



## Year 3 Key instant recall facts (KIRFs)

### Autumn 1

Know all 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.

$2 + 9 = 11$

$3 + 8 = 11$

$4 + 7 = 11$

$5 + 6 = 11$

$3 + 9 = 12$

$4 + 8 = 12$

$5 + 7 = 12$

$6 + 6 = 12$

$4 + 9 = 13$

$5 + 8 = 13$

$6 + 7 = 13$

$5 + 9 = 14$

$6 + 8 = 14$

$7 + 7 = 14$

$6 + 9 = 15$

$7 + 8 = 15$

$7 + 9 = 16$

$8 + 8 = 16$

$8 + 9 = 17$

$9 + 9 = 18$

Example of a fact family

$6 + 9 = 15$

$9 + 6 = 15$

$15 - 9 = 6$

$15 - 6 = 9$

Examples of other facts

$4 + 5 = 9$

$13 + 5 = 18$

$19 - 7 = 12$

$10 - 6 = 4$

#### Key vocabulary

What do I add to 5 to make 19?

What is 17 subtract 8?

What is 9 less than 15?

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.  $17 - 2 = 15$ ).

#### Use practical resources

- 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 – look at top marks maths and BBC bitesize.

#### Top tips:

The key to success is little and often. Use time wisely. Can you practise KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day. If you would like any more ideas, please speak to your child's teacher.



## Year 3 Key instant recall facts (KIRFs)

### Autumn 2

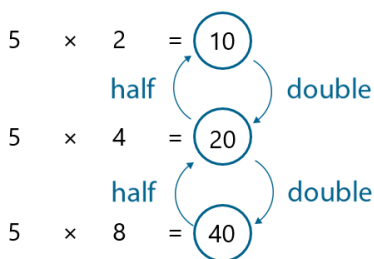
Know multiplication and division facts for 2x, 4x and 8x table.

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

$2 \times 0 = 0$	$4 \times 0 = 0$	$8 \times 0 = 0$
$2 \times 1 = 2$	$4 \times 1 = 4$	$8 \times 1 = 8$
$2 \times 2 = 4$	$4 \times 2 = 8$	$8 \times 2 = 16$
$2 \times 3 = 6$	$4 \times 3 = 12$	$8 \times 3 = 24$
$2 \times 4 = 8$	$4 \times 4 = 16$	$8 \times 4 = 32$
$2 \times 5 = 10$	$4 \times 5 = 20$	$8 \times 5 = 40$
$2 \times 6 = 12$	$4 \times 6 = 24$	$8 \times 6 = 48$
$2 \times 7 = 14$	$4 \times 7 = 28$	$8 \times 7 = 56$
$2 \times 8 = 16$	$4 \times 8 = 32$	$8 \times 8 = 64$
$2 \times 9 = 18$	$4 \times 9 = 36$	$8 \times 9 = 72$
$2 \times 10 = 20$	$4 \times 10 = 40$	$8 \times 10 = 80$
$2 \times 11 = 22$	$4 \times 11 = 44$	$8 \times 11 = 88$
$2 \times 12 = 24$	$4 \times 12 = 48$	$8 \times 12 = 96$

Use practical resources

- Discuss the relationship between 2, 4 and 8 multiplication facts



Number	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<b>Multiples of 2</b>	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
<b>Multiples of 4</b>	✓				✓				✓				✓				✓				✓				✓
<b>Multiples of 8</b>	✓								✓								✓								✓

#### Key vocabulary

What is 4 multiplied by 6?

What is the product of 8 and 3?

What is 48 divided by 8?

If I know  $2 \times 7$  is 14 then what is  $4 \times 7$ ?

Although the list show just the multiplicative tables the children need to know the division fact which goes with it.

Eg.  $4 \times 8 = 32$  so  $32 \div 4 = 8$

and  $32 \div 8 = 4$

- <https://www.topmarks.co.uk/maths-games/hit-the-button>
- 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?

Top tips:

The key to success is little and often. Use time wisely. Can you practise KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day. If you would like any more ideas, please speak to your child's teacher.



## Year 3 Key instant recall facts (KIRFs)

### Spring 1

Know doubles and halves of all whole 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.

10	20	40
9 ½	19	38
9	18	36
8 ½	17	34
8	16	32
7 ½	15	30
7	14	28
6 ½	13	26
6	12	24
5 ½	11	22
5	10	20
4 ½	9	18
4	8	16
3 ½	7	14
3	6	12
2 ½	5	10
2	4	8
1 ½	3	6
1	2	4
1/2	1	2

#### Key vocabulary

What is half of 18?

What is double 17?

#### Use practical resources –

- <https://www.topmarks.co.uk/maths-games/hit-the-button>
- Play the game – I’m thinking of a number. “i’m thinking of a number and half of it is 8 and double it is 32 what is the number?”
- Recite the facts as a trio for instance 4,8,16.

Know the seconds in a minute. Know days in month inc leap year.

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

60 seconds in 1 minute

365 days in a year, 366 days in a leap year.

#### Top tips:

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## Year 3 Key instant recall facts (KIRFs)

### Spring 2

Know all number bonds for 100 using multiples of 5

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

$5 + 95 = 100$	$100 - 5 = 95$	$100 - 95 = 5$
$10 + 90 = 100$	$100 - 10 = 90$	$100 - 90 = 10$
$15 + 85 = 100$	$100 - 15 = 85$	$100 - 85 = 15$
$20 + 80 = 100$	$100 - 20 = 80$	$100 - 80 = 20$
$25 + 75 = 100$	$100 - 25 = 75$	$100 - 75 = 25$
$30 + 70 = 100$	$100 - 30 = 70$	$100 - 70 = 30$
$35 + 65 = 100$	$100 - 35 = 65$	$100 - 65 = 35$
$40 + 60 = 100$	$100 - 40 = 60$	$100 - 60 = 40$
$45 + 55 = 100$	$100 - 45 = 55$	$100 - 55 = 45$
$50 + 50 = 100$	$100 - 50 = 50$	

#### Key vocabulary

What must you add to 15 to make 100?

What is 100 subtract 45?

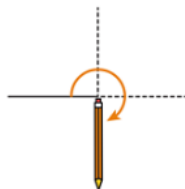
What is 75 less than 100?

#### Use practical resources –

- Fact family game – if I know  $45 + 55 = 100$  what else do I know?
- Recall the trio of fact – 30, 70, 100
- <https://www.topmarks.co.uk/maths-games/hit-the-button>
- <https://matheasily.com/number-bonds.html>
- <https://www.fun2think.com/maths/number-bond-games/>

#### Recognise a right angle

The picture below shows a **right angle**. This is a special type of angle that is a **quarter** of a **full turn**.



And four right angles make a **full circle**.

<https://www.bbc.co.uk/bitesize/topics/zb6tyrd/articles/zq68k7h>

#### Top tips:

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## Year 3 Key instant recall facts (KIRFs)

### Summer 1

Know multiplication and division facts for 2, 5 and 10x

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	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6			15					30		
4	0	4	8			20					40		
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12			30					60		
7	0	7	14			35					70		
8	0	8	16			40					80		
9	0	9	18			45					90		
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22			55					110		
12	0	12	24			60					120		

#### Key vocabulary

What is the product of 5 and 7?

What is 10 multiplied by 12?

What is 40 divided by 2?

What has 80 be divided by to get 8?

#### Use practical resources-

- Use Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online.
- 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?

- Top marks and BBC bitesize multiplication games
- Practice recalling just the numbers in the fact family as a trio – for instance 5,11,55 or 6, 10, 60.

Know pm/am/noon and midnight

#### Key vocabulary

The first 12 hours of the day, from midnight to midday, are called **AM**. The next 12 hours, from midday back to midnight, are called **PM**.

Noon is another name for midday

- 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.
- <https://www.bbc.co.uk/bitesize/topics/zkfycdm/articles/z44mqfr>

#### Top tips:

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## Year 3 Key instant recall facts (KIRFs)

### Summer 2

Know all multiplication and division facts for 3x, 6x and 9x table.

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

$3 \times 0 = 0$	$0 \times 6 = 0$	$9 \times 0 = 0$
$3 \times 1 = 3$	$1 \times 6 = 6$	$9 \times 1 = 9$
$3 \times 2 = 6$	$2 \times 6 = 12$	$9 \times 2 = 18$
$3 \times 3 = 9$	$3 \times 6 = 18$	$9 \times 3 = 27$
$3 \times 4 = 12$	$4 \times 6 = 24$	$9 \times 4 = 36$
$3 \times 5 = 15$	$5 \times 6 = 30$	$9 \times 5 = 45$
$3 \times 6 = 18$	$6 \times 6 = 36$	$9 \times 6 = 54$
$3 \times 7 = 21$	$7 \times 6 = 42$	$9 \times 7 = 63$
$3 \times 8 = 24$	$8 \times 6 = 48$	$9 \times 8 = 72$
$3 \times 9 = 27$	$9 \times 6 = 54$	$9 \times 9 = 81$
$3 \times 10 = 30$	$10 \times 6 = 60$	$9 \times 10 = 90$
$3 \times 11 = 33$	$11 \times 6 = 66$	$9 \times 11 = 99$
$3 \times 12 = 36$	$12 \times 6 = 72$	$9 \times 12 = 108$

#### Key vocabulary

What is multiplied by 9 to make 27?

What is divided by 6 to get 11?

What is 21 divided by 3?

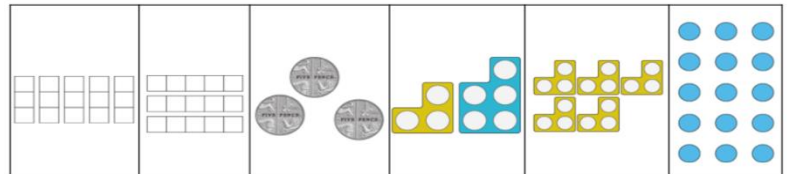
What is the product of 4 and 6?

Although the list show just the multiplicative tables the children need to know the division fact which goes with it.

Eg.  $4 \times 9 = 36$  so  $36 \div 4 = 9$  and  $36 \div 9 = 4$



$$\boxed{6} \times 3 = \boxed{18} \quad 3 \times \boxed{6} = \boxed{18}$$



Use practical resources –

- Use Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online.
- 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?
- Top marks and BBC bitesize multiplication games
- Practice recalling just the numbers in the fact family as a trio – for instance 3,11,33 or 6, 12, 72.

**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  $36 \div 12 = 3$

Top tips:

The key to success is little and often. Use time wisely. Can you practise KIRFs while walking to school or during a car journey? You do not need to practise them all at once; perhaps you could have a fact of the day. If you would like any more ideas, please speak to your child's teacher.