

## Maths

Week commencing: 04/05/20

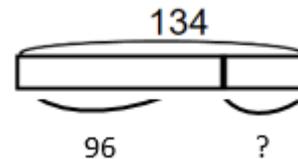
### Lesson 1

**Learning Outcome:** To be able to use bar modelling to represent measurement problems and solve them using addition or subtraction.

Here is an example question and answer:

Miss Armstrong had a collection of 96 marbles but then Miss Caudwell gave her some more. Altogether Miss Armstrong had 134 marbles. How many did Miss Caudwell give her?

"There is a whole that has two parts. We know the value of the whole (134) and we know the value of one of the parts (96). We don't know the value of the other part. To find the unknown part, you need to subtract ( $134 - 96 = 38$ )."



#### Star Words

bar model  
known/unknown value  
measurement  
part/whole  
comparison  
difference  
addition/subtraction

### Draw a bar model to represent each maths problem.

1. In March Miss Armstrong and Miss Caudwell collected 2 kg and 250 g of cans for recycling. They collected even more cans in April. Altogether during March and April they collected 5 kg and 600 g of cans.

**What was the mass of the cans they collected in May?**

2. Mr Slade treated his class to some juice for playing nicely in the hot weather. He had 7 litres and 500 ml of juice in a measuring jug. He didn't know the capacity of the cups but after he filled one cup he had 7 litres and 150 ml left in the measuring jug.

**What is the capacity of the cup?**

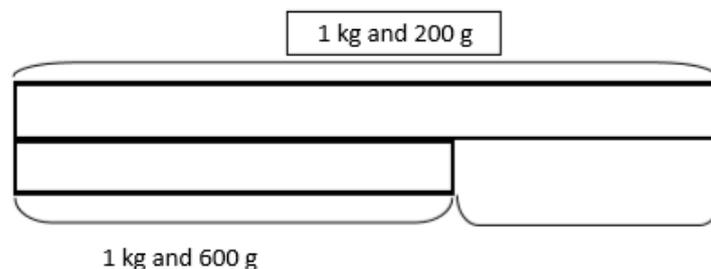
3. Miss Armstrong has put too much water in her measuring bucket to be able to measure it accurately. She pours 1 litre and 500 ml of water out into a measuring jug. Now there is 7 litres and 500 ml left in the bucket.

**How much water did he have in the bucket to begin with?**

### Challenge

Miss Armstrong has drawn a bar model for the following maths problem. Is she correct? Explain your answer.

Melvin and Buttons volunteered to collect rubbish from the school field and they weighed their bags at the end. Melvin collected 1 kg and 200 g less rubbish than Buttons. Melvin's bag weighed 1 kg and 600 g. How heavy was Button's bag of rubbish?

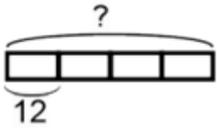


## Lesson 2

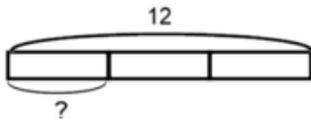
**Learning Outcome:** To be able to use bar modelling to represent multiplication and division word problems.



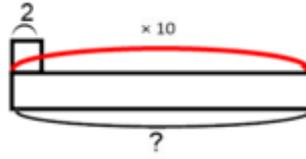
**Star Words**  
 bar model  
 known/unknown value  
 equal parts  
 whole  
 times greater/times less



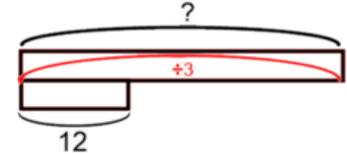
There are four equal parts with a value of 12. The whole is unknown. You need to multiply to find the whole ( $12 \times 4$ ).



There are three parts which are unknown. The three parts make the whole. The whole is 12. You need to divide the whole by three to find the part ( $12 \div 3$ ).



One part is worth two. The whole is ten times greater but it is unknown. You need to multiply the part by ten to find the whole ( $2 \times 10$ ).

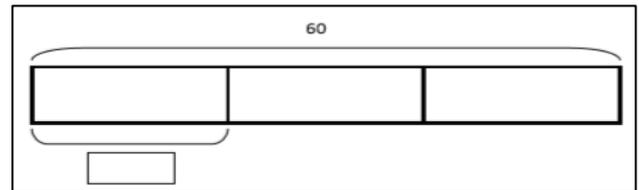


One value is 12. The other value is unknown but it is three times greater than 12. You need to multiply to find the unknown value ( $12 \times 3$ ).

## Task

Identify the correct bar model to represent each problem. You must use the known and unknown values and explain how you know – you cannot use the numbers to help you because all three problems have the same numbers.

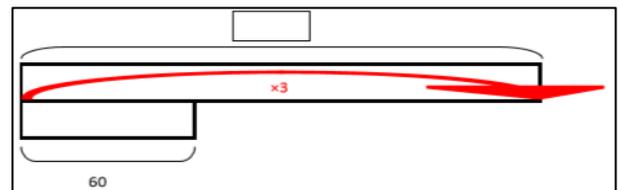
Addy and Melvin measured the mass of their tomatoes. Addy's tomato weighed three times as much. How heavy was Melvin's tomato?



Button's measured how much his sunflower grew in three weeks. In total it grew 60 cm taller. If it grew the same amount each week, how much did it grow in one week?

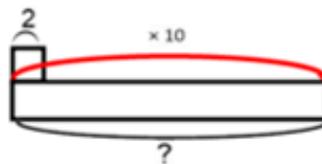


Miss Armstrong kept a record of the amount of water was drunk by her pet rabbit. Every day it drank about 60 ml of water. How much did it drink in three days?



## Challenge

Write a maths problem for the following bar model.



### Lesson 3

**Learning outcome:** To be able to use bar modelling to represent measurement problems and solve them using multiplication or division.

#### Task

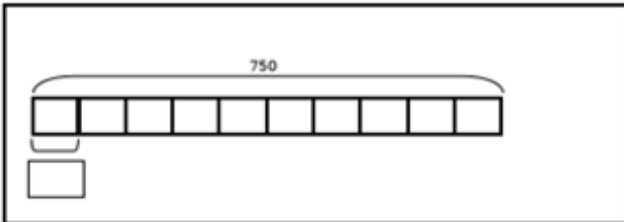
Take a look at the following bar models. First, explain what the bar model is showing. Then, explain which calculation will help you to work out the unknown. Remember to speak in sentences using the star words.

#### Star Words



bar model  
known, unknown value  
measurement  
equal parts, whole  
times greater/times less  
multiplication, division

Bar Model 1



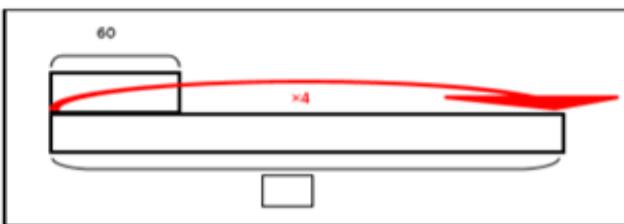
Calculations to choose from for bar model 1

$750 \times 10$

$10 \times 75$

$750 \div 10$

Bar Model 2



Calculations to choose from for bar model 2

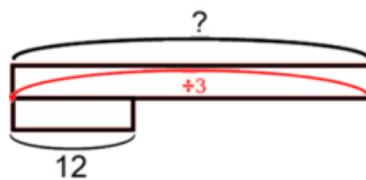
$4 \times 60$

$60 \div 4$

$4 \div 60$

#### Challenge

Write a maths problem for the following bar model.



## Lesson 4

**Learning Outcome: To apply knowledge and understanding of measures to solve real-world problems.**

Miss Armstrong is planning a trip to the beach. Today, you are going to help solve problems to make sure her trip is a success. For this task, you will need to calculate measures and solve mathematical problems. You may need to measure length, mass or volume, make estimates about lengths or quantities and to identify the correct equipment to use in each case.

*\* Note: Miss Armstrong is not planning a real-life trip to the beach.*

### Star Words

volume	about
capacity	roughly
litre	weight
millilitre	mass
mixed units	gram
larger	kilogram
smaller	heavier
< > =	lighter

## Task

$$100 \text{ cm} = 1 \text{ m}$$

$$1000 \text{ ml} = 1 \text{ l}$$

$$1000 \text{ g} = 1 \text{ kg}$$

In each case, read the problem, work out what calculations need to be performed and calculate the quantities needed. Record the quantities (with units!) accurately.

### How much do you need?

1. You need to make the squash for your party. To make one cup of squash, you need 25ml of juice and 200ml of water. Miss Armstrong needs to buy the juice and the water (there are no taps on the beach!) so you need to work out how much juice and water she needs to get. There will be 8 people at the picnic. If everybody needs 1 cup of juice how much juice and how much water will Miss Armstrong need to buy?

2. Miss Armstrong likes to be prepared so she wants everyone to be able to have twice as much juice. How much should she buy instead?

3. To make sure that the sand doesn't get everywhere during the picnic, Miss Armstrong is going to bring some blankets for everyone to sit on. Everybody needs 1m and 20cm of blanket to sit on. If everyone sits in a line on one blanket, how wide does the blanket need to be?

### How much is there?

4. There are 800g of satsumas, 500g of bananas and 1kg of grapes for the picnic. What is the total mass of fruit? Give your answer in mixed units.

5. Everybody needs different levels of sun protection. To be prepared, Miss Armstrong buys a 330 ml bottle of Factor 30 sun cream, a 750 ml bottle of Factor 50 sun cream and a 150 ml bottle of Factor 75 sun cream. What is the total volume of sun cream? Give your answers in mixed units.

6. Miss Armstrong has bought a 800 g bag of sweets for the picnic. She wants to share them out equally between all the guests (remember there are 8). How many grams of sweets does she need to measure so that they are shared equally?

## Challenge

Can you make up a word problem of your own then draw a bar model to match it?

**Task**

In each case, read the problem, work out what calculations need to be performed and calculate the quantities needed. Record the quantities (with units!) accurately.

**How much do you need?**

1. Miss Armstrong will need to buy \_\_\_\_\_ of water and \_\_\_\_\_ of juice.
2. Now Miss Armstrong will need to buy \_\_\_\_\_ of water and \_\_\_\_\_ of juice.
3. The blanket needs to be \_\_\_\_\_ wide.

**How much is there?**

4. The total mass of the fruit is \_\_\_\_\_.
5. The total volume of sun cream is \_\_\_\_\_.
6. Miss Armstrong needs to measure out \_\_\_\_\_ of sweets per person.