



Year 5 Key instant recall facts (KIRFs)

Autumn 1

Know all decimals that total 1 or 10 (1 decimal place)

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

$0.6 + 0.4 = 1$	$3.7 + 6.3 = 10$
$0.4 + 0.6 = 1$	$6.3 + 3.7 = 10$
$1 - 0.4 = 0.6$	$10 - 3.7 = 6.3$
$1 - 0.6 = 0.4$	$10 - 6.3 = 3.7$
$0.75 + 0.25 = 1$	$4.8 + 5.2 = 10$
$0.25 + 0.75 = 1$	$5.2 + 4.8 = 10$
$1 - 0.25 = 0.75$	$10 - 5.2 = 4.8$
$1 - 0.75 = 0.25$	$10 - 4.8 = 5.2$

Key vocabulary

What do I add to 0.8 to make 1?

What is 1 subtract 0.6?

What is 1.3 less than 10?

How many more than 9.8 is 10?

What is the difference between 8.9 and 10?

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions.

e.g. $0.49 + \square = 1$ or $10 - \square = 7.2$

Use practical resources

- Buy one get three free – If your child knows one fact (e.g. $0.7 + 0.3 = 1$), can they tell you the other three facts in the same fact family?
- Use number bonds to 10 – How can your number bonds to 10 help you work out number bonds to 100?
- Play Games – There are missing number questions at top marks hit the button See how many questions you can answer in 90 seconds.

Know Roman numerals to 1000

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

Use practical resources

- Topmarks has various number bond activities
<https://www.topmarks.co.uk>
- Try this Roman Numerals game to help you remember!
<https://claritymaths.uk/games/memory/roman-numerals.htm>

Roman Numerals: 1 - 1000

I	V	X	L	C	D	M
1	5	10	50	100	500	1000

1	I
2	II
3	III
4	IV
5	V
6	VI
7	VII
8	VIII
9	IX
10	X

11	XI
20	XX
30	XXX
40	XL
50	L
60	LX
70	LXX
80	LXXX
90	XC
100	C

200	CC
300	CCC
400	CD
500	D
600	DC
700	DCC
800	DCCC
900	CM
1000	M
1001	MI

Top tips:

The key to success is little and often. Use time wisely. Can you practise 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 any more ideas, please speak to your child's teacher.



Year 5 Key instant recall facts (KIRFs)

Autumn 2

Consolidate multiplication and division facts for all times tables.

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

Multiplication Chart												
	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 8 multiplied by 6?

What is 7 times 4?

What is 81 divided by 9?

What is the product of 5 and 7?

They should be able to answer these questions in any order, including missing number questions e.g. $6 \times \square = 72$ or $\square \div 6 = 4$

Use practical resources

- Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.
- Order of difficulty – Ask your child to order these facts from the easiest to the most challenging. Can they explain why some facts are easier to remember? Then focus on practising the most challenging facts.
- Use memory tricks – For those hard-to-remember facts.
- Top marks – hit the button
- Remember fact families for instance 2,7,14 7,12,84
- <https://www.timestables.co.uk/games/>

Top tips:

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Year 5 Key instant recall facts (KIRFs)

Spring 1

Know the doubles and halves of all two-digit

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...

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...

Key vocabulary

Half

Double

multiplied by 2

Divided by 2

Children should be able to quickly work out any double or half up to 100. They should be able to explain how they found the answers.

Use practical resources –

- Encourage the children to partition the number into its tens and ones. They can quickly half each of these and then add them together. The same applies for doubling.
e.g. Half of 47 - Half of 40 is 20 and ...
Half of 7 is 3.5 or 3 and a half so...
Half of 47 is 23.5 or 23 and a half
- [Hit the Button - Quick fire maths practise for 6-11 year olds \(topmarks.co.uk\)](https://www.topmarks.co.uk/Hit-the-Button)

Know mm = cm, g = kg, ml = l

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...

Use practical resources –

- 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?

Top tips:

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Year 5 Key instant recall facts (KIRFs)

Spring 2

Know the prime numbers within 100

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,

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,

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.

Key vocabulary

Prime

Composite

Odd

Even

factors

	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Prime numbers are in yellow – composite numbers in white.

NB: 1 is not a prime or composite number because it has only one factor, which is 1 itself.

Use practical resources –

- It's really important that your child uses mathematical vocabulary accurately. Choose a number between 2 and 100. How many correct statements can your child make about this number using the vocabulary above?
- Make a set of cards for the numbers from 2 to 100. How quickly can your child sort these into prime and composite numbers? How many even prime numbers can they find? How many odd composite numbers?
- <https://www.bing.com/search?q=prime+number+game&form=ANNT11&ref=341a5e0591014e228c38dad491875fdf&pc=HCTS>
- <https://mathsbot.com/puzzles/findThePrimes>

Top tips:

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Year 5 Key instant recall facts (KIRFs)

Summer 1

Know all pairs of factors of numbers 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.

Children should now know all multiplication and division facts up to 12×12 .

When given a number in one of those multiplication tables, they should be able to state a factor pair which multiply to make this number (product). Below are some examples:

$$24 = 4 \times 6 \quad 42 = 6 \times 7$$

$$24 = 8 \times 3 \quad 25 = 5 \times 5$$

$$56 = 7 \times 8 \quad 84 = 7 \times 12$$

$$54 = 9 \times 6 \quad 15 = 5 \times 3$$

Factors of 48:

$$1 \times 48$$

$$2 \times 24$$

$$3 \times 16$$

$$4 \times 12$$

$$6 \times 8$$

Key vocabulary

Can you find a factor of 28?

Find 2 integers whose product is 20.

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

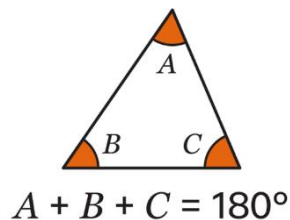
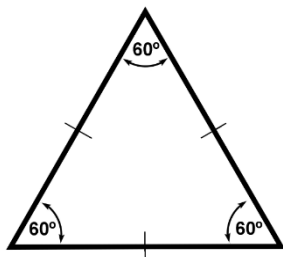
NB: integer is a whole number.

At school we teach the children that when finding factors they always start with finding $1 \times$ itself then move on through the multiplication facts.

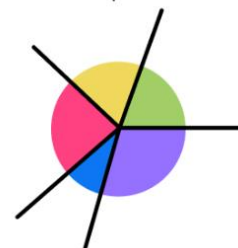
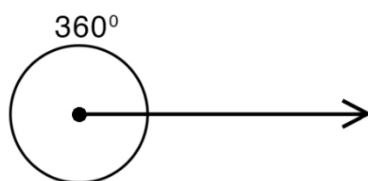
Use practical resources-

- Online games – Activities <https://www.topmarks.co.uk/maths-games/hit-the-button> www.timestables.co.uk
- Think of the question – One player thinks of a times table question (e.g. 4×12) and states the answer. The other player has to guess the original question.

Know angles in a triangle, angles around a point.



Angles around a point add to 360° .



Top tips:

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Year 5 Key instant recall facts (KIRFs)

Summer 2

Know the decimal and percentage equivalents of the fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{3}$, $\frac{2}{3}$, tenths and fifths

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

$$\frac{1}{2} = 0.5$$

$$\frac{1}{4} = 0.25$$

$$\frac{3}{4} = 0.75$$

$$\frac{1}{10} = 0.1$$

$$\frac{2}{10} = 0.2$$

$$\frac{5}{10} = 0.5$$

$$\frac{6}{10} = 0.6$$

$$\frac{9}{10} = 0.9$$

$$\frac{1}{100} = 0.01$$

$$\frac{7}{100} = 0.07$$

$$\frac{21}{100} = 0.21$$

$$\frac{75}{100} = 0.75$$

$$\frac{99}{100} = 0.99$$

$$\frac{1}{3} \approx 0.333$$

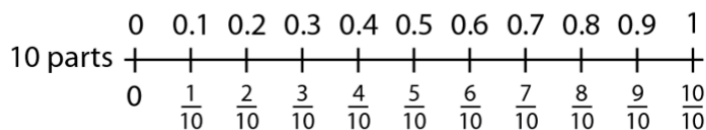
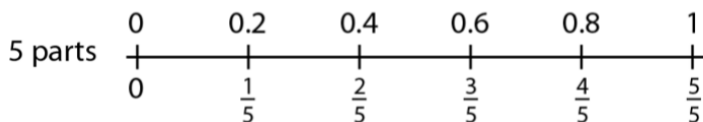
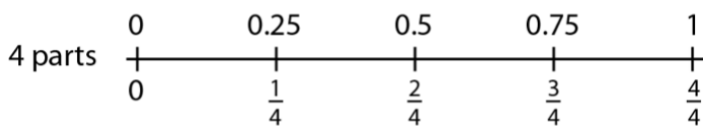
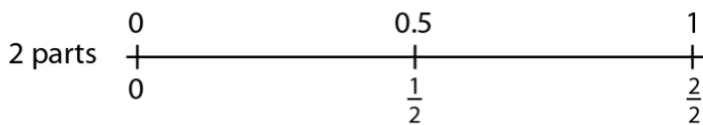
$$\frac{2}{3} \approx 0.667$$

$$\frac{1}{5} = 0.2$$

$$\frac{2}{5} = 0.4$$

$$\frac{3}{5} = 0.6$$

$$\frac{4}{5} = 0.8$$



Key vocabulary

How many tenths is 0.8?

How many hundredths is 0.12?

Write 0.75 as a fraction.

Write $\frac{1}{4}$ as a decimal

Use practical resources-

- Play games – Make some cards with pairs of equivalent fractions and decimals. Use these to play the memory game or snap. Or make your own dominoes with fractions on one side and decimals on the other.
- <https://www.topmarks.co.uk/maths-games/7-11-years/fractions-and-decimals>
- <https://mathsframe.co.uk/en/resources/category/18/fractions-decimals-and-percentages>

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