



KEY INSTANT RECALL FACTS

To develop your child's fluency and mental maths skills, we have decided to introduce KIRFs (Key Instant Recall Facts) throughout school.

KIRFS are a way of helping your child to learn by heart, key facts and information which they need to have instant recall of. KIRFs are a crucial part of a child's learning journey. They underpin a learner's mental development and ensure that they're able to answer maths questions with confidence.

They are particularly useful when calculating: adding; subtracting; multiplying or dividing. They contain number facts such as number bonds and times tables that need constant practice and rehearsal, so children can recall them quickly and accurately. Instant recall of facts helps enormously with mental agility within maths lessons. When children move onto written calculations, knowing these key facts is very beneficial.

For your child to become more efficient in recalling them easily, they need to be practised frequently and for short periods of time. Each half term, children will focus on a Key Instant Recall Fact (KIRF) to practise and learn at home for the half term. They will also be available on our school website under the maths section. The KIRFs include practical ideas to assist your child in grasping the key facts and contain helpful suggestions of ways in which you could make this learning interesting and relevant.

They are not designed to be a time-consuming task and can be practiced anywhere – in the car, walking to school, etc. Regular practice - little and often – helps children to retain these facts and keep their skills sharp. **Throughout the half term, the KIRFs will also be practiced in school and your child's teacher will assess whether they have been retained.**

Over their time at primary school, we believe that - if the KIRFs are developed fully - children will be more confident with number work, understand its relevance, and be able to access the curriculum much more easily.

They will be able to apply what they have learned to a wide range of problems that confront us regularly.



Key Instant Recall Facts

Year 5 – Autumn 1

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

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 know all of these facts by the end of year 4.

This will be consolidation of these facts.

See separate sheet for all times tables facts.

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. $6 \times \bigcirc = 42$ or $\bigcirc \div 8 = 4$

Top Tips

The secret to success is practising little and often. 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.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. You can also use Education City songs and websites www.timestables.co.uk , www.timestables.me.uk and www.conkermaths.com

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



Key Instant Recall Facts

Year 5 – Autumn 2

I can double and half 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	Half of 34 = 17
Double 70 = 140	Half of 15 = 7.5 or 7 ½
Double 82 = 164	Half of 99 = 44.5 or 44 ½
Double 45 = 90	Half of 45 = 22.5 or 22 ½
Double 29 = 58	Half of 62 = 31

Key Vocabulary

Half

Double

Times 2

Divide 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. They may explain that they know double 29 = 58 as they have used near doubles i.e. double 30 = 60 subtract 2 = 58.

Top Tips

The secret to success is practising little and often. You do not need to practise them all at once; perhaps you could have a fact of the day.

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 ½ so...

Half of 47 is 23.5 or 23 ½

Remember that an **odd number is the same as an even number plus one:**

7 is the same as 6 + 1

Half of six is 3

Half of one is 0.5 or ½

3 plus ½ = 3 ½

Half of 7 = 3 ½ or 3.5



Key Instant Recall Facts

Year 5 – Spring 1

I can find factor pairs of a number and multiples 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:

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

Top Tips

Key Vocabulary

Can you find a factor of 28?

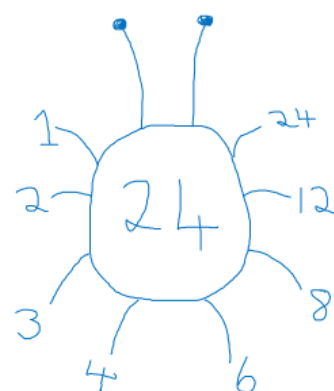
Find 2 numbers whose product is 20.

I know that 6 and 12 are factors of 72 because 6 multiplied by 12 is 72

Give me two multiples of 4.

Factors divide perfectly into a whole number without a remainder. Factor pairs can also be found using **factor bugs**, where the child uses a systematic method to find factor pairs, always starting with 1 and the actual number as the first two legs of the bug.

24 is a **MULTIPLE** of all its factors – it can be found in the times tables of all its factors.



Multiples can be found by simply listing the times table of the multiple required i.e. multiples of 5:

5, 10, 15, 20, 25, 30 etc

Ask your child to draw a factor bug to show all the factors of a number.

Prime numbers only have **2** factors: 1 and the actual number. How many prime numbers can they find using the bugs?



Key Instant Recall Facts

Year 5 – Spring 2

I know decimal number bonds to 1 and 10.

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

Some examples:

$$0.6 + 0.4 = 1$$

$$0.4 + 0.6 = 1$$

$$1 - 0.4 = 0.6$$

$$1 - 0.6 = 0.4$$

$$0.75 + 0.25 = 1$$

$$0.25 + 0.75 = 1$$

$$1 - 0.25 = 0.75$$

$$1 - 0.75 = 0.25$$

$$3.7 + 6.3 = 10$$

$$6.3 + 3.7 = 10$$

$$10 - 3.7 = 6.3$$

$$10 - 6.3 = 3.7$$

$$4.8 + 5.2 = 10$$

$$5.2 + 4.8 = 10$$

$$10 - 5.2 = 4.8$$

$$10 - 4.8 = 5.2$$

Key Vocabulary

What do I add to 0.8 to make 1?

What is 1 take away 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. $0.49 + \bigcirc = 1$ or $10 - \bigcirc = 7.2$

Top Tips

The secret to success is practising little and often. 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.

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 1.



Key Instant Recall Facts

Year 5 – Summer 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 Vocabulary

Kilogram/ grams

Kilometre/metres

Litre/millilitres

They should also be able to apply these facts to answer questions.
E.g. How many metres in 1 $\frac{1}{2}$ km?

Top Tips

Using the following conversion image can help with the understanding that converting from:

kilograms (kg) kilometres (km) litres (l)	to	grams (g) metres (m) millilitres (mm)	MULTIPLY by 1000
grams (g) metres (m) millilitres (mm)	to	kilograms (kg) kilometres (km) litres (l)	DIVIDE by 1000

1Kg = 1000g

1Km = 1000m

1l = 1000ml



Key Instant Recall Facts

Year 5 – Summer 2

I know common decimals, fractions and percentage equivalents.

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	=	50%
$\frac{1}{4}$	=	0.25	=	25%
$\frac{3}{4}$	=	0.75	=	75%
$\frac{1}{10}$	=	0.1	=	10%
$\frac{3}{10}$	=	0.3	=	30%
$\frac{1}{5}$	=	0.2	=	20%
$\frac{3}{5}$	=	0.6	=	60%
$\frac{1}{100}$	=	0.01	=	1%

Key Vocabulary

Write 0.75 as a fraction.

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

What is $\frac{3}{4}$ as a percentage?

Children should be able to convert between decimals, fractions and percentages for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$ and any number of tenths and hundredths.

Top Tips

The secret to success is practising little and often.

Remind your child that decimals are only tenths, hundredths, thousandths (and so on). In order to convert a fraction to a decimal they may need to convert the denominator to a tenth/hundredth/thousandth which can then easily be placed on a place value grid.

$$\frac{2}{5} = \frac{4}{10} = 0.4$$

To convert a decimal to a percentage they can either multiply the decimal by 100 or convert the decimal to a fraction with a denominator of 100 (as percentages are out of 100).

$$0.6 \times 100 = 60\% \quad \text{or} \quad 0.6 = \frac{6}{10} = \frac{60}{100} = 60\%$$

Play games – Make some cards with equivalent fractions, decimals and percentages. Use these to play the memory game or snap. Or make your own dominoes with fractions on one side and decimals on the other.

