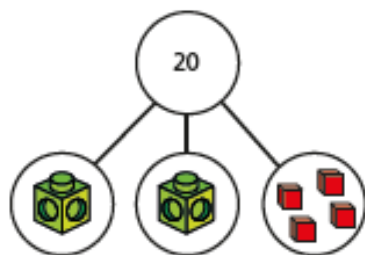# White Rose
Year 6 Activity Sheets

Monday – Lesson 1
Solve two-step equations

Solve two-step equations

1 Here is a part-whole model.
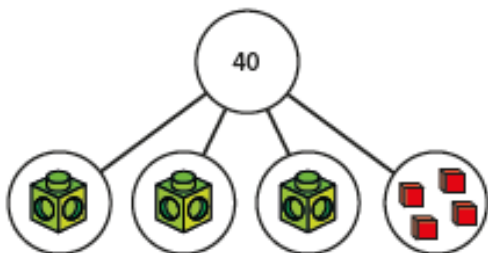

a) Write an equation for the part-whole model.

_____

b) Solve the equation to work out the value of
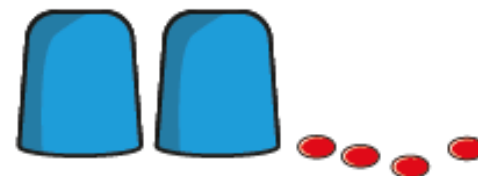
 = ☐

2 If each multilink cube represents x, form and solve an equation to find the value x.

$x =$ ☐

3 There is the same number of counters under each cup.

There are 16 counters in total.

a) Use y to represent the number of counters under each cup.

Write an equation in terms of y.

_____

b) Solve the equation to find the value of y.

$y =$ ☐

c) How many counters are under each cup?

☐

4 Write an algebraic equation to represent each bar model.

Find the values of a and b.

a)

21		
a	a	9

b)

46	
$3b$	10
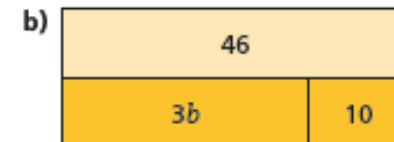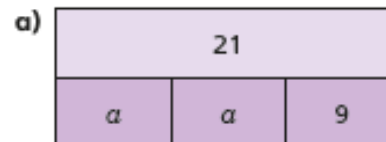
$a =$ ☐

$b =$ ☐

5 Solve the equations.

a) $5x + 1 = 31$

$x = \boxed{}$

b) $3x - 3 = 9$

$x = \boxed{}$

c) $4p - 11 = 3$

$p = \boxed{}$

d) $9 = 2y + 8$

$y = \boxed{}$

e) $10g - 2 = 46$

$g = \boxed{}$

f) $4 + 3y = 28$

$y = \boxed{}$

6 Dani thinks of a number.

She doubles it and adds 3

She gets the answer 15

a) Write an equation to represent Dani's problem.

_____

b) Solve the equation to find her number.

$\boxed{}$

7 Alex is y years old.

Her friend Brett is 3 years older.

The total of their ages is 25

How old are Alex and Brett?

Alex is $\boxed{}$ Brett is $\boxed{}$

8

£1.52   £1.20

a) Work out the cost of one banana and one orange.

One banana costs $\boxed{}$ One orange costs $\boxed{}$

b) Compare methods with a partner.

Tuesday – Lesson 2
Find pairs of values

1 Class 6 are trying to solve a number puzzle.

$$\triangle + \triangle + \bigcirc = 10$$

a)

Dexter:
> The triangle could be 3 and the circle could be 4

Do you agree with Dexter? _____

Explain why.

_____

_____

b)

Dora:
> The triangle is worth 4

What is the value of the circle in Dora's number puzzle?

$\bigcirc = \boxed{}$

c) Find other pairs of values that the triangle and circle could equal.

Find three pairs.

$\triangle = \boxed{}$ $\bigcirc = \boxed{}$ $\triangle = \boxed{}$ $\bigcirc = \boxed{}$

$\triangle = \boxed{}$ $\bigcirc = \boxed{}$

2 a and b are whole numbers.

$$2a + b = 14$$

Complete the table to show different possible values for a and b.

a	0	1	2	3	4	5	6	7
$2a$	0	2						
b	14							
$2a + b$	14	14	14	14				

3 c and d are both integers less than 15 but greater than zero.

$$3c - d = 2$$

Complete the table to show different possible values for c and d.

c	1	2	3	4	5
$3c$	3				
d	1				
$3c - d$	2	2	2		

b) Explain why there are no other possible values for c and d.

_____

_____

4 x and y are both multiples of 5 less than 100

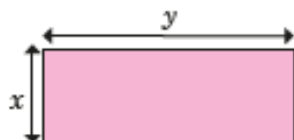If $2x = y$, circle the possible values of x and y.

$x = 20, y = 20$

$x = 10, y = 20$

$x = 20, y = 10$

$x = 35, y = 70$

$y = 90, x = 45$

5 Here is a rectangle.

x and y are both integers.

The rectangle has a perimeter of 28 cm.

a) Write an equation to represent the perimeter of the rectangle.

_____

b) List all the possible pairs of values for x and y.

_____

_____

_____

Compare answers with a partner. How do you know you have found all the possible values?

6 Aisha is buying some stationery for school.

She spends exactly £1

List the possible combinations of pencils and pens that Aisha could have bought.

pencil 10p   pen 15p

_____

_____

_____

7 Ron has four digit cards.

- Two of the cards have the same value.
- All of the cards are less than 10 but greater than zero.
- All of the cards are odd.
- The sum of the four cards is 24

Find two possible sets of cards.

Set 1 ☐ ☐ ☐ ☐

Set 2 ☐ ☐ ☐ ☐

8

$2ab = 48$

a) Find a pair of possible values for a and b.

$a =$ ☐ $b =$ ☐

b) Work with a partner to find as many pairs of values as you can.

Wednesday – Lesson 3
Convert metric measures

Convert metric measures

1 How many centimetre cubes can you fit along a metre stick?

What does this tell you?

2 Complete the sentences.

a) There are [   ] grams in 1 kilogram.

There are [   ] kilograms in one tonne.

b) There are [   ] millilitres in 1 litre.

c) There are [   ] millimetres in 1 centimetre

There are [   ] centimetres in 1 metre.

There are [   ] metres in 1 kilometre.

3 Complete the bar models.

a)

1 km	1 km	1 km	1 km
1,000 m	1,000 m		

There are [   ] m in 4 km.

b)

1 kg	1 kg	1 kg	1 kg	1 kg	1 kg	$\frac{1}{2}$ kg
1,000 g	1,000 g	1,000 g				

There are [   ] g in $6\frac{1}{2}$ kg.

4 Complete the conversions.

a) 2 kg = [   ] g   b) 1 l = [   ] ml

5 kg = [   ] g   5 l = [   ] ml

10 kg = [   ] g   11 l = [   ] ml

12kg = [   ] g

5 A bag of dog food weighs 2.5 kg.

Write this weight in grams.

[   ]

6 What measurements are the arrows pointing to?

Label them on the number line.

mm 0 1   5   13

cm 0   1   2

7 Complete the conversions.

a) 10 mm = [   ] cm   [   ] mm = 1.1 cm

11 mm = [   ] cm   [   ] mm = 10.1 cm

[   ] mm = 11 cm

b) 2.1 km = [   ] m   2.01 km = [   ] m

2.001 km = [   ] m   2.011 km = [   ] m

8 Write > , < or = to complete the statements.

a) 100 m ◯ 1 km   b) 5.1 l ◯ 5,100 ml

10 m ◯ 10 cm   607 l ◯ 0.607 ml

10.1 mm ◯ 101 cm   0.05 l ◯ 5 ml

9 Dora and Amir are trying to convert 1.05 metres into millimetres.

You can multiply 1.05 by 100 to convert it into centimetres, then multiply the product by 10 to convert it into millimetres.

Dora

Amir

You can just multiply 1.05 by 1,000!

Who do you agree with? _____

Explain your thinking.

10 What is the mass of one of the boxes?

Give your answer in grams.

2 kg   1kg

[   ]

11 There are 1,000 kg in one tonne.

a) How many grams are there in one tonne?

[   ]

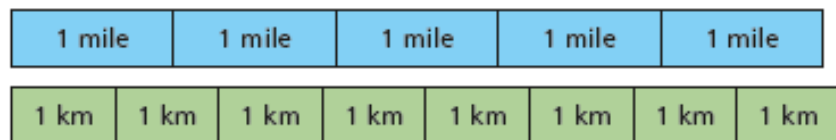b) A car weighs 1.3 tonnes.

Write the weight of the car in grams.

[   ]

Thursday – Lesson 4
Miles and kilometres
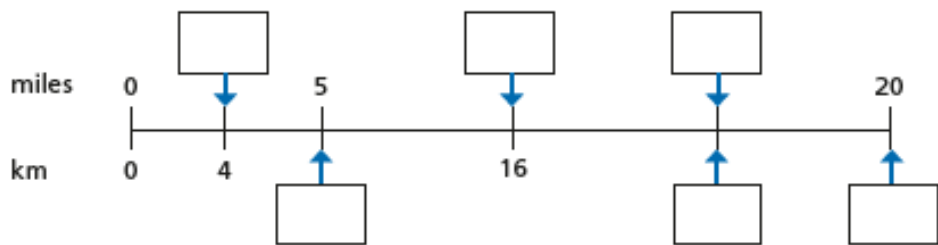
Miles and kilometres

1 Tick the statements that are true.

Use the bar model to help you.

1 mile	1 mile	1 mile	1 mile	1 mile

1 km	1 km	1 km	1 km	1 km	1 km	1 km	1 km

a) 5 miles is approximately equal to 8 kilometres. ☐

b) 1 mile is longer than 1 kilometre. ☐

c) 2 kilometres is longer than 1 mile. ☐

d) 2 kilometres is longer than 2 miles. ☐

2 Fill in the missing numbers on the number line.

miles 0 ▢   5   ▢   ▢   20

km 0   4 ▢   16   ▢   ▢

3 Complete the conversions.

a) 5 miles = ▢ kilometres

10 miles = ▢ kilometres

15 miles = ▢ kilometres

b) ▢ miles = 16 kilometres

▢ mile = 1.6 kilometres

▢ miles = 0.8 kilometres

4 Complete the conversions.

a) ▢ miles ≈ 160 km

b) 45 miles = ▢ km

c) ▢ ≈ 640 km

d) 95 miles = ▢ km

e) 7.5 miles = ▢ km

f) 2 miles = ▢ km

5

If 5 miles is approximately 8 kilometres, then 10 miles is approximately 13 kilometres.

Here is Whitney's working out.

+ 5 ⤵ 5 miles ≈ 8 km ⤵ + 5
10 miles ≈ 13 km

Explain Whitney's mistake.

6 A marathon is approximately 26.2 miles.

How far is this in kilometres?

☁

[ ]

7 The maximum speed limit on residential roads in the UK is 30 miles per hour.

30

In France, the maximum speed limit on residential roads is 50 kilometres per hour.

50

a) Which country has the higher speed limit for these roads?

_____

☁

b) What is the difference between the speed limits in miles per hour?

[ ]

8 Esther cycles 70 miles over 4 days.

On day 1 she cycles 14 miles.

On day 2 she cycles 32 km.

On day 4 she cycles twice as far as she does on day 3

How far does she cycle on day 4?

Give units with your answer.

[ ]

9 Use a map of your local area.

Find something that is approximately:
a) 1 mile away from your school

_____

b) 1 km away from your school

_____

c) 5 miles away from your school

_____

d) 5 km away from your school

_____

Compare answers with a partner.

Friday

Note to Parents:

The Friday Challenge will be made available on the White Rose Year 6 Home Learning page closer the time. 😋