

Dear Parents,

To help develop your child'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.



Key Instant Recall Facts

Year 5 - Autumn 1

I know the multiplication and division facts for all times tables up to 12×12

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

Please see separate sheet for all times table facts.

Key Vocabulary

What is 12 **multiplied by** 6?

What is 7 **times** 8?

What is 84 **divided by** 7?

They should be able to answer these questions in any order, including missing number questions e.g. $7 \times \square = 56$ or $\square \div 9 = 8$

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.

Look for patterns - These times tables are full of patterns for your child to find. How many can they spot?

Speed Challenge - Take two packs of playing cards and remove the kings. Turn over two cards and ask your child to multiply the numbers together (Ace = 1, Jack = 11, Queen = 12). How many questions can they answer correctly in 2 minutes? Practise regularly and see if they can beat their high score.

Online games - There are many games online which can help children practise their multiplication and division facts. www.conkermaths.org is a good place to start.

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- Autumn 2

I can identify prime numbers up to 20

By the end of this half term the 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

Key Vocabulary

prime number
composite number
factor
multiple

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

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?



Key Instant Recall Facts

Year 5- Spring 1

I can recall metric conversions

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

1 kilogram = 1000 grams

1 kilometre = 1000 metres

1 metre = 100 centimetres

1 metre = 1000 millimetres

1 centimetre = 10 millimetres

1 litre = 1000 millilitres

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.

Look at the 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?



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 the children should know the following facts. The aim is for them to recall these facts **instantly**.

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

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

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

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

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

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

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

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

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

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

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

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

$$\sqrt{1} = 1$$

$$\sqrt{4} = 2$$

$$\sqrt{9} = 3$$

$$\sqrt{16} = 4$$

$$\sqrt{25} = 5$$

$$\sqrt{36} = 6$$

$$\sqrt{49} = 7$$

$$\sqrt{64} = 8$$

$$\sqrt{81} = 9$$

$$\sqrt{100} = 10$$

$$\sqrt{121} = 11$$

$$\sqrt{144} = 12$$

Key Vocabulary

What is 8 squared?

What is 7 multiplied by itself

What is the square root of 81?

Is 144 a square number?

Children should also be able to recognise whether a number below 150 is a square number or not.

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- Summer 1

I can find factor pairs of a number.

By the end of this half term the 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 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 2 numbers whose **product** is 20

I know that 6 is a factor of 72 because $6 \times 12 = 72$

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.

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.

