

Key Instant Recall Facts

Year 5

To help develop children's fluency in mathematics, we ask them to learn Key Instant Recall Facts each half term. We expect children to practise their KIRFs at least 3 times a week.

Each KIRF has an entry level target, which they must be able to do before attempting the main target.

Also, if a child is working above and finding this target comfortable, they may have a go at the challenge to be pushed further.

These KIRFs are used in every day mathematics lessons as well as general, day-to-day life. They are the basic facts of mathematics that every individual should know instantly.



Key Instant Recall Facts

Year 5 – Autumn 1

Recall the multiplication and division facts for all times tables up to 12×12 .

Please see the separate sheet for the full list of times tables.

These should all be known instantly as they underpin so much of the Year 5 curriculum.

Key Vocabulary

What is 8 **multiplied by** 6?

What is 6 **times** 9?

What is 5 **groups of** 3?

What is 24 **divided by** 6?

Entry level: Count up in multiples up to $12x$.

Challenge: Recall square numbers up to 150.

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 don't 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.

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.

Buy one get three free - If your child knows one fact (e.g. $8 \times 3 = 24$), can they tell you the other three facts in the same fact family? (3×8 , $24 \div 3$ and $24 \div 8$)

Use number bonds to 10 - How can number bonds to 10 help you work out number bonds to 100?

Play games – Your child has a login for TT Rockstars which is full of engaging and fun games all based around the times tables.



Key Instant Recall Facts

Year 5 – Autumn 2

Convert between metric measurements.

1 kilogram = 1000 grams

0.001 kilogram = 1 grams

1 kilometre = 1000 metres

0.001 kilometre = 1 metres

1 metre = 100 centimetres

0.01 metre = 1 centimetres

1 metre = 1000 millimetres

0.001 metre = 1 millimetres

1 centimetre = 10 millimetres

0.1 centimetre = 1 millimetres

1 litre = 1000 millilitres

0.001 litre = 1 millilitres

1 litre = 100 centilitres

0.01 litre = 1 centilitres

Try asking questions like: How many metres is 230cm; How many grams is 2.39kg? How much is 6.3L in ml? What is $\frac{1}{4}$ of a kilogram?

Entry level: Identify mm, cm & m as length; ml, cl & l as capacity and g & kg as weight.

Challenge: Convert between miles and kilometres (5 miles \approx 8 kilometres).

Top Tips

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Look at the prefixes – Can your child work out the meanings of *kilo-*, *centi-* and *milli-*? What other words begin with these prefixes? (Century = 100 years, centipede = 100 legs etc.)

Be practical – Do some baking and convert the measurements in the recipe. When drinking out of a 500ml water bottle, ask your child how many cl or litres is that.

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



Key Instant Recall Facts

Year 5 – Spring 1

Recall square numbers up to 12^2 and cube numbers up to 5^3 .

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

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

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

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

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

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

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

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

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

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

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

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

$$1^3 = 1 \times 1 \times 1 = 1$$

$$2^3 = 2 \times 2 \times 2 = 8$$

$$3^3 = 3 \times 3 \times 3 = 27$$

$$4^3 = 4 \times 4 \times 4 = 64$$

$$5^3 = 5 \times 5 \times 5 = 125$$

$$\sqrt{9} = 3$$

$$\sqrt{16} = 4$$

$$\sqrt{25} = 5$$

$$\sqrt{36} = 6$$

$$\sqrt{49} = 7$$

$$\sqrt{64} = 8$$

Key Vocabulary

What is 8 **squared**?

What is 7 **multiplied by itself**?

What is the **square root** of 144?

Is 81 a **square number**?

Entry level: Recall quickly the times tables up to 12×12 .

Challenge: I can identify cube numbers up to 53.

Top Tips

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Cycling Squares – At <http://nrich.maths.org/1151> there is a challenge involving square numbers. Can you complete the challenge and then create your own examples?

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.



Key Instant Recall Facts

Year 5 – Spring 2

I can recognise decimal equivalents of fractions.

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

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

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

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

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

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

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

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

$$\frac{3}{100} = 0.03$$

$$\frac{7}{10} = 0.7$$

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

$$\frac{16}{100} = 0.16$$

$$\frac{53}{100} = 0.53$$

Key Vocabulary

Tenths

Hundredths

Half, quarter, fifth

Entry level: Know simple fraction to decimal equivalences (e.g. $\frac{1}{2} = 0.5$)

Challenge: Convert to percentages as well.

Top Tips

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Money - Linking fractions and decimals to money (with pounds and pence) can be a good way of deepening your child's understanding.



Key Instant Recall Facts

Year 5 – Summer 1

Recall the multiplication and division facts for all times tables up to 12×12 , with numbers x10 and x100 greater.

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

prime number

composite number

factor

multiple

Entry level: Recall the times tables up to 12×12 .

Challenge: Recall the multiplication and division facts for all times tables up to 12×12 in decimals.

Top Tips

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It's really important that your child uses mathematical vocabulary accurately. Choose a number between 2 and 20. 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 20. 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?

Play games – Your child has a login for TT Rockstars which is full of engaging and fun games all based around the times tables.



Key Instant Recall Facts

Year 5 – Summer 2

Find factor pairs of a number.

Children should now know all multiplication and division facts up to 12×12 . When given a number in one of these times tables, they should be able to state a factor pair which multiply to make this number. Below are some examples:

$$24 = 4 \times 6$$

$$24 = 8 \times 3$$

$$56 = 7 \times 8$$

$$54 = 9 \times 6$$

$$42 = 6 \times 7$$

$$25 = 5 \times 5$$

$$84 = 7 \times 12$$

$$15 = 5 \times 3$$

Key Vocabulary

Can you find a **factor** of 28?

Find two numbers whose **product** is 20.

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

Entry level: Identify division facts based on the times tables up to 12×12 .

Challenge: Find common factors between two different numbers.

Top Tips

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Play games - There is an activity at www.conkermaths.org to practise finding factor pairs

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.

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.