficiency in this activity move on to Application.



Students stop here if time has run out or they require additional support with this activity.

Application: Students will complete the Comprehension shading again but this time they will convert each measurement to a fraction and use a ruler to colour the exact amount.



Students who demonstrate proficiency in this activity move on to Analysis.



Students stop here if time has run out or they require additional support with this activity.

Analysis: Students will complete the "Hot Dog" puzzle.



Students who demonstrate proficiency in this activity move on to Synthesis.



Students stop here if time has run out or they require additional support with this activity.

Synthesis: Students will use real world examples to calculate with fractions.

Evaluation: Suggested questions provide a starting point for discussions related to Fractions and Decimals.



Students may complete more or fewer activities for each learning outcome depending on the time allocated and their strength in the area being covered.



All students should participate in the Evaluation discussion to encourage the use of mathematical language, logical reasoning and reflection on that which they have completed.

Name: _____

Knowledge

Solve the addition and subtraction decimal questions below to find out - Why maths class is always noisier than English class?

1.6	6.1	1.1	0.8	6.0	9.7	6.1

2.4	4.2	0.8	1.1	1.0	6.5	8.7	9.2	9.7

9.7	2.0	6.1	0.8	2.2

4.0	8.7	6.0	4.1	6.1	4.2

1.0	8.8	0.8	9.2

2.3	6.1	4.2	1.6	9.7

A	0.5 + 0.3 =	I	1.9 + 4.6 =	S	5 6.1 + 3.6 =
B	0.1 + 1.5 =	K	4.3 - 2.1 =	T	8.4 - 7.4 =
C	2.4 - 1.3 =	L	9.4 - 5.4 =	U	3.5 + 2.5 =
D	7.2 - 3.1 =	N	6.3 + 2.9 =	V	7.6 - 5.3 =
E	4.6 + 1.5 =	O	5.1 + 3.6 =		
F	2.7 - 0.3 =	P	5.6 - 3.6 =		
H	8.3 + 0.5 =	R	5.6 - 1.4 =		



Let's Try This Again



Progress To Comprehension

Name: _____

Comprehension

Without a ruler see how good you are at estimating the amount of each box you need to shade to match the fraction, decimal or percent shown for each box.

10%

0.25

1/3

0.125

75%

9/10

0.167

40%



Let's Try This Again



Progress To Application

Name: _____

Application

This time use a ruler to shade the amount given. See how accurate your previous attempt was.

10%

0.25

$\frac{1}{3}$

0.125

75%

$\frac{9}{10}$

0.167

40%

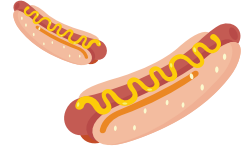


Let's Try This Again



Progress To Analysis

Name: _____



Analysis

It is quite common in Australia that when someone chooses to make hotdogs they will be unable to purchase the same number of rolls as sausages if bought in prepacked amounts. Bread rolls tend to come in a half dozen pack of 6 while hotdog sausages come in packs of 8.

People tend not to choose to put 2 sausages on 1 roll so you will always be 2 rolls short or 2 sausages over depending on which way you choose to look at it.

What fraction of sausages will you have left?

How many bread rolls and sausages does a person need to purchase before they can use up all of their bread rolls and sausages?

Alternately, if the rolls are extra long people require one and a half sausages to fill their roll. If this is the case how many sausages and rolls need to be purchased before they finish at the same time?

Fractions & Decimals - Level 5 - Students will add, subtract, compare and represent fractions and decimals.

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation

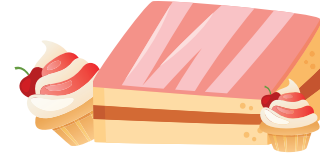


Let's Try This Again



Progress To Synthesis

Name: _____



Synthesis

In the last activity you looked at hot dog sausages and rolls. This conundrum actually exists with many different items. See if you can help Sally work out her birthday problems below.

It is Sally's birthday and she wants to hand out cupcakes to her class. Cupcakes come in packs of 8 and there are 25 students to receive cupcakes. How many packets of cupcakes would she need to buy to give everyone a cupcake?

How many would she have left over? _____

If Sally were to share these evenly between her class how much would each student get? _____

If Sally decides to purchase an additional packet of cupcakes and gave her teacher a cupcake and then shared the remaining between her class how much cupcake would each of the 26 students, including Sally, get?

If 8 cupcakes costs \$3.20 how much does it cost for each child's serve of cupcake?

If Sally purchases a rectangular cake as shown below for the 26 students how could she divide this evenly?



If the cake was actually this size (13cms x 5cm) each student would need $\frac{1}{4}$ of the cake. How many cakes would Sally need to purchase to feed to 26 students and how much of 1 cake would be left over? _____

If the cakes cost 90c per quarter how much did it cost Sally to buy cakes?

Which was a cheaper option - cupcake or cakes?



Let's Try This Again



Progress To Evaluation

Evaluation

The following questions and activities are provided as a starting point for fun discussions related to Fractions and Decimals. During these conversations students will have an opportunity to use appropriate mathematical language in its correct context, to engage in reflection on the Fractions and Decimals activities they have completed and to use logical reasoning to tie their in-class mathematics to its everyday context.



When shading boxes some sizes were easier than others - why was this the case?



If a school of 325 students had a hotdog day how many packets of 8 sausages and 6 rolls would they need to purchase to make sure they had no food left over?



If they purchased 42 packets of sausages and 56 packets of rolls how many hotdogs are left over for the teachers?



Using these equations look at the relationship between fractions and factors and how $\frac{1}{4}$ of a pack of sausages left over helps solve the hotdog problem.



Is it easier to solve problems like this using fractions or decimals (which can be put into a calculator)?



Show students how a fraction can be converted to a decimal by dividing the numerator by the denominator.

