



# Key Instant Recall Facts

## Year 3 Autumn Term 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**.

$2 + 9 = 11$	$5 + 9 = 14$	E.g. Number facts for 15:
$3 + 8 = 11$	$6 + 8 = 14$	
$4 + 7 = 11$	$7 + 7 = 14$	Example of a fact family
$5 + 6 = 11$		$6 + 9 = 15$
	$6 + 9 = 15$	$9 + 6 = 15$
$3 + 9 = 12$	$7 + 8 = 15$	$15 - 9 = 6$
$4 + 8 = 12$		$15 - 9 = 6$
$5 + 7 = 12$	$7 + 9 = 16$	
$6 + 6 = 12$	$8 + 8 = 16$	Examples of other facts
		$10 + 5 = 15$
$4 + 9 = 13$	$8 + 9 = 17$	$9 + 6 = 15$
$5 + 8 = 13$		$8 + 7 = 15$
$6 + 7 = 13$	$9 + 9 = 18$	$7 + 8 = 15$

13?

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.

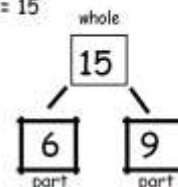
#### Activity ideas

- 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? ( $5 + 8 = 13$ ,  $13 - 5 = 8$ ,  $13 - 8 = 5$ )
- 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](http://www.conkermaths.com). See how many questions you can answer in just one minute. Can you beat your own record?
- Make a poster- Use whole/ part model to create a fact family. How many other facts can you draw?
- Practise online – <http://www.arcademicskillbuilders.com/games/alien/alien.html> is great for practising addition.

#### Key Imagery:

Prove using whole/part model:

Eg-  $6 + 9 = 15$



#### Helpful hints for parents

- Use objects to consider the bonds in a practical way.
- Look at the patterns with both objects and numbers e.g. as one number increases the other one decreases.
- Practise with the numbers in order and chosen randomly - remember the aim is for the child to be able to respond immediately.





# Key Instant Recall Facts

## Year 3 Autumn Term 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.

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

More times tables resources (links to websites, youtube videos, downloadables) can be found on our school website in the MathsZone.

### 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?

They should be able to answer these questions in any order, including missing number questions e.g.  $3 \times \bigcirc = 18$  or  $\bigcirc \div 3 = 11$ . Children should also be making links between number facts e.g. "I know  $4 \times 3 = 12$ , and that  $8 \times 3$  is double  $4 \times 3$ , so  $8 \times 3 = 24$ ."

**Key Imagery:**

Prove using array:  
 Eg-  $4 \times 3 = 12$

4

3

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

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

### Helpful hints for parents

- Practise with the numbers in order and chosen randomly - the aim is for your child to be able to respond immediately.
- Chanting tables really does help. Make it fun by adding actions too, or singing!
- Don't forget to chant those division facts too, they are often much harder to recall.
- Look at the patterns with both objects and numbers.

**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.

**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 Term 1

#### I can recall facts about duration 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**.

#### Number of days in each month

There are 60 seconds in a minute.	<i>January</i>	<i>31</i>	<i>July</i>	<i>31</i>
There are 60 minutes in an hour.	<i>February</i>	<i>28/29</i>	<i>August</i>	<i>31</i>
There are 24 hours in a day.	<i>March</i>	<i>31</i>	<i>September</i>	<i>30</i>
There are 7 days in a week.	<i>April</i>	<i>30</i>	<i>October</i>	<i>31</i>
There are 12 months in a year.	<i>May</i>	<i>31</i>	<i>November</i>	<i>30</i>
There are 365 days in a year.	<i>June</i>	<i>30</i>	<i>December</i>	<i>31</i>
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 30<sup>th</sup> April?

What day comes before 1<sup>st</sup> February?

#### 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.

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 Term 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**.

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

### Key Vocabulary

What is 4 **multiplied by** 6?

What is 8 **times** 4?

What is 24 **divided by** 4?

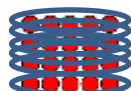
They should be able to answer these questions in any order, including missing number questions e.g.  $4 \times \bigcirc = 16$  or  $\bigcirc \div 4 = 7$ .

### Key Imagery

Prove using array:  
 $5 \times 4 = 20$



Prove using array  
using grouping  
 $20 \div 4 = 5$



**More times tables resources (links to websites, youtube videos, downloadables) can be found on our school website in the MathsZone.**

### 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?



**Fact Families, set out in triangles, are a useful way to learn the  $\times$  and  $\div$  facts for a family of numbers...**

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# Key Instant Recall Facts

### Year 3 Summer Term 1

**I know doubles and halves of all multiples of 10 to 500 and know doubles and halves of all multiples of 100 to 5000.**

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

Doubling multiples of 10...	Halving multiples of 10...
$10 + 10 = 20$	$\frac{1}{2}$ of 10 = 5
$20 + 20 = 40$	$\frac{1}{2}$ of 20 = 10
$30 + 30 = 60$	$\frac{1}{2}$ of 30 = 15
$40 + 40 = 80$	$\frac{1}{2}$ of 40 = 20
And so on until...	And so on until...
$490 + 490 = 980$	$\frac{1}{2}$ of 490 = 245
$500 + 500 = 1000$	$\frac{1}{2}$ of 500 = 250
Doubling multiples of 100...	Halving multiples of 100...
$100 + 100 = 200$	$\frac{1}{2}$ of 100 = 50
$200 + 200 = 400$	$\frac{1}{2}$ of 200 = 100
$300 + 300 = 600$	$\frac{1}{2}$ of 300 = 150
$400 + 400 = 800$	$\frac{1}{2}$ of 400 = 200
And so on until...	And so on until...
$4900 + 4900 = 9800$	$\frac{1}{2}$ of 4900 = 2450
$5000 + 5000 = 10\,000$	$\frac{1}{2}$ of 5000 = 2500

#### Key Vocabulary

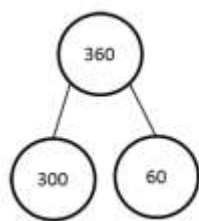
What is **double** 70?  
What is **half** of 320?  
What is the **whole**?  
What are the **parts**?  
The parts are **equal**.

#### Tips

When children are confident with doubles ask them to find the corresponding halves  
Practise halving at least as often as doubling. This will help children with subtraction at a later date

**Encourage children to partition the numbers when doubling and halving 2- or 3-digit numbers!**  
**Activity**





The part whole diagram here shows the number 360 partitioned into 300 and 60.  
 $\frac{1}{2}$  of 360 is the same as saying  $\frac{1}{2}$  of 300 and then  $\frac{1}{2}$  of 60.

What is half of 540?

**500**  $\rightarrow$   $\frac{1}{2}$  of 500 = 250

**40**  $\rightarrow$   $\frac{1}{2}$  of 40 = 20

So half of 540 must be 270.

### Activity ideas

**Play number ping pong!** - Start of saying 'ping', child replies with 'pong'. Repeat and then convert to numbers i.e. say '12' and they reply '24' (doubles to 20) Or say, '36' and they say '18'

**Playing cards** - Pick 2 cards, the first one to represent the hundreds, the second one to represent the tens, so that your number is always a multiple of 10. How quickly can you double AND halve this number?

**Playing darts** - Use a magnetic dartboard. Create a game involving doubling and halving. To extend, change the numbers to multiples of 10 e.g. 13 becomes 130

**Challenge** - Choose any even 3 digit number, halve it: if the answer is even halve again, if it's odd add 1 then halve again. How far can you go?

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## Key Instant Recall Facts

### Year 3 Summer Term 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?

#### Using key facts

Use your key facts to solve 8 x tables



E.g.  $7 \times 8 =$

I know that  $8 \times 5 = 40$   
 and  $2 \times 8 = 16$

$40 + 16 = 56$

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

### 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](http://www.multiplication.com) has some strange picture stories to help children remember.

Using memorable phrases – 'I ate and I ate till I was sick on the floor'  $8 \times 8 = 64$