



Key Instant Recall Facts

YEAR 5 – Autumn 1

I can recall decimal number bonds for 1 and 10.

By the end of this half term, children should see the links with number bonds to 10, 100 and 1000 to identify decimal number bonds to 1 and 10 and recall these **instantly**.

Decimal number bonds to 1	Decimal number bonds to 10
e.g.	e.g.
$0.1 + 0.9 = 1$	$1.1 + 8.9 = 10$
$0.2 + 0.8 = 1$	$2.1 + 7.9 = 10$
$0.3 + 0.7 = 1$	$1.2 + 8.8 = 10$
$0.4 + 0.6 = 1$	$2.2 + 7.8 = 10$
$0.5 + 0.5 = 1$	$1.3 + 8.7 = 10$
$0.7 + 0.3 = 1$	$2.3 + 7.7 = 10$
$0.8 + 0.2 = 1$	$1.4 + 8.6 = 10$
$0.9 + 0.1 = 1$	$2.4 + 7.6 = 10$
	$1.5 + 8.5 = 10$
	$2.5 + 7.5 = 10$
	$1.6 + 8.4 = 10$
	$2.6 + 7.4 = 10$
	$1.7 + 8.3 = 10$
	$2.7 + 7.3 = 10$
	$1.8 + 8.2 = 10$
	$2.8 + 7.2 = 10$
	$1.9 + 8.1 = 10$
	$2.9 + 7.1 = 10$ etc.
What other facts do they know can help with these number bonds?	What strategies can they use to help with this?

Key Questions

What do I add to 0.8 to make 1?

What is 1 take away 0.06?

What is 1.3 less than 10?

How many more than 9.8 is 10?

What is the difference between 0.92 and 10?

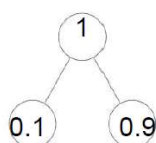
Children should be able to answer questions like these as well as missing number problems
e.g. $0.2 + \bigcirc = 1$ or $3.6 + \bigcirc = 10$

What this can look like

Concrete:

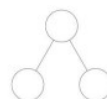
Ones	Tenths	Hundredths
	0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9	
		0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09

Pictorial:



Abstract:

$$\begin{aligned}
 0.1 + 0.9 &= 1 \\
 0.9 + 0.1 &= 1 \\
 1 - 0.1 &= 0.9 \\
 1 - 0.9 &= 0.1
 \end{aligned}$$



Things to Try

Use money- how many ways can you make £1? E.g. 0.90p + 0.10p

Part part whole- Use the part part whole model to create your own decimal number bonds. How many ways can you make 1? How many ways can you make 10?

Useful Websites:

<https://www.topmarks.co.uk/learning-to-count/paint-the-squares>

<https://www.topmarks.co.uk/maths-games/hit-the-button>

<https://www.studyzone.tv/game274-code0677c4940c4306a3a90514b2246a093f>

<https://classroom.thenational.academy/lessons/decimal-number-bonds-c8vk4t>

0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10
0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20
0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.30
0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40
0.41	0.42	0.43	0.44	0.45	0.46	0.47	0.48	0.49	0.50
0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60
0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70
0.71	0.72	0.73	0.74	0.75	0.76	0.77	0.78	0.79	0.80
0.81	0.82	0.83	0.84	0.85	0.86	0.87	0.88	0.89	0.90
0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00



Key Instant Recall Facts

YEAR 5 – Autumn 2

I can double and halve any number up to 100

By the end of this half term, children should know the following facts. The aim is for them to recall these facts instantly.

Double 35 = 70
Double 70 = 140
Double 82 = 164
Etc...

Key Vocabulary

Half
Double
Times 2
Divide by 2

Half of 34 = 17
Half of 15 = 7.5 or 7 and a half
Half of 99 = 44.5 or 44 and a half
Etc...

What is $\frac{1}{2}$ of 38?

$$\frac{1}{2} \text{ of } 8 = 4$$

$$\frac{1}{2} \text{ of } 30 = 15$$

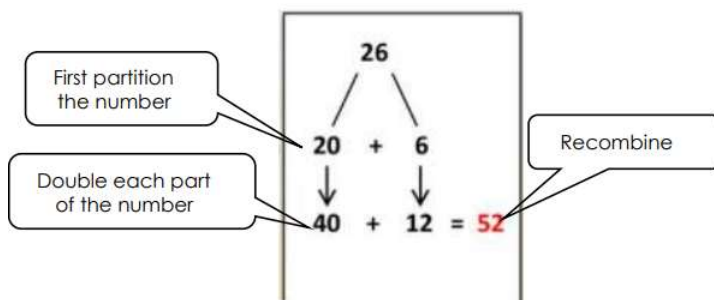
So $\frac{1}{2}$ of 38 must be 19!

Things to Try

The secret to success is practising little and often. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Play number ping pong - Start of saying 'ping', child replies with 'pong'. Repeat and then convert to numbers i.e. say 39 and they reply '78'. Or say, '78' and they say '39'

Timed Challenges - How well are you doing? How many questions can you answer in 2 minutes? Can you beat your own record?



Useful Websites:

<https://www.topmarks.co.uk/maths-games/hit-the-button>

<https://www.topmarks.co.uk/maths-games/daily10>

<https://mathsticks.com/my/wp-content/uploads/2015/02/lb-doubles-halves-prime.pdf>





Key Instant Recall Facts

YEAR 5 – Spring 1

I can recall metric conversions

By the end of this half term, children should know the following facts. The aim is for them to recall these facts instantly.

1 kilogram = 1000 grams
2 kilograms = 2000 grams
3 kilograms = 3000 grams

1 kilometre = 1000 metres
1 metre = 100 centimetres
1 metre = 1000 millimetres
1 centimetre = 10 millimetres

1 litre = 1000 millilitres
2 litres = 2000 millilitres etc...

Key Questions

What do the prefixes kilo, milli and centi mean?

Complete the sentence- there aregrams in akilogram.

Complete the sentence- to convert from metres to centimetres you.....

They should also be able to apply these facts to answer questions.

E.g. How many metres in 1 ½ km?

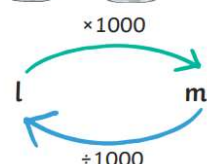
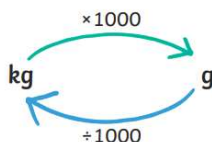
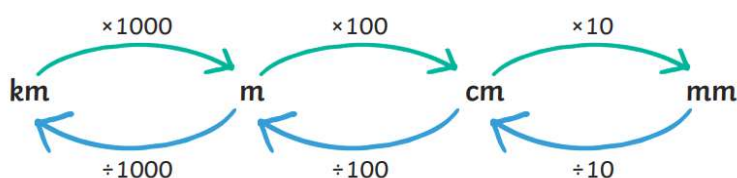
Things to Try

Top Tips - The secret to success is practising little and often. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Look at prefixes – Can your child work out the meanings of kilo-, centi- and milli-? What other words begin with these prefixes?

Be practical – Do some baking and convert the measurements in the recipe.

How far? – Calculate some distances using unusual measurements. How tall is your child in mm? How far away is London in metres?



Useful Websites:

<https://uk.splashlearn.com/measurement-games>

<https://www.ictgames.com/mobilePage/mostlyPostie/index.html>

<https://www.bbc.co.uk/bitesize/articles/z63qdp3>



Key Instant Recall Facts

YEAR 5 – Spring 2

I can recall square numbers up to 12^2 and their square roots

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

What could this look like?

$$1^2 = 1 \times 1 = 1$$

$$2^2 = 2 \times 2 = 4$$

$$3^2 = 3 \times 3 = 9$$

$$4^2 = 4 \times 4 = 16$$

$$5^2 = 5 \times 5 = 25$$

$$6^2 = 6 \times 6 = 36$$

$$7^2 = 7 \times 7 = 49$$

$$8^2 = 8 \times 8 = 64$$

$$9^2 = 9 \times 9 = 81$$

$$10^2 = 10 \times 10 = 100$$

$$11^2 = 11 \times 11 = 121$$

$$12^2 = 12 \times 12 = 144$$

$$\sqrt{1} = 1$$

$$\sqrt{4} = 2$$

$$\sqrt{9} = 3$$

$$\sqrt{16} = 4$$

$$\sqrt{25} = 5$$

$$\sqrt{36} = 6$$

$$\sqrt{49} = 7$$

$$\sqrt{64} = 8$$

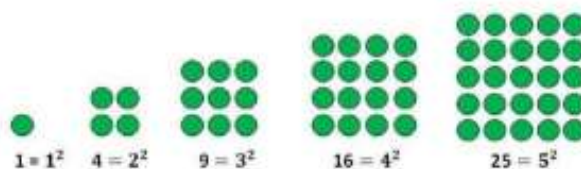
$$\sqrt{81} = 9$$

$$\sqrt{100} = 10$$

$$\sqrt{121} = 11$$

$$\sqrt{144} = 12$$

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144



Key Vocabulary

What is 7 squared?

What is 7 multiplied by itself?

What is the square root of 144?

Is 30 a square number?

Things to Try

Around the clock- think of a clock face. What are each of the numbers a square root of? E.g. 12: 12 is the square root of 144. What are each of the numbers squared?

Dice roll- whatever the number lands on, square it

Cards- turn a card over, square it and call out the answer. Can you say the answer quicker than your partner?

Useful Websites:

<https://www.topmarks.co.uk/maths-games/hit-the-button>

<https://mathszone.co.uk/using-applying/puzzles-and-logic-problems/splat-square100-primary-games-3/>

<https://wordwall.net/resource/9919606/maths/whack-square>



Key Instant Recall Facts

YEAR 5 – Summer 1

I can find factor pairs of a number

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Children should now know all multiplication and division facts up to 12×12 . When given a number in one of those times tables, they should be able to state a factor pair which multiply to make this number (product).

Below are some examples:

$24 = 4 \times 6$	$42 = 6 \times 7$
$24 = 8 \times 3$	$25 = 5 \times 5$
$56 = 7 \times 8$	$84 = 7 \times 12$
$54 = 9 \times 6$	$15 = 5 \times 3$

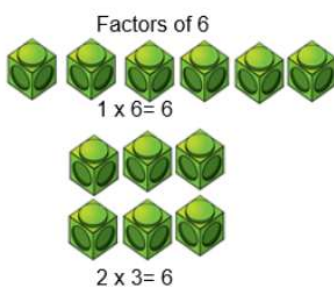
Key Vocabulary

Can you find a factor of 28?

Find 2 numbers whose product is 20.

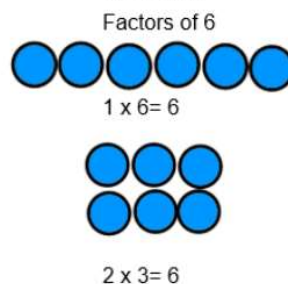
I know that 6 is a factor of 72 because 6 multiplied by 12 is 72.

Concrete:

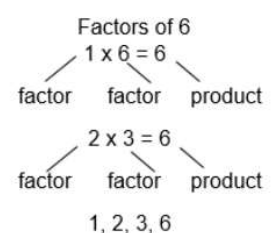


What can this look like?

Pictorial:



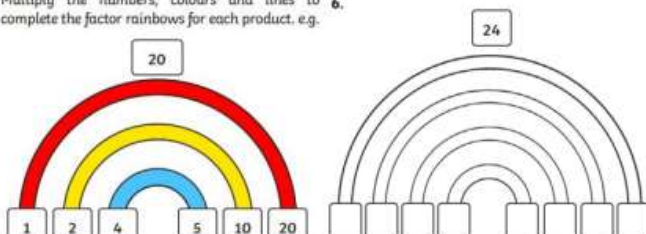
Abstract:



Things to Try

Factor Rainbows- children can draw, paint or chalk factor rainbows.

Multiply the numbers, colours and lines to 6, complete the factor rainbows for each product, e.g.



Useful Websites:

<https://www.topmarks.co.uk/maths-games/multiples-and-factors>

<https://www.mathnook.com/math/math-speed-racing-factors.html>

<https://www.math-play.com/Factors-Millionaire/factors-millionaire-game.html5.html>



Key Instant Recall Facts

YEAR 5 – Summer 2

I can identify prime numbers up to 20.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts instantly.

A prime number is a number with no factors other than itself and one.

The following numbers are prime numbers:

2, 3, 5, 7, 11, 13, 17, 19

A composite number is divisible by a number other than 1 or itself.

The following numbers are composite numbers:

4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20

Children should be able to explain how they know that a number is composite. E.g. 15 is composite because it is a multiple of 3 and 5.

Concrete:

5 is a prime number



What can this look like?

Pictorial:

5 is a prime number

5				
1	1	1	1	1

5	
5	

Abstract:

Prime numbers to 20

2 3 5 7
11 13 17 19

Useful Websites:

<https://www.bbc.co.uk/bitesize/topics/zfq7hyc/articles/z2q26fr>

https://www.transum.org/Maths/Game/Prime_Pairs/

<https://www.primarygames.com/math/matheggprime>

Things to Try

Penta primes

Here are ten cards numbered 0 to 9:



Using all ten cards, rearrange them to make five prime numbers.

Can you find a way of doing it with five two-digit numbers?

How about using one one-digit number, one three-digit number and three two-digit numbers? ...