Key Instant Recall Facts

Parents' Information

KIRF's (Key Instant Recall Facts) are pieces of mathematical knowledge that we want the children to learn off-by-heart or be able to work out very quickly (within 3 seconds).

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

They are designed to support the development of the mental skills that underpin mathematics. They are particularly useful when calculating, be it adding, subtracting, multiplying or dividing. They will include facts such as number bonds, counting on, back, times tables, equivalence of units of measure, and square numbers.

Each year group is allocated key facts to focus on throughout the year, in line with age related expectations. These should be practised for rapid recall.

Why are they important?

Research shows that:

- Learning key facts 'by heart' enables children to concentrate on the calculation, which helps them to develop calculation strategies.
- Using and applying strategies to work out answers helps children to acquire and so remember more facts.
- Many children who are not able to recall key facts often treat each calculation as a new one and have to return to first principles to work out the answer again.
- Once they have a secure knowledge of some key facts, and by selecting problems carefully, you can help children to appreciate that from the answer to one problem, other answers can be generated.

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.

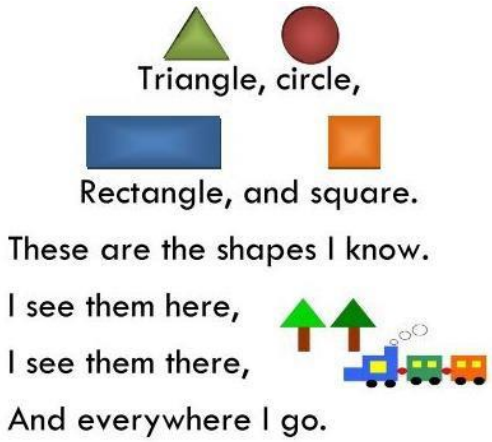
If you would like more ideas, please speak to your child's teacher.

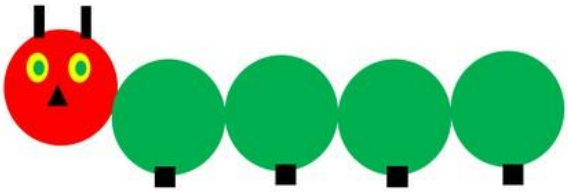
Key Instant Recall Facts

Nursery – Summer 2

I can recognise and name some 2D and 3D shapes.

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





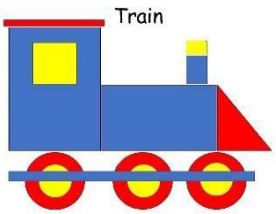
Vocabulary

Flat, solid, square, circle, triangle, rectangle, sphere, cube

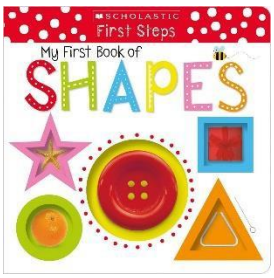
Which has **straight sides?**

Which has 4 **corners?**

Which shape has 4 sides the **same length?**



Top Tips



Scan the QR code for a Shape Monster game online.

Out and about/Around the House:

- Go on a shape hunt – set your child the challenge of spotting/collecting 3 of each shape.
- Play eye-spy – instead of saying a letter that an object begins with, say a shape. They then have to guess what you are 'spying'.

Sing Songs: There are many on youtube. E.g. Shapes Are All Around | Shape Songs | PINKFONG Songs - YouTube

Get Arty: What pictures can they make using certain shapes, or only 1 type of shape?

Play games: Tangrams can be bought, made or printed off from online. The game involves recreating pictures with certain shapes. Ask you child the name of each shape as they make the picture.

Online games: Shape, Position and Movement, Maths Games for 3-5 Years - Topmarks

Key Instant Recall Facts

Reception - Summer 2

I know how to count in 2s and 5s (skip count).

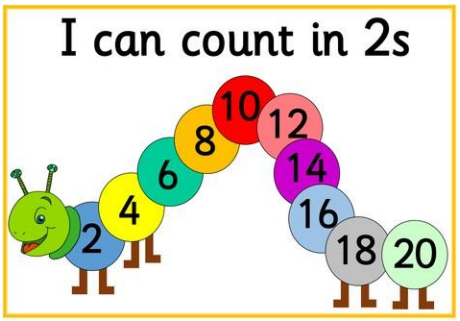
By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Key Vocabulary

Counting in 2s, what number **follows** 4?

Count **forwards** in 5s.

Can you **skip count** in 2s?



For 2s: Start with whisper counting. When counting to 10 whisper the odd numbers and then speak the even numbers loudly.
1 2 3 4 5 6 7 8 9 10
Then you can move onto saying the odd numbers in their heads before moving onto skipping them out entirely.

Top Tips

Sing and chant-

Counting by 2s – YouTube

Counting by Twos - Scratch Garden

Counting by 5s – YouTube

The Counting by Fives Song | Counting Songs | Scratch Garden - YouTube

Counting with everyday objects: Use pairs of socks or shoes to skips count in 2s, use hands to skip count in 5s.

Play games- Use a puppet or favourite teddy to count in 2s, making a mistake. Can your child spot the mistake and explain what is wrong - then count along correctly with you.

Key Instant Recall Facts

Year 1 – Summer 2

I can count forward and backwards in 2s, 5s and 10s. (skipcount)

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

0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24
24, 22, 20, 18, 16, 14, 12, 10, 8, 6, 4, 2, 0

0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50
50, 45, 40, 35, 30, 25, 20, 15, 10, 5, 0

0, 10, 20, 30, 40, 40, 50, 60, 70, 80, 90, 100
100, 90, 80, 70, 60, 50, 40, 30, 20, 10, 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	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Key Vocabulary

Counting in 2s, what number **follows** 6?

Counting in 10s, what number comes **before** 90.

Count **forwards** in 5s.

Count **backwards** in 10s.

Top Tips

Get arty – Create a poster using handprints to show skip counting in 5s. See what you could come up with to represent skip counting in 2s or 10s…

Play games – Pop bubbles in the following online game Skip Counting • ABCya!
Play Hopscotch, but skip count in 2, 5 or 10 instead of just going up in 1s.

Sing and chant – Have a look at the following Youtube channel which has many skip counting songs. skip counting songs - YouTube
Count up and down in twos when handling pairs of things e.g. socks, shoes etc.

Key Instant Recall Facts

Year 2 – Summer 2

I can count forwards and backwards in multiples of 3.

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

0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

30, 27, 24, 21, 18, 15, 12, 9, 6, 3, 0

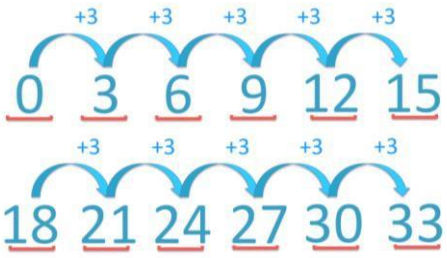
Key Vocabulary

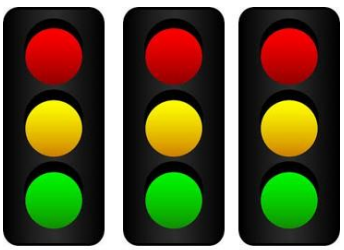
Counting in 3s, what number **follows** 21?

Counting in 3s, what number comes **before** 12.

Count **forwards** in 3s.

Count **backwards** in 3s.





3 6 9

Skip Count By Three's

3
6
9
12
15
18
21
24
27
30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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Top Tips

Play games – Pop bubbles in the following online game Skip Counting • ABCya!
Order space peats in the following online game Space Pets | Skip Counting Games for Kids (roomrecess.com)
Play Hopscotch, but skip count in 3 instead of just going up in 1s.
Quiz yourself online at Fill in the Missing Numbers (mathsisfun.com)

Sing and chant – Have a look at the following Youtube channel which has many skip counting songs. skip counting songs - YouTube

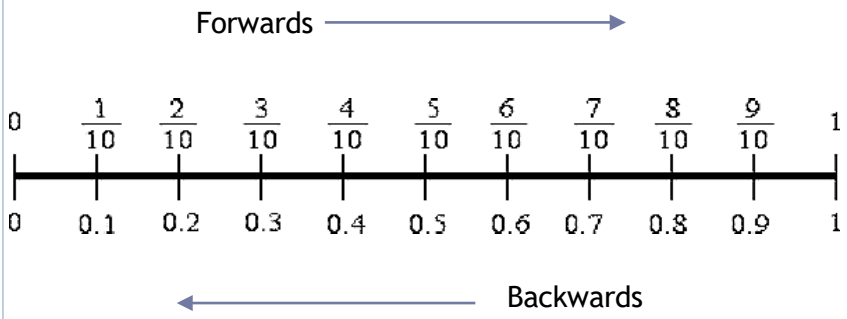
Out and about – skip count by 3 each time you see a traffic light.

Key Instant Recall Facts

Year 3 – Summer 2

I can count forwards and backwards in tenths as a fraction and a decimal to one whole.

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



Key Vocabulary

Counting **forwards in tenths**, what comes after 7/10?

Count **backwards in tenths** from 1 to 0.

Top Tips

Chanting – Get your child to count up and down in tenths as they go up and down the stairs..

Online tutorials -Fractions - Tenths - KS2 - Year 3 - Maths for 7 year olds / 8 year olds – YouTube
Counting in Tenths Short | Maths with Mrs B. – YouTube
Count on or back in tenths and locate tenths on a number line – YouTube

Get practical – write out number cards for each of the tenths to 1. Get your child to hang them on the washing line in order – either forwards or backwards. Challenge: Mix in decimals and fractions!

Key Instant Recall Facts

Year 4 – Summer 2

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 × 10 = 70	30 × 10 = 300	0.8 × 10 = 8
10 × 7 = 70	10 × 30 = 300	10 × 0.8 = 8
70 ÷ 7 = 10	300 ÷ 30 = 10	8 ÷ 0.8 = 10
70 ÷ 10 = 7	300 ÷ 10 = 30	8 ÷ 10 = 0.8
6 × 100 = 600	40 × 100 = 4000	0.2 × 10 = 2
100 × 6 = 600	100 × 40 = 4000	10 × 0.2 = 2
600 ÷ 6 = 100	4000 ÷ 40 = 100	2 ÷ 0.2 = 10
600 ÷ 100 = 6	4000 ÷ 100 = 40	2 ÷ 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

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 × ◯ = 5 or ◯ ÷ 10 = 60.

10 000	1000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$

Multiplying

X 10	digits move LEFT **1** space
X 100	digits move LEFT **2** spaces
X 1000	digits move LEFT **3** spaces

Dividing

÷ 10	digits move RIGHT **1** space
÷ 100	digits move RIGHT **2** spaces
÷ 1000	digits move RIGHT **3** spaces

Top Tips

Create your own place value slider -

Warning! It is tempting to tell children that to multiply and dividing by ten or one hundred it is just a case of adding or taking zeroes off the end of a number. This way of thinking, however, can cause problems when they are trying to multiply and divide decimal numbers as the rule does not work for these numbers. The best way to understand the process for multiplying or dividing by ten or one hundred is to show each digit moving in the place value table (place value shift). This rule also works for decimals.

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

Key Instant Recall Facts

Year 5 – Summer 2

I know factor pairs of 100.

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

1 x 100 = 100	100 ÷ 1 = 100
10 x 10 = 100	100 ÷ 10 = 10
20 x 5 = 100	100 ÷ 20 = 5
25 x 4 = 100	100 ÷ 25 = 4
50 x 2 = 100	100 ÷ 50 = 2
2 x 50 = 100	100 ÷ 2 = 50
4 x 25 = 100	100 ÷ 4 = 25
5 x 20 = 100	100 ÷ 5 = 20
100 x 1 = 100	

Key Vocabulary

What is 20 **multiplied** by 5?

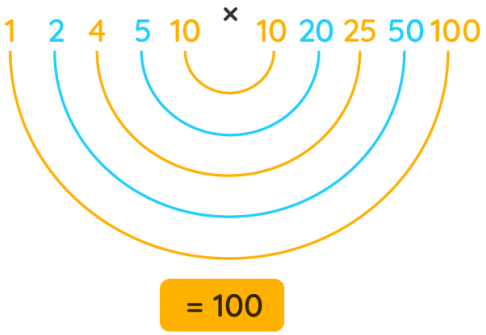
What is 100 **divided** by 4?

Halve 100.

What is a **tenth** of 100?

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 × ◯ =100 or ◯ ÷ 10 = 10.



Top Tips

Online tutorial - A quick online explanation to find the factors can be found here: https://youtu.be/FsCcVE9KZcE

Get creative – Make a colourful poster clearly displaying the factor pairs - display it somewhere visible like on your fridge on in your bedroom.

Test yourself – Create a set of double sided flashcards which you can use to practise and test yourself.

Buy one, get three free – Use the factor pairs to create fact families including multiplication and division facts.

Key Instant Recall Facts

Year 6 – Summer 2

Consolidation of Arithmetic Knowledge

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 comfortable using all four operations (addition, subtraction, multiplication and division).

Examples of core arithmetic knowledge:

- All multiplication and division facts up to 12 × 12.
- How to find common multiples and factors
- Calculations (all 4 operations) involving fractions, decimals and percentages.
- Prime numbers and divisibility rules.
- Inverse of each operation e.g. inverse of multiply is divide, inverse of addition is subtraction
- Metric measurement conversions.
- Number bonds (to 10, 20, 50, 100, 1000 etc.)

Top Tips

Revise little and often – be kind to your brain! The following online game has many different topics (for yr 6, choose level 6) - Daily 10 - Mental Maths Challenge – Topmarks

Other mixed arithmetic online practise –
Y6 Arithmetic Practice – Mathsframe
Hit the Button - Quick fire maths practise for 6-11 year olds (topmarks.co.uk)

Focus on the tricky bits – It's tempting to keep 'practicing' things that you are doing well on, but this isn't the most effective use of time. Tackle those topics that are harder first. BBC Bitesize has an overview of Yr 6 learning objectives, with tutorials and activities to help revise. KS2 Maths - BBC Bitesize