



Maths

Key Instant Recall Facts

To help develop children's fluency in mathematics, we ask them to learn Key Instant Recall Facts each half term.

The lists of KIRFs have been created to align with the new curriculum. They are intended to be challenging and it is intended that children will be taught the necessary maths in lessons beforehand, introducing them to specific visual models to support their understanding.

We expect the majority of children within a year group to be working towards these targets. Children should know these thoroughly and be able to recall the facts instantly for their year group. By helping to develop these skills, your child will be more able to access other areas of the maths curriculum such as calculation methods, problem solving and reasoning. If your child is struggling to recall facts, please concentrate on a smaller number and practise more frequently.

Thank you.
Miss Hedges
Maths Leader



Key Instant Recall Facts

Reception – Autumn 2

I know number bonds to 5.

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

$0 + 5 = 5$

$2 + 3 = 5$

$5 + 0 = 5$

$3 + 2 = 5$

$5 - 0 = 5$

$5 - 3 = 2$

$5 - 5 = 0$

$5 - 2 = 3$

$1 + 4 = 5$

$4 + 1 = 5$

$5 - 4 = 1$

$5 - 1 = 4$

Key Vocabulary

What is 3 **add** 2?

What is 4 **plus** 1?

What is 5 **subtract** 2?

What is 1 **less than** 5?

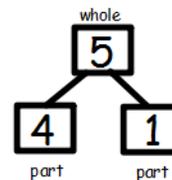
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using part/whole model:

E.g. $4 + 1 = 5$



They should be able to answer these questions in any order, including missing number questions

e.g. $3 + \bigcirc = 5$ or $5 - \bigcirc = 3$.

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 practical resources – Your child has three potatoes on their plate and you give them two more. Can they predict how many they will have now?

Make a poster – We use Numicon at school. You can find pictures of the Numicon shapes here: bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 5.

Play games – You can play number bond pairs online at www.conkermaths.com and then see how many questions you can answer in just one minute.

You can also play Numbots at <https://play.numbots.com/> which practices addition and subtraction. We are subscribed as a school and your child should already have a log-in.



Key Instant Recall Facts

Reception – Spring 1

I can recognise quantities up to 5 without counting (subitise).

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 be able to look at a group of objects and be able to recognise the quantity immediately.
- ▶ They may do this by recognising the full quantity or by recognising the quantities within in e.g. seeing a 4 and a 1 and thus knowing this is 5.

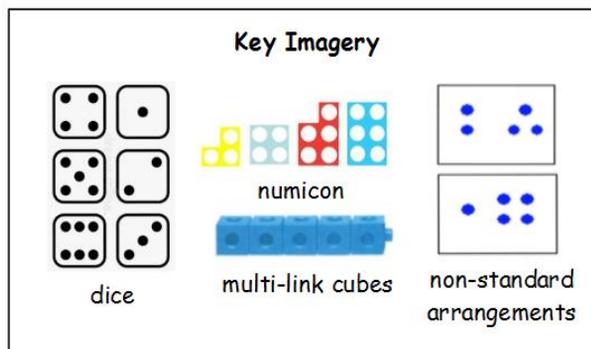
Key Vocabulary

What number do you see?

What numbers can you see hidden inside this number?

I see 5.

I see a 3 and a 2 which is 5.



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 practical resources – Play games using a dice, play dominoes and ask your child what the numbers are, use a dice to determine how many hops on a hopscotch.

Use your fingers – play a game of rock, paper, scissors, but instead you and your child have to match the number of fingers shown. Can your child identify your number immediately?

Play hidden quantity games – hide one, two and three objects under 3 identical cups and swap them around. Can your child follow the number 4? Once the cup is lifted, can they subitise the number of objects underneath?



Key Instant Recall Facts

Reception – Spring 2

I know 1 more and 1 less than any given number up to 10.

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

$0 + 1 = 1$

$1 + 1 = 2$

$1 - 1 = 0$

$2 + 1 = 3$

$2 - 1 = 1$

$3 + 1 = 4$

$3 - 1 = 2$

$4 + 1 = 5$

$4 - 1 = 3$

$5 + 1 = 6$

$5 - 1 = 4$

$6 + 1 = 7$

$6 - 1 = 5$

$7 + 1 = 8$

$7 - 1 = 6$

$8 + 1 = 9$

$8 - 1 = 7$

$9 + 1 = 10$

$9 - 1 = 8$

$10 + 1 = 11$

$10 - 1 = 9$

Key Vocabulary

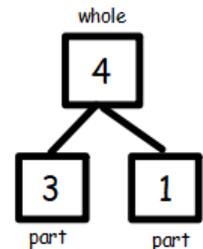
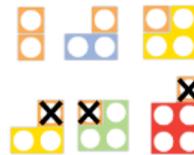
What is 1 more than 6?

What is 1 less than 10?

Key Imagery:

Prove using part/whole model:

Prove using numicon:



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 practical resources – Your child has 5 carrots on their plate – how many would they have if you gave them one more? How many would they have if you took one away?



Key Instant Recall Facts

Reception – Summer 1

I can count, read and order numbers 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**.

Children should be able to count (in order) and read from 0 to 20 in numerals (not words).

Children should know what number comes next e.g. 17 comes after 16.

Children should know what number comes before a number e.g. 12 comes before 13.

Key Vocabulary

Numbers 1 – 20

What number comes before 10?

What number comes after 19?

Top Tips

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Use practical resources :

- Count your toys as you put them away.
- Have a go at a number treasure hunt around the house. Once you have found all the numbers, can you peg them up in order on the washing line?
- Put number stickers on your toy cars. Can you line them up in order now? If one is taken away, can you spot what number should be in the gap?



Key Instant Recall Facts

Reception – Summer 2

I know double facts up to $5 + 5$ and halves of even numbers to 10.

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

$$0 + 0 = 0$$

$$\text{Half of } 0 = 0$$

$$1 + 1 = 2$$

$$\text{Half of } 2 = 1$$

$$2 + 2 = 4$$

$$\text{Half of } 4 = 2$$

$$3 + 3 = 6$$

$$\text{Half of } 6 = 3$$

$$4 + 4 = 8$$

$$\text{Half of } 8 = 4$$

$$5 + 5 = 10$$

$$\text{Half of } 10 = 5$$

Key Vocabulary

What is double 9?

What is half of 6?

Key Imagery:

Prove using an array:

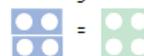
e.g. $4 + 4 = 8$



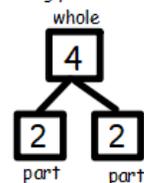
e.g. half of $8 = 4$



Prove using numicon:



Prove using part/whole model:



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.

Play Ping Pong

- For doubles, the adult says 'ping' and the child replies with 'pong'. Then the adult says a number and the child doubles it in response.
- For halves, the adult says 'pong' and the child replies with 'ping'. Then the adult says a number and the child halves it in response.



Key Instant Recall Facts

Year 1 – Autumn 2

I know number bonds for each number to 6.

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

$0 + 1 = 1$

$1 + 0 = 1$

$0 + 2 = 2$

$1 + 1 = 2$

$2 + 0 = 2$

$0 + 3 = 3$

$1 + 2 = 3$

$2 + 1 = 3$

$3 + 0 = 3$

$0 + 4 = 4$

$1 + 3 = 4$

$2 + 2 = 4$

$3 + 1 = 4$

$4 + 0 = 4$

$0 + 5 = 5$

$1 + 4 = 5$

$2 + 3 = 5$

$3 + 2 = 5$

$4 + 1 = 5$

$5 + 0 = 5$

$0 + 6 = 6$

$1 + 5 = 6$

$2 + 4 = 6$

$3 + 3 = 6$

$4 + 2 = 6$

$5 + 1 = 6$

$6 + 0 = 6$

Key Vocabulary

What is 3 **add** 2?

What is 2 **plus** 2?

What is 5 **take away** 2?

What is 1 **less than** 4?

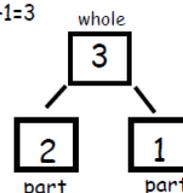
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using whole/part model:

Eg- $2+1=3$



They should be able to answer these questions in any order, including missing number questions e.g. $3 + \bigcirc = 5$ or $4 - \bigcirc = 2$.

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 practical resources – Your child has one potato on their plate and you give them three more. Can they predict how many they will have now?

Make a poster – We use Numicon at school. You can find pictures of the Numicon shapes here: bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 5.

Play games – You can play number bond pairs online at www.conkermaths.com and then see how many questions you can answer in just one minute.



Key Instant Recall Facts

Year 1 – Spring 1

I know doubles and halves of numbers to 10.

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

$0 + 0 = 0 \quad \frac{1}{2} \text{ of } 0 = 0$

$1 + 1 = 1 \quad \frac{1}{2} \text{ of } 2 = 1$

$2 + 2 = 4 \quad \frac{1}{2} \text{ of } 4 = 2$

$3 + 3 = 6 \quad \frac{1}{2} \text{ of } 6 = 3$

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

$5 + 5 = 10 \quad \frac{1}{2} \text{ of } 10 = 5$

$6 + 6 = 12$

$7 + 7 = 14$

$8 + 8 = 16$

$9 + 9 = 18$

$10 + 10 = 20$

Key Vocabulary

What is **double** 9?

What is **half** of 6?

What is the **whole**?

What is the **parts**?

Key Imagery:

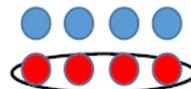
Prove using array:

Eg- $4 + 4 = 8$



Prove using array using grouping

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



(the **parts** are 4 and 4 and the **whole** is 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.

Ping Pong – In this game, the parent says, “Ping,” and the child replies, “Pong.” Then the parent says a number and the child doubles it. For a harder version, the adult can say, “Pong.” The child replies, “Ping,” and then halves the next number given.

Practise online – Go to www.conkermaths.com and see how many questions you can answer in just 90 seconds.



Key Instant Recall Facts

Year 1 – Spring 2

I know number bonds to 10.

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

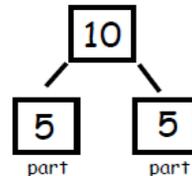
$0 + 10 = 10$	$2 + 8 = 10$	$4 + 6 = 10$
$10 + 0 = 10$	$8 + 2 = 10$	$6 + 4 = 10$
$10 - 10 = 0$	$10 - 8 = 2$	$10 - 6 = 4$
$10 - 0 = 10$	$10 - 2 = 8$	$10 - 4 = 6$
$1 + 9 = 10$	$3 + 7 = 10$	$5 + 5 = 10$
$9 + 1 = 10$	$7 + 3 = 10$	$10 - 5 = 5$
$10 - 9 = 1$	$10 - 7 = 3$	
$10 - 1 = 9$	$10 - 3 = 7$	

Key Vocabulary

What is 3 **add** 2?
What is 2 **plus** 2?
What is 5 **take away** 2?
What is 1 **less than** 4?
What is the **whole**?
What are the **parts**?

Key Imagery:

Prove using whole/part model:
Eg- $10 - 5 = 5$ whole



They should be able to answer these questions in any order, including missing number questions e.g. $6 + \bigcirc = 10$ or $10 - \bigcirc = 3$.

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 practical resources – Your child has one potato on their plate and you give them two more. Can they predict how many they will have now?

Make a poster – We use Numicon at school. You can find pictures of the Numicon shapes here: bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 5.

Play games – You can play number bond pairs online at www.conkermaths.com and then see how many questions you can answer in just one minute.



Key Instant Recall Facts

Year 1 – Summer 1

I can tell an o'clock or half past time.

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

Children need to be able to tell the time using a clock with hands. This target can be broken down into several steps.

- ▶ I can tell the time to the nearest hour.
- ▶ I can tell the time to the nearest half hour.

Key Vocabulary

Twelve **o'clock**

Half past two

Minute hand

Hour hand

Top Tips

The secret to success is practising **little** and **often**. If you would like more ideas, please speak to your child's teacher.

Talk about time - Discuss what time things happen. When does your child wake up? What time do they eat breakfast? Make sure that you have an analogue clock visible in your house or that your child wears a watch with hands and discuss what they notice as the hands move.

Play "What's the time Mr Wolf?" – You could also give your child some responsibility for watching the clock :

Read books about time - It's about time by J.Murphy, Telling time by J.Older and What's the time, Mr Wolf? By D.Glori.

Making times on a clock face- Why not have a go at making your own clocks and then practice making an o'clock or half past time or make times using the program at http://mathsframe.co.uk/en/resources/resource/90/itp_clock



Key Instant Recall Facts

Year 1 – Summer 2

I know number bonds for each number to 10.

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

$0 + 7 = 7$	$0 + 8 = 8$	$0 + 9 = 9$	$0 + 10 = 10$
$1 + 6 = 7$	$1 + 7 = 8$	$1 + 8 = 9$	$1 + 9 = 10$
$2 + 5 = 7$	$2 + 6 = 8$	$2 + 7 = 9$	$2 + 8 = 10$
$3 + 4 = 7$	$3 + 5 = 8$	$3 + 6 = 9$	$3 + 7 = 10$
$4 + 3 = 7$	$4 + 4 = 8$	$4 + 5 = 9$	$4 + 6 = 10$
$5 + 2 = 7$	$5 + 3 = 8$	$5 + 4 = 9$	$5 + 5 = 10$
$6 + 2 = 8$	$6 + 2 = 8$	$6 + 3 = 9$	$6 + 4 = 10$
$7 + 1 = 8$	$7 + 1 = 8$	$7 + 2 = 9$	$7 + 3 = 10$
$8 + 0 = 8$	$8 + 0 = 8$	$8 + 1 = 9$	$8 + 2 = 10$
		$9 + 0 = 9$	$9 + 1 = 10$
			$10 + 0 = 10$

Key Vocabulary

What do I **add** to 5 to make 10?

What is 10 **take away** 6?

What is 3 **less than** 10?

How many more than 2 is 10?

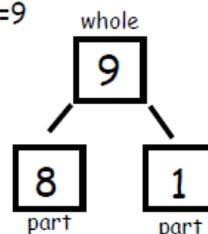
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using whole/part model:

Eg- $8 + 1 = 9$



They should be able to answer these questions in any order, including missing number questions e.g. $1 + \bigcirc = 10$ or $9 - \bigcirc = 8$.

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.



Key Instant Recall Facts

Year 2 – Autumn 1

I know number bonds for each number 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**.

$0 + 20 = 20$	$20 + 0 = 20$	$20 - 0 = 20$	$20 - 20 = 0$
$1 + 19 = 20$	$19 + 1 = 20$	$20 - 1 = 19$	$20 - 19 = 1$
$2 + 18 = 20$	$18 + 2 = 20$	$20 - 2 = 18$	$20 - 18 = 2$
$3 + 17 = 20$	$17 + 3 = 20$	$20 - 3 = 17$	$20 - 17 = 3$
$4 + 16 = 20$	$16 + 4 = 20$	$20 - 4 = 16$	$20 - 16 = 4$
$5 + 15 = 20$	$15 + 5 = 20$	$20 - 5 = 15$	$20 - 15 = 5$
$6 + 14 = 20$	$14 + 6 = 20$	$20 - 6 = 14$	$20 - 14 = 6$
$7 + 13 = 20$	$13 + 7 = 20$	$20 - 7 = 13$	$20 - 13 = 7$
$8 + 12 = 20$	$12 + 8 = 20$	$20 - 8 = 12$	$20 - 12 = 8$
$9 + 11 = 20$	$11 + 9 = 20$	$20 - 9 = 11$	$20 - 11 = 9$
$10 + 10 = 20$		$20 - 10 = 10$	

They should be able to answer these questions in any order, including missing number questions e.g. $19 + \bigcirc = 20$ or $20 - \bigcirc = 8$.

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.

Use what you already know – Use number bonds to 10 (e.g. $7 + 3 = 10$) to work out related number bonds to 20 (e.g. $17 + 3 = 20$).

Use practical resources – Make collections of 20 objects. Ask questions such as, "How many more conkers would I need to make 20?"

Make a poster – We use Numicon at school. You can find pictures of the Numicon shapes here: bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 20.

Play games – You can play number bond pairs online at www.conkermaths.com and then see how many questions you can answer in just one minute.

Key Vocabulary

What do I **add** to 5 to make 20?

What is 20 **take away** 6?

What is 3 **less than** 20?

How many more than 16 is 20?

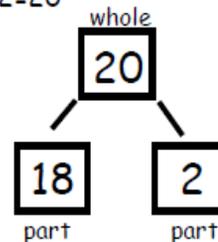
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using whole/part model:

Eg- $18 + 2 = 20$





Key Instant Recall Facts

Year 2 – Autumn 2

I know doubles and halves of numbers 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**.

$0 + 0 = 0$	$\frac{1}{2}$ of $0 = 0$	
$1 + 1 = 2$	$\frac{1}{2}$ of $2 = 1$	$11 + 11 = 22$
$2 + 2 = 4$	$\frac{1}{2}$ of $4 = 2$	$12 + 12 = 24$
$3 + 3 = 6$	$\frac{1}{2}$ of $6 = 3$	$13 + 13 = 26$
$4 + 4 = 8$	$\frac{1}{2}$ of $8 = 4$	$14 + 14 = 28$
$5 + 5 = 10$	$\frac{1}{2}$ of $10 = 5$	$15 + 15 = 30$
$6 + 6 = 12$	$\frac{1}{2}$ of $12 = 6$	$16 + 16 = 32$
$7 + 7 = 14$	$\frac{1}{2}$ of $14 = 7$	$17 + 17 = 34$
$8 + 8 = 16$	$\frac{1}{2}$ of $16 = 8$	$18 + 18 = 36$
$9 + 9 = 18$	$\frac{1}{2}$ of $18 = 9$	$19 + 19 = 38$
$10 + 10 = 20$	$\frac{1}{2}$ of $20 = 10$	$20 + 20 = 40$

Key Vocabulary

What is **double** 9?

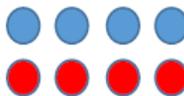
What is **half** of 14?

What is the **whole**? What are the **parts**?

Key Imagery:

Prove using array:

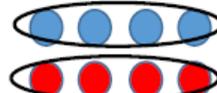
Eg- $4 + 4 = 8$



(the parts are 4 and 4 and the whole is 8)

Prove using array using grouping:

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



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 what you already know – Encourage your child to find the connection between the 2 times table and double facts.

Ping Pong – In this game, the parent says, "Ping," and the child replies, "Pong." Then the parent says a number and the child doubles it. For a harder version, the adult can say, "Pong." The child replies, "Ping," and then halves the next number given.

Practise online – Go to www.conkermaths.com and see how many questions you can answer in just 90 seconds.



Key Instant Recall Facts

Year 2 – Spring 1

I know the multiplication and division facts for the 2 times table.

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

$2 \times 1 = 2$	$2 \div 2 = 1$
$2 \times 2 = 4$	$4 \div 2 = 2$
$2 \times 3 = 6$	$6 \div 2 = 3$
$2 \times 4 = 8$	$8 \div 2 = 4$
$2 \times 5 = 10$	$10 \div 2 = 5$
$2 \times 6 = 12$	$12 \div 2 = 6$
$2 \times 7 = 14$	$14 \div 2 = 7$
$2 \times 8 = 16$	$16 \div 2 = 8$
$2 \times 9 = 18$	$18 \div 2 = 9$
$2 \times 10 = 20$	$20 \div 2 = 10$
$2 \times 11 = 22$	$22 \div 2 = 11$
$2 \times 12 = 24$	$24 \div 2 = 12$

Key Vocabulary

What is 2 **multiplied by** 7?

What is 2 **times** 9?

What is 12 **divided by** 2?

How many **lots of** 2 are in the number 12?

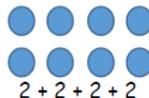
What is the **whole**?

What are the **parts**?

Key Imagery:

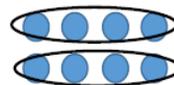
Prove using array:

Eg- $2 \times 4 = 8$



Prove using array using grouping

$8 \div 2 = 4$



(the **parts** are 2 and 4 and the **whole** is 8)

They should be able to answer these questions in any order, including missing number questions e.g. $2 \times \bigcirc = 8$ or $\bigcirc \div 2 = 6$.

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.

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.

Use what you already know – If your child knows that $2 \times 5 = 10$, they can use this fact to work out that $2 \times 6 = 12$.

Test the Parent – Your child can make up their own tricky division questions for you e.g. *What is 18 divided by 2?* They need to be able to multiply to create these questions.

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 2 – Spring 2

I know the multiplication and division facts for the 10 times table.

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

$10 \times 1 = 10$	$10 \div 10 = 1$
$10 \times 2 = 20$	$20 \div 10 = 2$
$10 \times 3 = 30$	$30 \div 10 = 3$
$10 \times 4 = 40$	$40 \div 10 = 4$
$10 \times 5 = 50$	$50 \div 10 = 5$
$10 \times 6 = 60$	$60 \div 10 = 6$
$10 \times 7 = 70$	$70 \div 10 = 7$
$10 \times 8 = 80$	$80 \div 10 = 8$
$10 \times 9 = 90$	$90 \div 10 = 9$
$10 \times 10 = 100$	$100 \div 10 = 10$
$10 \times 11 = 110$	$110 \div 10 = 11$
$10 \times 12 = 120$	$120 \div 10 = 12$

Key Vocabulary

What is 10 **multiplied by** 3?

What is 10 **times** 9?

What is 70 **divided by** 10?

How many **lots of** 10 are in the number 20?

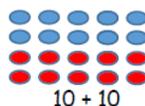
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using array:

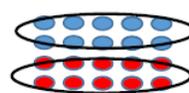
Eg- $2 \times 10 = 20$



$10 + 10$

(the **parts** are 2 and 10 and the **whole** is 20)

Prove using array using grouping $20 \div 2 = 10$



They should be able to answer these questions in any order, including missing number questions e.g. $10 \times \bigcirc = 80$ or $\bigcirc \div 10 = 6$.

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.

Pronunciation – Make sure that your child is pronouncing the numbers correctly and not getting confused between **thirteen** and **thirty**.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. Percy Parker online is one children to love and we use this in school too.

Test the Parent – Your child can make up their own tricky division questions for you e.g. *What is 70 divided by 7?* They need to be able to multiply to create these questions.

Apply these facts to real life situations – How many toes are in your house? What other multiplication and division questions can your child make up?



Key Instant Recall Facts

Year 2 – Summer 2

I can tell the time using quarter past and quarter to.

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

Children need to be able to tell the time using a clock with hands. This target can be broken down into several steps.

- ▶ I can tell the time to the nearest hour.
- ▶ I can tell the time to the nearest half hour.
- ▶ I can tell the time to the nearest quarter hour.

Key Vocabulary

Twelve **o'clock**

Half past two

Quarter past three

Quarter to nine



Top Tips

The secret to success is practising **little** and **often**. If you would like more ideas, please speak to your child's teacher.

Talk about time - Discuss what time things happen. When does your child wake up? What time do they eat breakfast? Make sure that you have an analogue clock visible in your house or that your child wears a watch with hands.

Ask your child the time regularly – You could also give your child some responsibility for watching the clock :

“The cakes need to come out of the oven at quarter past four.”

“We need to leave the house at half past eight.”

Making times on a clock face - Why not have a go at making your own clocks and then practice making a O'clock or half past time or make times using the program at

http://mathsframe.co.uk/en/resources/resource/90/itp_clock



Key Instant Recall Facts

Year 2 – Summer 1

I know the multiplication and division facts for the 5 times table.

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

$5 \times 1 = 5$	$5 \div 5 = 1$
$5 \times 2 = 10$	$10 \div 5 = 2$
$5 \times 3 = 15$	$15 \div 5 = 3$
$5 \times 4 = 20$	$20 \div 5 = 4$
$5 \times 5 = 25$	$25 \div 5 = 5$
$5 \times 6 = 30$	$30 \div 5 = 6$
$5 \times 7 = 35$	$35 \div 5 = 7$
$5 \times 8 = 40$	$40 \div 5 = 8$
$5 \times 9 = 45$	$45 \div 5 = 9$
$5 \times 10 = 50$	$50 \div 5 = 10$
$5 \times 11 = 55$	$55 \div 5 = 11$
$5 \times 12 = 60$	$60 \div 5 = 12$

Key Vocabulary

What is 5 **multiplied by** 7?

What is 5 **times** 9?

What is 60 **divided by** 5?

How many **lots of** 5 are in the number 15?

What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using array:

Eg- $5 \times 2 = 10$

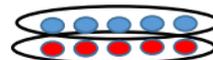


$$5 + 5$$

(the **parts** are 5 and 2 and the **whole** is 10)

Prove using array using

grouping $10 \div 2 = 5$



They should be able to answer these questions in any order, including missing number questions e.g. $5 \times \bigcirc = 40$ or $\bigcirc \div 5 = 9$.

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.

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.

Spot patterns – What patterns can your child spot in the 5 times table? Are there any similarities with the 10 times table?

Test the Parent – Your child can make up their own tricky division questions for you e.g. *What is 45 divided by 5?* They need to be able to multiply to create these questions.

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 3 – Autumn 1

I know number bonds for all numbers 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**.

$2 + 9 = 11$

$3 + 8 = 11$

$4 + 7 = 11$

$5 + 6 = 11$

$3 + 9 = 12$

$4 + 8 = 12$

$5 + 7 = 12$

$6 + 6 = 12$

$4 + 9 = 13$

$5 + 8 = 13$

$6 + 7 = 13$

$5 + 9 = 14$

$6 + 8 = 14$

$7 + 7 = 14$

$6 + 9 = 15$

$7 + 8 = 15$

$7 + 9 = 16$

$8 + 8 = 16$

$8 + 9 = 17$

$9 + 9 = 18$

Example of a fact family

$6 + 9 = 15$

$9 + 6 = 15$

$15 - 9 = 6$

$15 - 9 = 6$

Examples of other facts

$4 + 5 = 9$

$13 + 5 = 18$

$19 - 7 = 12$

$10 - 6 = 4$

This list includes the most challenging facts but children will need to learn **all** number bonds for each number to 20 (e.g. $15 + 2 = 17$). This includes related subtraction facts (e.g. $17 - 2 = 15$).

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.

Buy one get three free - If your child knows one fact (e.g. $8 + 5 = 13$), can they tell you the other three facts in the same fact family?

Use doubles and near doubles - If you know that $6 + 6 = 12$, how can you work out $6 + 7$? What about $5 + 7$?

Play games - There are missing number questions at www.conkermaths.com. See how many questions you can answer in just one minute.

Key Vocabulary

What do I **add** to 5 to make 19?

What is 17 **take away** 6?

What is 13 **less than** 15?

How many more than 8 is 11?

What is the **difference** between 9 and 13?

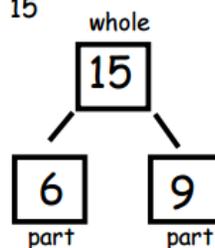
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using whole/part model:

Eg- $6 + 9 = 15$





Key Instant Recall Facts

Year 3 – Autumn 2

I know the multiplication and division facts for the 3 times table.

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

$3 \times 1 = 3$	$1 \times 3 = 3$	$3 \div 3 = 1$	$3 \div 1 = 3$
$3 \times 2 = 6$	$2 \times 3 = 6$	$6 \div 3 = 2$	$6 \div 2 = 3$
$3 \times 3 = 9$	$3 \times 3 = 9$	$9 \div 3 = 3$	$9 \div 3 = 3$
$3 \times 4 = 12$	$4 \times 3 = 12$	$12 \div 3 = 4$	$12 \div 4 = 3$
$3 \times 5 = 15$	$5 \times 3 = 15$	$15 \div 3 = 5$	$15 \div 5 = 3$
$3 \times 6 = 18$	$6 \times 3 = 18$	$18 \div 3 = 6$	$18 \div 6 = 3$
$3 \times 7 = 21$	$7 \times 3 = 21$	$21 \div 3 = 7$	$21 \div 7 = 3$
$3 \times 8 = 24$	$8 \times 3 = 24$	$24 \div 3 = 8$	$24 \div 8 = 3$
$3 \times 9 = 27$	$9 \times 3 = 27$	$27 \div 3 = 9$	$27 \div 9 = 3$
$3 \times 10 = 30$	$10 \times 3 = 30$	$30 \div 3 = 10$	$30 \div 10 = 3$
$3 \times 11 = 33$	$11 \times 3 = 33$	$33 \div 3 = 11$	$33 \div 11 = 3$
$3 \times 12 = 36$	$12 \times 3 = 36$	$36 \div 3 = 12$	$36 \div 12 = 3$

Key Vocabulary

What is 3 **multiplied by** 8?

What is 8 **times** 3?

What is 24 **divided by** 3?

How many **lots of** 3 are in the number 12?

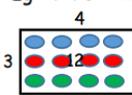
What is the **whole**?

What are the **parts**?

Key Imagery:

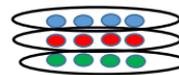
Prove using array:

Eg- $4 \times 3 = 12$



(the parts are 4 and 3 and the whole is 12)

Prove using array using grouping $12 \div 3 = 4$



They should be able to answer these questions in any order, including missing number questions e.g. $3 \times \bigcirc = 18$ or $\bigcirc \div 3 = 11$.

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 family 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. If your child creates their own song, this can make the times tables even more memorable.

Buy one get three free – If your child knows one fact (e.g. $3 \times 5 = 15$), can they tell you the other three facts in the same fact family?

Warning! – When creating fact families, children sometimes get confused by the order of the numbers in the division number sentence. It is tempting to say that the biggest number goes first, but it is more helpful to say that the answer to the multiplication goes first, as this will help your child more in later years when they study fractions, decimals and algebra.

E.g. $3 \times 12 = 36$. The answer to the multiplication is 36, so $36 \div 3 = 12$ and $36 \div 12 = 3$



Key Instant Recall Facts

Year 3 – Spring 1

I can recall facts about durations of time.

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

	<u>Number of days in each month</u>			
There are 60 seconds in a minute.	January	31	July	31
There are 60 minutes in an hour.	February	28/29	August	31
There are 24 hours in a day.	March	31	September	30
There are 7 days in a week.	April	30	October	31
There are 12 months in a year.	May	31	November	30
There are 365 days in a year.	June	30	December	31
There are 366 days in a leap year.				

Children also need to know the order of the months in a year. They should be able to apply these facts to answer questions, such as:

What day comes after 30th April?

What day comes before 1st February?

What is the 8th month?

What month is 2 months before November?

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 rhymes and memory games– The rhyme, *Thirty days hath September*, can help children remember which months have 30 days. There are poems describing the months of the year in order.

Thirty days hath September (Adapted Version)

There are 30 days in September, April, June and November.
All the rest have 31, except February which only has 28 days.
And 29 days in each leap year.

Use calendars – If you have a calendar for the new year, your child could be responsible for recording the birthdays of friends and family members in it. Your child could even make their own calendar.

How long is a minute? – Ask your child to sit with their eyes closed for exactly one minute while you time them. Can they guess the length of a minute? Carry out different activities for one minute. How many times can they jump in sixty seconds?



Key Instant Recall Facts

Year 3 – Spring 2

I know the multiplication and division facts for the 4 times table.

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

$4 \times 1 = 4$	$1 \times 4 = 4$	$4 \div 4 = 1$	$4 \div 1 = 4$
$4 \times 2 = 8$	$2 \times 4 = 8$	$8 \div 4 = 2$	$8 \div 2 = 4$
$4 \times 3 = 12$	$3 \times 4 = 12$	$12 \div 4 = 3$	$12 \div 3 = 4$
$4 \times 4 = 16$	$4 \times 4 = 16$	$16 \div 4 = 4$	$16 \div 4 = 4$
$4 \times 5 = 20$	$5 \times 4 = 20$	$20 \div 4 = 5$	$20 \div 5 = 4$
$4 \times 6 = 24$	$6 \times 4 = 24$	$24 \div 4 = 6$	$24 \div 6 = 4$
$4 \times 7 = 28$	$7 \times 4 = 28$	$28 \div 4 = 7$	$28 \div 7 = 4$
$4 \times 8 = 32$	$8 \times 4 = 32$	$32 \div 4 = 8$	$32 \div 8 = 4$
$4 \times 9 = 36$	$9 \times 4 = 36$	$36 \div 4 = 9$	$36 \div 9 = 4$
$4 \times 10 = 40$	$10 \times 4 = 40$	$40 \div 4 = 10$	$40 \div 10 = 4$
$4 \times 11 = 44$	$11 \times 4 = 44$	$44 \div 4 = 11$	$44 \div 11 = 4$
$4 \times 12 = 48$	$12 \times 4 = 48$	$48 \div 4 = 12$	$48 \div 12 = 4$

They should be able to answer these questions in any order, including missing number questions e.g. $4 \times \bigcirc = 16$ or $\bigcirc \div 4 = 7$.

Key Vocabulary

What is 4 **multiplied by** 6?

What is 8 **times** 4?

What is 24 **divided by** 4?

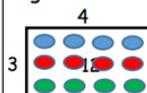
How many **lots of** 4 are in the number 12?

What is the **whole**? What are the parts?

Key Imagery:

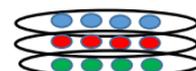
Prove using array:

Eg- $3 \times 4 = 12$



(the parts are 3 and 4 and the whole is 12)

Prove using array using grouping $12 \div 3 = 4$



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 family of the day. If you would like more ideas, please speak to your child's teacher.

What do you already know? – Your child will already know many of these facts from the 2, 3, 5 and 10 times tables.

Double and double again – Multiplying a number by 4 is the same as doubling and doubling again. Double 6 is 12 and double 12 is 24, so $6 \times 4 = 24$.

Buy one get three free – If your child knows one fact (e.g. $12 \times 4 = 48$), can they tell you the other three facts in the same fact family?



Key Instant Recall Facts

Year 3 – Summer 1

I can tell the time to the nearest 5 minutes.

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

Children need to be able to tell the time using a clock with hands. This target can be broken down into several steps.

- ▶ I can tell the time to the nearest hour.
- ▶ I can tell the time to the nearest half hour.
- ▶ I can tell the time to the nearest quarter hour.
- ▶ I can tell the time to the nearest five minutes.
- ▶ I can tell the time to the nearest minute.

Key Vocabulary

Twelve **o'clock**

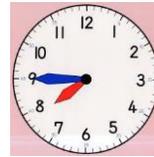
Half past two

Quarter past three

Quarter to nine

Five **past** one

Twenty-five **to** ten



Top Tips

The secret to success is practising **little** and **often**. Use time wisely. If you would like more ideas, please speak to your child's teacher.

Talk about time - Discuss what time things happen. When does your child wake up? What time do they eat breakfast? Make sure that you have an analogue clock visible in your house or that your child wears a watch with hands. Once your child is confident telling the time, see if you can find more challenging clocks e.g. with Roman numerals or no numbers marked.

Ask your child the time regularly – You could also give your child some responsibility for watching the clock :

“The cakes need to come out of the oven at twenty-two minutes past four exactly.”

“We need to leave the house at twenty-five to nine.”



Key Instant Recall Facts

Year 3 – Summer 2

I know the multiplication and division facts for the 8 times table.

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

$8 \times 1 = 8$	$1 \times 8 = 8$	$8 \div 8 = 1$	$8 \div 1 = 8$
$8 \times 2 = 16$	$2 \times 8 = 16$	$16 \div 8 = 2$	$16 \div 2 = 8$
$8 \times 3 = 24$	$3 \times 8 = 24$	$24 \div 8 = 3$	$24 \div 3 = 8$
$8 \times 4 = 32$	$4 \times 8 = 32$	$32 \div 8 = 4$	$32 \div 4 = 8$
$8 \times 5 = 40$	$5 \times 8 = 40$	$40 \div 8 = 5$	$40 \div 5 = 8$
$8 \times 6 = 48$	$6 \times 8 = 48$	$48 \div 8 = 6$	$48 \div 6 = 8$
$8 \times 7 = 56$	$7 \times 8 = 56$	$56 \div 8 = 7$	$56 \div 7 = 8$
$8 \times 8 = 64$	$8 \times 8 = 64$	$64 \div 8 = 8$	$64 \div 8 = 8$
$8 \times 9 = 72$	$9 \times 8 = 72$	$72 \div 8 = 9$	$72 \div 9 = 8$
$8 \times 10 = 80$	$10 \times 8 = 80$	$80 \div 8 = 10$	$80 \div 10 = 8$
$8 \times 11 = 88$	$11 \times 8 = 88$	$88 \div 8 = 11$	$88 \div 11 = 8$
$8 \times 12 = 96$	$12 \times 8 = 96$	$96 \div 8 = 12$	$96 \div 12 = 8$

Key Vocabulary

What is 8 **multiplied by** 6?

What is 8 **times** 8?

What is 24 **divided by** 8?

How many **lots of** 8 are there in 16?

What is the **whole**?

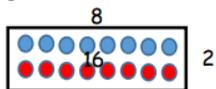
What are the **parts**?

They should be able to answer these questions in any order, including missing number questions e.g. $8 \times \bigcirc = 16$ or $\bigcirc \div 8 = 7$.

Key Imagery:

Prove using array:

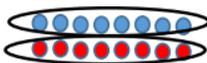
Eg- $2 \times 8 = 16$



(the **parts** are 2 and 8 and the **whole** is 16)

Prove using array using grouping

Eg $16 \div 2 = 8$



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 family 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. If your child creates their own song, this can make the times tables even more memorable.

Double your fours – Multiplying a number by 8 is the same as multiply by 4 and then doubling the answer. $8 \times 4 = 32$ and double 32 is 64, so $8 \times 8 = 64$.

Five six seven eight – fifty-six is seven times eight ($56 = 7 \times 8$).

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 4 – Autumn 1

I know number bonds 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**.

Some examples:

$60 + 40 = 100$

$37 + 63 = 100$

$40 + 60 = 100$

$63 + 37 = 100$

$100 - 40 = 60$

$100 - 63 = 37$

$100 - 60 = 40$

$100 - 37 = 63$

$75 + 25 = 100$

$48 + 52 = 100$

$25 + 75 = 100$

$52 + 48 = 100$

$100 - 25 = 75$

$100 - 52 = 48$

$100 - 75 = 25$

$100 - 48 = 52$

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. $49 + \bigcirc = 100$ or $100 - \bigcirc = 72$.

Key Vocabulary

What do I **add** to 65 to make 100?

What is 100 **take away** 6?

What is 13 **less than** 100?

How many more than 98 is 100?

What is the **difference** between 89 and 100?

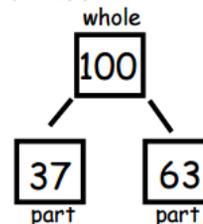
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using whole/part model:

Eg- $37 + 63 = 100$



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.

Buy one get three free - If your child knows one fact (e.g. $8 + 5 = 13$), can they tell you the other three facts in the same fact family?

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

Play games – There are missing number questions at www.conkermaths.com. See how many questions you can answer in just 90 seconds. There is also a number bond pair game to play.



Key Instant Recall Facts

Year 4 – Autumn 2

I know the multiplication and division facts for the 6 times table.

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

$6 \times 1 = 6$	$1 \times 6 = 6$	$6 \div 6 = 1$	$6 \div 1 = 6$
$6 \times 2 = 12$	$2 \times 6 = 12$	$12 \div 6 = 2$	$12 \div 2 = 6$
$6 \times 3 = 18$	$3 \times 6 = 18$	$18 \div 6 = 3$	$18 \div 3 = 6$
$6 \times 4 = 24$	$4 \times 6 = 24$	$24 \div 6 = 4$	$24 \div 4 = 6$
$6 \times 5 = 30$	$5 \times 6 = 30$	$30 \div 6 = 5$	$30 \div 5 = 6$
$6 \times 6 = 36$	$6 \times 6 = 36$	$36 \div 6 = 6$	$36 \div 6 = 6$
$6 \times 7 = 42$	$7 \times 6 = 42$	$42 \div 6 = 7$	$42 \div 7 = 6$
$6 \times 8 = 48$	$8 \times 6 = 48$	$48 \div 6 = 8$	$48 \div 8 = 6$
$6 \times 9 = 54$	$9 \times 6 = 54$	$54 \div 6 = 9$	$54 \div 9 = 6$
$6 \times 10 = 60$	$10 \times 6 = 60$	$60 \div 6 = 10$	$60 \div 10 = 6$
$6 \times 11 = 66$	$11 \times 6 = 66$	$66 \div 6 = 11$	$66 \div 11 = 6$
$6 \times 12 = 72$	$12 \times 6 = 72$	$72 \div 6 = 12$	$72 \div 12 = 6$

They should be able to answer these questions in any order, including missing number questions e.g. $6 \times \bigcirc = 72$ or $\bigcirc \div 6 = 7$.

Key Vocabulary

What is 8 **multiplied by** 6?

What is 6 **times** 8?

What is 24 **divided by** 6?

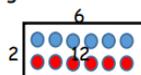
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using array:

Eg- $6 \times 2 = 12$



(the parts are 2 and 6 and the whole is 12)

Prove using array using

grouping $12 \div 2 = 6$



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 family 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. If your child creates their own song, this can make the times tables even more memorable.

Double your threes – Multiplying a number by 6 is the same as multiplying by 3 and then doubling the answer. $7 \times 3 = 21$ and double 21 is 42, so $7 \times 6 = 42$.

Buy one get three free – If your child knows one fact (e.g. $3 \times 6 = 18$), can they tell you the other three facts in the same fact family?

Warning! – When creating fact families, children sometimes get confused by the order of the numbers in the division number sentence. It is tempting to say that the biggest number goes first, but it is more helpful to say that the answer to the multiplication goes first, as this will help your child more in later years when they study fractions, decimals and algebra.

E.g. $6 \times 12 = 72$. The answer to the multiplication is 72, so $72 \div 6 = 12$ and $72 \div 12 = 6$



Key Instant Recall Facts

Year 4 – Spring 1

I know the multiplication and division facts for the 9 and 11 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**.

$9 \times 1 = 9$	$9 \div 9 = 1$	$11 \times 1 = 11$	$11 \div 11 = 1$
$9 \times 2 = 18$	$18 \div 9 = 2$	$11 \times 2 = 22$	$22 \div 11 = 2$
$9 \times 3 = 27$	$27 \div 9 = 3$	$11 \times 3 = 33$	$33 \div 11 = 3$
$9 \times 4 = 36$	$36 \div 9 = 4$	$11 \times 4 = 44$	$44 \div 11 = 4$
$9 \times 5 = 45$	$45 \div 9 = 5$	$11 \times 5 = 55$	$55 \div 11 = 5$
$9 \times 6 = 54$	$54 \div 9 = 6$	$11 \times 6 = 66$	$66 \div 11 = 6$
$9 \times 7 = 63$	$63 \div 9 = 7$	$11 \times 7 = 77$	$77 \div 11 = 7$
$9 \times 8 = 72$	$72 \div 9 = 8$	$11 \times 8 = 88$	$88 \div 11 = 8$
$9 \times 9 = 81$	$81 \div 9 = 9$	$11 \times 9 = 99$	$99 \div 11 = 9$
$9 \times 10 = 90$	$90 \div 9 = 10$	$11 \times 10 = 110$	$110 \div 11 = 10$
$9 \times 11 = 99$	$99 \div 9 = 11$	$11 \times 11 = 121$	$121 \div 11 = 11$
$9 \times 12 = 108$	$108 \div 9 = 12$	$11 \times 12 = 132$	$132 \div 11 = 12$

Key Vocabulary

What is 8 **multiplied by** 6?

What is 6 **times** 8?

What is 24 **divided by** 6?

What is the **whole**?

What are the **parts**?

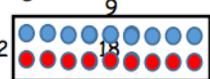
They should be able to answer these questions in any order, including missing number questions e.g.

$$9 \times \bigcirc = 54 \text{ or } \bigcirc \div 9 = 11.$$

Key Imagery:

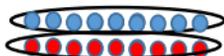
Prove using array:

Eg- $9 \times 2 = 18$



(the **parts** are 9 and 2 and the **whole** is 18)

Prove using array using grouping $18 \div 2 = 9$



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 family 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?

Use your ten times table – Multiply a number by 10 and subtract the original number (e.g. $7 \times 10 - 7 = 70 - 7 = 63$). What do you notice?

What happens if you add your original number instead? (e.g. $7 \times 10 + 7 = 70 + 7 = 77$)

What do you already know? – Your child will already know many of these facts from the 2, 3, 4, 5, 6, 8 and 10 times tables. It might be worth practising these again!



Key Instant Recall Facts

Year 4 – Spring 2

I know the multiplication and division facts for the 7 times table.

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

$7 \times 1 = 7$	$1 \times 7 = 7$	$7 \div 7 = 1$	$7 \div 1 = 7$
$7 \times 2 = 14$	$2 \times 7 = 14$	$14 \div 7 = 2$	$14 \div 2 = 7$
$7 \times 3 = 21$	$3 \times 7 = 21$	$21 \div 7 = 3$	$21 \div 3 = 7$
$7 \times 4 = 28$	$4 \times 7 = 28$	$28 \div 7 = 4$	$28 \div 4 = 7$
$7 \times 5 = 35$	$5 \times 7 = 35$	$35 \div 7 = 5$	$35 \div 5 = 7$
$7 \times 6 = 42$	$6 \times 7 = 42$	$42 \div 7 = 6$	$42 \div 6 = 7$
$7 \times 7 = 49$	$7 \times 7 = 49$	$49 \div 7 = 7$	$49 \div 7 = 7$
$7 \times 8 = 56$	$8 \times 7 = 56$	$56 \div 7 = 8$	$56 \div 8 = 7$
$7 \times 9 = 63$	$9 \times 7 = 63$	$63 \div 7 = 9$	$63 \div 9 = 7$
$7 \times 10 = 70$	$10 \times 7 = 70$	$70 \div 7 = 10$	$70 \div 10 = 7$
$7 \times 11 = 77$	$11 \times 7 = 77$	$77 \div 7 = 11$	$77 \div 11 = 7$
$7 \times 12 = 84$	$12 \times 7 = 84$	$84 \div 7 = 12$	$84 \div 12 = 7$

Key Vocabulary

What is 7 multiplied by 6?

What is 7 times 8?

What is 84 divided by 7?

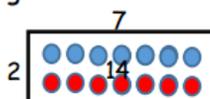
What is the **whole**?

What are the **parts**?

Key Imagery:

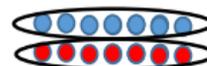
Prove using array:

Eg- $7 \times 2 = 14$



(the parts are 7 and 2 and the whole is 14)

Prove using array using grouping $14 \div 2 = 7$



They should be able to answer these questions in any order, including missing number questions e.g. $7 \times \bigcirc = 28$ or $\bigcirc \div 6 = 7$.

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 family 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. 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, www.multiplication.com has some strange picture stories to help children remember.



Key Instant Recall Facts

Year 4 – Summer 1

I can multiply and divide single-digit numbers by 10 and 100.

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

$7 \times 10 = 70$

$10 \times 7 = 70$

$70 \div 7 = 10$

$70 \div 10 = 7$

$30 \times 10 = 300$

$10 \times 30 = 300$

$300 \div 30 = 10$

$300 \div 10 = 30$

$0.8 \times 10 = 8$

$10 \times 0.8 = 8$

$8 \div 0.8 = 10$

$8 \div 10 = 0.8$

$6 \times 100 = 600$

$100 \times 6 = 600$

$600 \div 6 = 100$

$600 \div 100 = 6$

$40 \times 100 = 4000$

$100 \times 40 = 4000$

$4000 \div 40 = 100$

$4000 \div 100 = 40$

$0.2 \times 10 = 2$

$10 \times 0.2 = 2$

$2 \div 0.2 = 10$

$2 \div 10 = 0.2$

Key Vocabulary

What is 5 **multiplied by** 10?

What is 10 **times** 0.9?

What is 700 **divided by** 70?

hundreds, tens, ones

tenths, hundredths, fact family, inverse equation, whole, parts

These are just examples of the facts for this term. Children should be able to answer these questions in any order, including missing number questions e.g. $10 \times \bigcirc = 5$ or $\bigcirc \div 10 = 60$.

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 family 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?

Quick-fire questions- Chose a whole number and see how quick you can write the fact family. To make it harder try missing out a part. For example: "What are the missing parts?"

$6 \times \underline{\quad} = 600$

$\underline{\quad} \times 6 = 600$

$600 \div \underline{\quad} = 100$

$\underline{\quad} \div 100 = 6$



Key Instant Recall Facts

Year 4 – Summer 2

I can recognise decimal equivalents of fractions.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Key Vocabulary

How many **tenths** is 0.8?

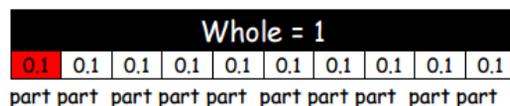
How many **hundredths** is 0.12?

Write 0.75 as a **fraction**?

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

Key Imagery:

Prove using bar model:



(Each part represents $\frac{1}{10}$ of the whole)

Children should be able to convert between decimals and fractions 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**. 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: start with tenths before moving on to hundredths. If you would like more ideas, please speak to your child's teacher.

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.

Equivalent posters- Using the bar model to make equivalent fraction, showing different decimals as a fraction, posters for tenths and hundredths.



Key Instant Recall Facts

Year 5 – Autumn 1

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:

$0.6 + 0.4 = 1$

$3.7 + 6.3 = 10$

$0.4 + 0.6 = 1$

$6.3 + 3.7 = 10$

$1 - 0.4 = 0.6$

$10 - 6.3 = 3.7$

$1 - 0.6 = 0.4$

$10 - 3.7 = 6.3$

$0.75 + 0.25 = 1$

$4.8 + 5.2 = 10$

$0.25 + 0.75 = 1$

$5.2 + 4.8 = 10$

$1 - 0.25 = 0.75$

$10 - 5.2 = 4.8$

$1 - 0.75 = 0.25$

$10 - 4.8 = 5.2$

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. $0.49 + \bigcirc = 10$ or $7.2 + \bigcirc = 10$.

Key Vocabulary

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?

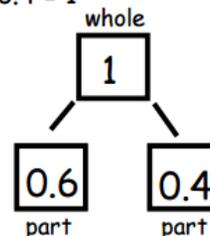
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using whole/part model:

Eg- $0.6 + 0.4 = 1$



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.

Buy one get three free - If your child knows one fact (e.g. $8 + 5 = 13$), can they tell you the other three facts in the same fact family?

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

Play games – There are missing number questions at www.conkermaths.com. See how many questions you can answer in just 90 seconds. There is also a number bond pair game to play.



Key Instant Recall Facts

Year 5 – Autumn 2

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

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

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?

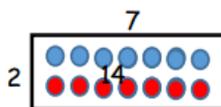
What is the **whole**?

What are the **parts**?

Key Imagery:

Prove using array:

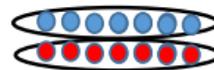
Eg- $7 \times 2 = 14$



(the parts are 7 and 2 and the whole is 14)

Prove using array using

grouping $14 \div 2 = 7$



They should be able to answer these questions in any order, including missing number questions e.g. $7 \times \bigcirc = 28$ or $\bigcirc \div 6 = 7$.

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 family of the day. If you would like more ideas, please speak to your child's teacher.

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.

Make a poster- Record the fact families for each multiplication times table, for example:

$7 \times 10 = 70$

$7 \times \underline{\quad} = 70$

$10 \times 7 = 70$

to make it harder, try removing some of the parts e.g. $\underline{\quad} \div 7 = 10$

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**.

Mass

1 kilogram = 1000 grams

Length/Distance

1 kilometre = 1000 metres

1 metre = 100 centimetres

1 metre = 1000 millimetres

1 centimetre = 10 millimetres

Capacity

1 litre = 1000 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

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 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 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

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

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.

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 – Summer 1

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**.

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

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

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

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

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

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

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

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

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

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

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

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

$$\sqrt{1} = 1$$

$$\sqrt{4} = 2$$

$$\sqrt{9} = 3$$

$$\sqrt{16} = 4$$

$$\sqrt{25} = 5$$

$$\sqrt{36} = 6$$

$$\sqrt{49} = 7$$

$$\sqrt{64} = 8$$

$$\sqrt{81} = 9$$

$$\sqrt{100} = 10$$

$$\sqrt{121} = 11$$

$$\sqrt{144} = 12$$

Key Vocabulary

What is 8 **squared**?

What is 7 **multiplied by itself**?

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

Is 81 a **square number**?

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

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.

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 2

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 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.

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.

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.



Key Instant Recall Facts

Year 6 – Autumn 1

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

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

Please see separate sheet for all times table facts.

This is a chance for Year 6 children to consolidate their knowledge of multiplication and division facts and to increase their speed of recall.

Key Vocabulary

What is 12 **multiplied by** 6?

What is 7 **times** 8?

What is 84 **divided by** 7?

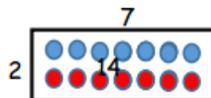
What is the **whole**?

What are the **parts**?

Key Imagery:

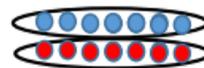
Prove using array:

Eg- $7 \times 2 = 14$



(the **parts** are 7 and 2 and the **whole** is 14)

Prove using array using grouping $14 \div 2 = 7$



They should be able to answer these questions in any order, including missing number questions e.g. $7 \times \bigcirc = 28$ or $\bigcirc \div 6 = 7$.

Children who have already mastered their times tables should apply this knowledge to answer questions including decimals e.g. $0.7 \times \bigcirc = 4.2$ or $\bigcirc \div 60 = 0.7$

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 family of the day. If you would like more ideas, please speak to your child's teacher.

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 6 – Autumn 2

I can identify common factors of a pair of numbers.

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

The factors of a number are all numbers which divide it with no remainder.

E.g. the factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24.

The factors of 56 are 1, 2, 4, 7, 8, 14, 28 and 56.

The common factors of two numbers are the factors they share.

E.g. the common factors of 24 and 56 are 1, 2, 4 and 8.

The greatest common factor of 24 and 56 is 8.

Key Vocabulary

factor

common factor

multiple

greatest common factor

Children should be able to explain how they know that a number is a common factor.

E.g. 8 is a common factor of 24 and 56 because $24 = 8 \times 3$ and $56 = 8 \times 7$.

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? If your child is not yet confident with identifying factor pairs of a number, you may want to refer to the Year 5 Summer 2 sheet to practise this first. If you would like more ideas, please speak to your child's teacher.

There are many online games to practise finding the greatest common factor, for example:

<http://www.fun4thebrain.com/beyondfacts/gcfsketch.htm> and

<http://www.conkermaths.org/cmweb.nsf/products/conkerkirfs.html>

Choose two numbers. Take it in turns to name factors. Who can find the most?



Key Instant Recall Facts

Year 6 – Spring 1

I can convert between decimals, fractions and percentages.

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

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

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

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

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

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

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

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

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

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

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

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

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

Key Vocabulary

How many **tenths** is 0.8?

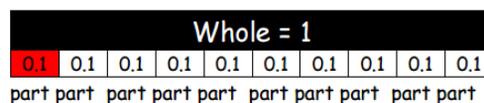
How many **hundredths** is 0.12?

Write 0.75 as a **fraction**?

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

Key Imagery:

Prove using bar model:



(Each part represents 1/10 of the whole)

Children should be able to convert between decimals and fractions 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**. 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: start with tenths before moving on to hundredths. If you would like more ideas, please speak to your child's teacher.

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.

Equivalent posters- Using the bar model to make equivalent fraction, showing different decimals as a fraction, posters for tenths and hundredths.



Key Instant Recall Facts

Year 6 – Spring 2

I can identify prime numbers up to 50.

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, 23,
27, 29, 31, 37, 41, 43, 47

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,
22, 24, 25, 26, 27, 28, 30, 32, 34, 35, 36,
38, 39, 40, 42, 44, 45, 46, 48, 49, 50

Key Vocabulary

prime number

composite number

factor

multiple

Children should be able to explain how they know that a number is composite.

E.g. 39 is composite because it is a multiple of 3 and 13.

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.

It's really important that your child uses mathematical vocabulary accurately. Choose a number between 2 and 50. 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 50. 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?