Year 6 Maths Prompts:
Monday 8th June– Friday 19th June 2020

During these 2 weeks we are revisiting our multiplication and division knowledge. This includes decimals and fractions, and finding fractions and percentages of amounts, so these pages of maths prompts are here to provide you with key reminders on these topics too. Where relevant, we have included links to websites where you can watch videos and / or read through additional information **before** tackling the tasks that you have been assigned on mathletics and Purple Mash.

Multiply up to 4-digit by 2-digit

1	~~3~~	~~2~~	
	1	5	4
×		2	6
	9	2	4
3	0	8	0
4	0	0	4
1	1		

Start with the ones.

154 × 6 = 924

154 × 20 = 3080

3080 + 924 = 4004

Order of Operations

B	Brackets	10 × (4 + 2) = 10 × 6 = 60
O	Order	5 + 2^2 = 5 + 4 = 9
D	Division	10 + 6 ÷ 2 = 10 + 3 = 13
M	Multiplication	10 - 4 × 2 = 10 - 8 = 2
A	Addition	10 × 4 + 7 = 40 + 7 = 47
S	Subtraction	10 ÷ 2 - 3 = 5 - 3 = 2

Short Division

Start from the left.

		4	4	0	5
12	5	5 2	4 8	6	6 0

5 ÷ 12 = 0 r5

52 ÷ 12 = 4 r4

48 ÷ 12 = 4

6 ÷ 12 = 0 r6

These methods, plus others such as the grid method, can be re-capped on at BBC bitesize.

Plus these useful Learner's guides will help refresh your memory, watch the video then scroll down to read the information below:

How to visualise multiplication with an array.

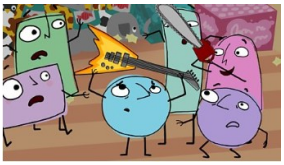
How to visualise division with an array.

How to use the bar model to solve problems.

Mrs Town's maths group may find these BBC Bitesize learner's guides helpful reminders; for each one there is a video to watch then you can scroll down to read the information underneath:

'How to multiply and divide by 0,1, 10 and 100'

'How to multiply in your head'



'How to work our division with remainders'

'Short division using written methods'

Decimals Reminders:

Decimals

Multiplying and Dividing by 10, 100 and 1000

Thousands	Hundreds	Tens	Ones	.	tenths	hundredths	thousandths
			2	.	0	8	
		2	0	.	8		
			2	.	0	8	

× 10 ← ÷ 10 →

Thousands	Hundreds	Tens	Ones	.	tenths	hundredths	thousandths
		4	3	.	5		
4	3	5	0	.			
		4	3	.	5		

× 100 ← ÷ 100 →

Thousands	Hundreds	Tens	Ones	.	tenths	hundredths	thousandths
			1	.	3	5	1
1	3	5	1	.			
			1	.	3	5	1

× 1000 ← ÷ 1000 →

Place value is still the most important thing when multiplying and dividing decimals; as long as you have your digits in the correct place then the method is the same.

For further support with this, click here https://whiterosemaths.com/homelearning/year-6/ – go to 'Summer Term– Week 5 (w/c 18th May) and watch the videos for multiplying and dividing decimals (Lessons 1, 2 and 3.)

Multiplying Decimals by Integers

	3 .	4	5
×			3
1	0 .	3	5
	1	1	

3.21 × 3 = 9.63

Ones	.	tenths	hundredths
1 1 1	.	0.1 0.1	0.01
1 1 1	.	0.1 0.1	0.01
1 1 1	.	0.1 0.1	0.01

Fractions Reminders / Prompts:

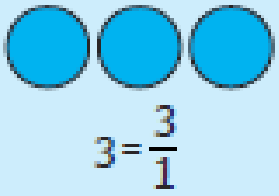
Below you will find examples taken from twinkl.com on how to multiply and divide fractions. For further support with this, click here https://whiterosemaths.com/homelearning/year-6/ – go to 'Summer Term– Week 4 (w/c 11th May) and watch the videos for multiplying and dividing fractions (Lessons 1, 2 and 3.) There is also a simple BBC Bitesize learner's guide. And to help you embed your understanding, why not watch 'How to multiply fractions by folding paper'?

Multiplying Proper Fractions

Multiplying Fractions by Fractions

$$\frac{1}{2} \times \frac{1}{3} = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

Multiplying Fractions by Whole Numbers



$$\frac{2}{5} \times \frac{3}{1} = \frac{6}{5} = 1\frac{1}{5}$$

twinkl visit twinkl.com

Dividing Fractions by Whole Numbers

$$\frac{2}{5} \div 2 = \frac{1}{5}$$

Multiplication and division are the inverse of one another so:

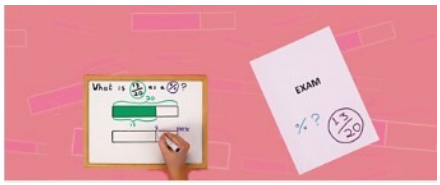
÷ 2 is the same as × $\frac{1}{2}$

$$\frac{2}{5} \times \frac{1}{2} = \frac{2}{10}$$

Fractions to Percentages

$$\frac{15}{50} \xrightarrow{\times 2} \frac{30}{100} = 0.3 = 30\% \xleftarrow{\times 2}$$

$$\frac{60}{200} \xrightarrow{\div 2} \frac{30}{100} = 0.3 = 30\% \xleftarrow{\div 2}$$

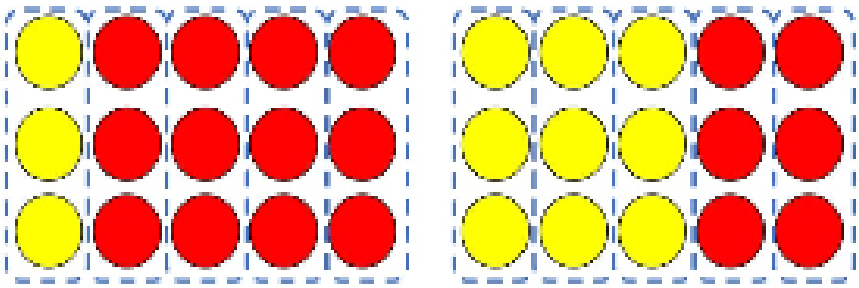


[How to turn a fraction into a percentage]
A simple, step-by-step, visual guide showing you how to turn a proper fraction into a percentage.

FRACTION OF AN AMOUNT

To find a fraction of an amount you need to divide the amount by the denominator and then times that answer by the numerator.

BBC Bitesize OR watch the lesson here https://whiterosemaths.com/homelearning/year-6/ - go to 'Summer Term– Week 4 (w/c 11th May)' Lesson 4.



$15 \div 5 = 3$

$\frac{1}{5}$ of $15 = 3$

$15 \div 5 = 3$

$3 \times 3 = 9$

$\frac{3}{5}$ of $15 = 9$

Other useful reminders:

Mental Calculations and Estimation

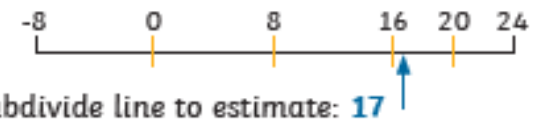
Order of calculations:

$50 \times 34 \times 2 = 50 \times 2 \times 34 = 100 \times 34 = 3400$

Money: £8.99 + £3.49 = £12.48

Use £9 + £3.50 = £12.50 and subtract 2p

Estimate on a number line



Subdivide line to estimate: 17

Reason from Known Facts

$90 \div 10 = 9$ so $90 \div 20 = 4.5$ and $90 \div 5 = 18$

$16 \times 9 = 144$ so $1.6 \times 9 = 14.4$

$4352 \div 17 = 256$

so $256 \times 18 = 4352 + 256 = 4608$

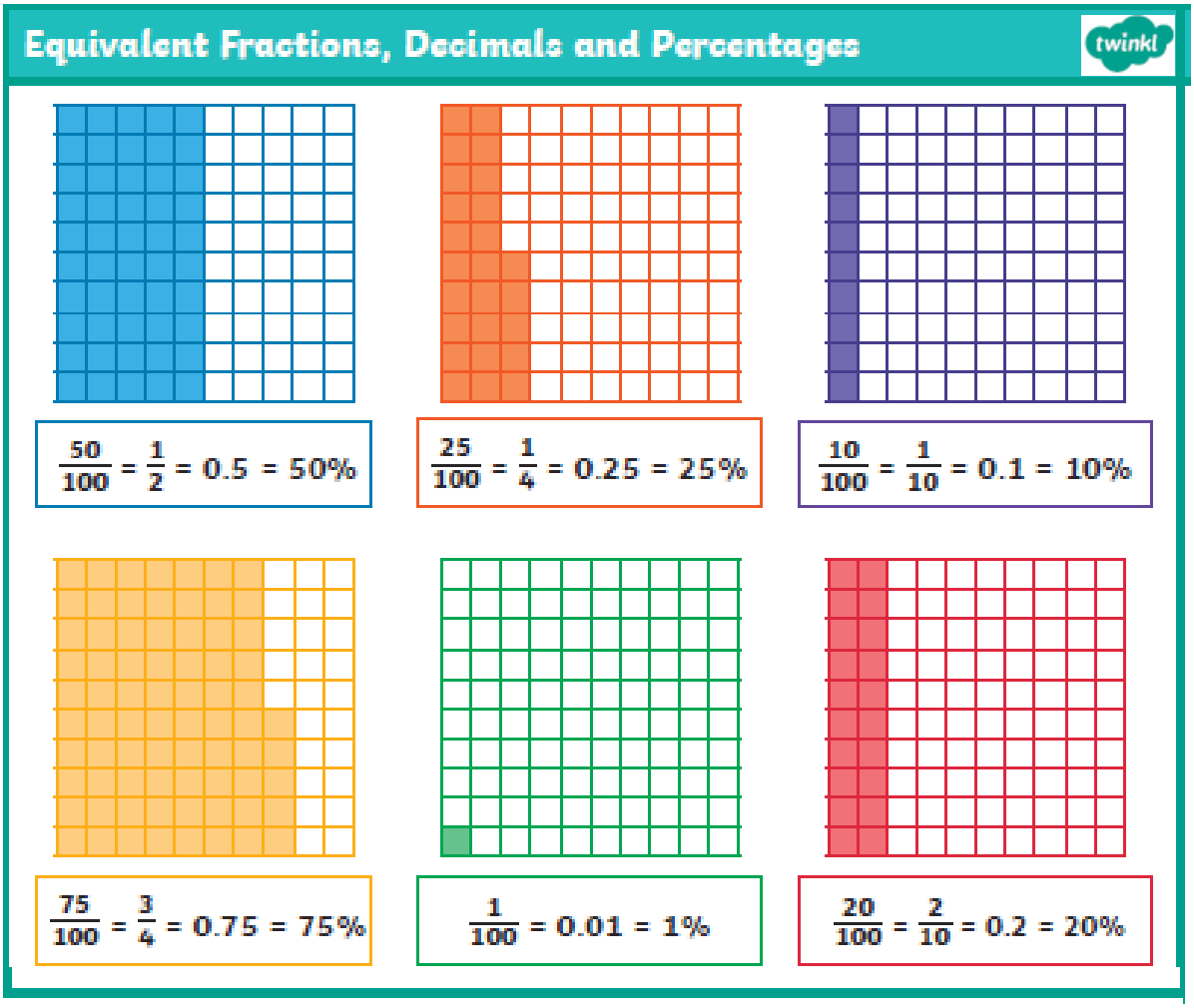
$3786 + 2850 = 6636$

so $4786 + 2850 = 7636$

and $2786 + 3850 = 6636$

and $8636 - 3786 = 4850$

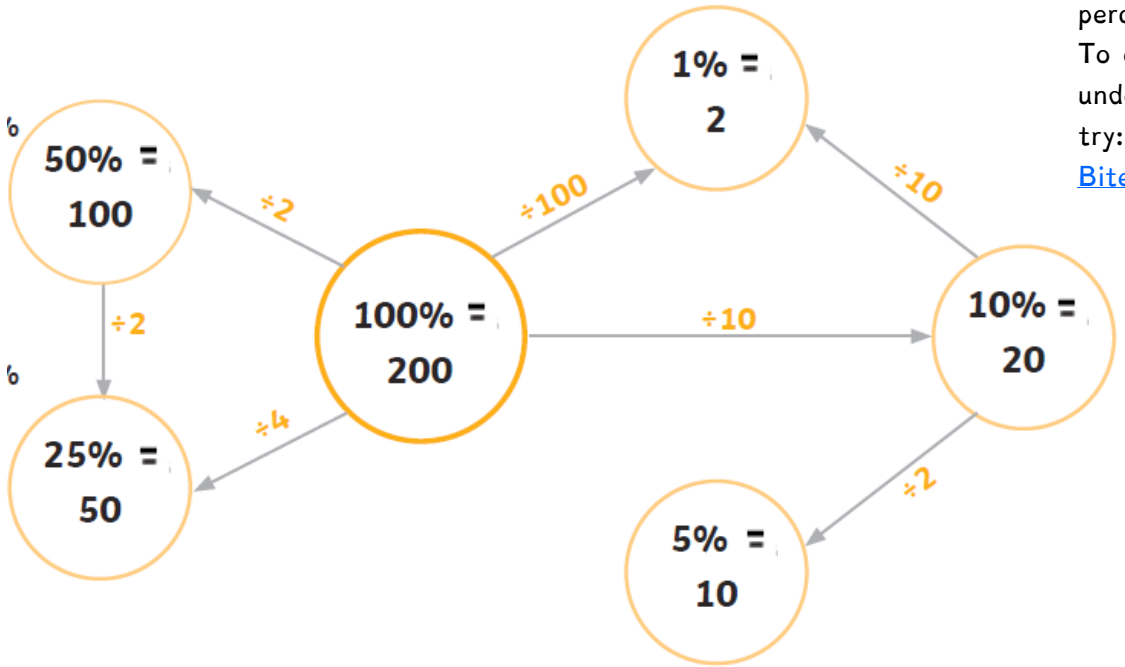
Percentages Reminders / Prompts:



Percentage means 'out of 100'

It is really important to remember the relationship between fractions and percentages as you can use it to help you work out common percentages (see below)

There is also a simple BBC Bitesize video and quiz to help you calculate percentages. To extend your understanding try: BBC Bitesize KS3



50% = $\frac{1}{2}$ so we can divide by 2	10% = $\frac{1}{10}$ so we can divide by 10
25% = $\frac{1}{4}$ so we can divide by 4	1% = $\frac{1}{100}$ so we can divide by 100