



Year 1 Mathematics

Key Instant Recall Facts

KIRFs

To develop your child's fluency and mental maths skills, we have introduced KIRFs (Key Instant Recall Facts) throughout school. KIRFs are a way of helping your child to learn by heart, key facts and information which they need to have instant recall of.

KIRFs are designed to support the development of mental maths skills that underpin much of the maths work in our school. They are particularly useful when calculating, adding, subtracting, multiplying or dividing. They contain number facts such as number bonds and times tables and measures that need constant practise and rehearsal, so children can recall them quickly and accurately.

Instant recall of facts helps enormously with mental agility in maths lessons. When children move onto written calculations, knowing these key facts is very beneficial.

For your child to become more efficient in recalling them easily, they need to be practised frequently and for short periods of time. Each half term, children will focus on a Key Instant Recall Fact (KIRF) to practise and learn at school and at home for the half term. They are available on our school website under the maths section and each child will receive a copy to keep at home.

The KIRFs include practical ideas to assist your child in grasping the key facts and contain helpful suggestions of ways in which you could make this learning interesting and relevant. They are not designed to be a time-consuming task and can be practised anywhere – in the car, walking to school, etc.

Regular practice - little and often – helps children to retain these facts and keep their skills sharp.

Throughout the half term, the KIRFs will also be practised in school and your child's teacher will assess whether they have been retained.

Over their time at primary school, we believe that - if the KIRFs are developed fully - children will be more confident with number work, understand its relevance, and be able to access the curriculum much more easily. They will be able to apply what they have learnt to a wide range of problems that confront us regularly.



Key Instant Recall Facts

Year 1 – Autumn 1

I can recite the number names to 50 and beyond, starting from any given number and count backwards from 20.

By the end of this half term the children should be able to recite the number names to 50 and beyond, starting from any given number and count backwards from 20. The aim is for them to recall these facts **instantly**.

Counting backwards from 20 down to 10 requires additional focused practice, due to the irregularity of these number names.

(By the end of the year the expectation is that children are able to count within 100, forwards and backwards, starting with any number).

Top Tips

The secret to success is practising little and often. Use time wisely. Can you practise this KIRF while walking to school or during a car journey? You do not need to practise it all at once. Break it down into smaller sections and build up instant recall one section at a time.

Counting to and across 100, forwards and backwards, is a skill that will need to be practised regularly throughout year 1. Counting provides a good opportunity to link number names to numerals, and to the position of numbers in the linear number system.

Practice should include:

- reciting number names, without the support of visual representations, to allow children to focus on and develop fluency in the verbal patterns
- counting with the support of visual representations and gestural patterns, for example children can point to numerals on a 100 square or number line, or tap out the numbers on a Gattegno chart
- starting the counting sequence with numbers other than 1 or 100



Key Instant Recall Facts

Year 1 – Autumn 1

I can recite the number names to 50 and beyond, starting from any given number and count backwards from 20.

Practice should include counting with the support of visual representations and gestural patterns, for example children can point to numerals on a 100 square or number line, or tap out the numbers on a Gattegno chart .

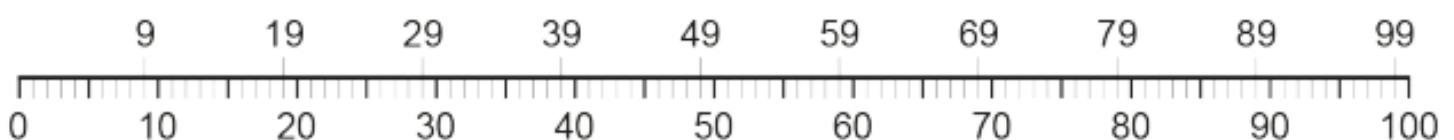
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

100 Square

Gattegno chart for children to tap out the numbers as they count.

1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

When counting backwards, pupils often find it challenging to identify which number they should say after they have said a multiple of 10. A partially marked number line can be used for support.





Key Instant Recall Facts

Year 1 – Autumn 2

I know number bonds for each number to 6 and number bonds to 10

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

Number Bonds to 6—children should already have learnt their number bonds to 5 during reception, so this target rehearses those skills and extends to the number 6.

+	0	1	2	3	4	5	6
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6
5	5+0	5+1	5+2	5+3	5+4	5+5	
6	6+0	6+1	6+2	6+3	6+4		

Key Vocabulary

What is 3 **add** 2?

What is 2 **plus** 6?

What is 5 **subtract** 2?

What is 1 **less than** 4?

Top Tips

The 46 addition facts within 6 are shown on the grid above. The number of addition facts to be learnt is reduced when children recognise that $3 + 2$, for example, is the same as $2 + 3$. Children must also have automatic recall of the corresponding subtraction facts, for example $5 - 3$ and $5 - 2$.

Children are likely to already have memorised some number bonds within 6 (for example, number bonds to 5 and some doubles facts). However, at this stage, most children won't remember all of their number facts by rote learning, so they should practise deriving these facts within 6 from previously memorised facts or knowledge. E.g. Near doubles - "I know that double 2 is equal to 4, so 2 plus 3 is equal to 5." Knowledge of the number system—"If I subtract 2 from an even number I get the previous even number, so 6 minus 2 is equal to 4." "If I subtract 2 from an odd number, I get the previous odd number, so 5 minus 2 equals 3." "If I add or subtract 0 from a number, the number will remain the same."

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 do not need to practise them all at once; perhaps you could have a fact of the day.

Numbots—We pay for all children in KS1 to have a subscription with Numbots. Regular use of this app will support your child to become fluent with number bond facts.

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: www.bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 6.



Key Instant Recall Facts

Year 1 – Autumn 2

I know number bonds for each number to 6 and number bonds to 10

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

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

$0 + 10 = 10$

$2 + 8 = 10$

$4 + 6 = 10$

$10 + 0 = 10$

$8 + 2 = 10$

$6 + 4 = 10$

$10 - 10 = 0$

$10 - 8 = 2$

$10 - 6 = 4$

$10 - 0 = 10$

$10 - 2 = 8$

$10 - 4 = 6$

$1 + 9 = 10$

$3 + 7 = 10$

$5 + 5 = 10$

$9 + 1 = 10$

$7 + 3 = 10$

$10 - 5 = 5$

$10 - 9 = 1$

$10 - 7 = 3$

$10 - 1 = 9$

$10 - 3 = 7$

Key Vocabulary

What is 7 add 3?

What is 2 plus 2?

What is 10 take away
2?

What is 1 less than 4?

Top Tips

These number facts can be learned by rote. 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 do not need to practise them all at once; perhaps you could have a fact of the day.

Numbots—We pay for all children in KS1 to have a subscription with Numbots. Regular use of this app will support your child to become fluent with all number bond facts.

Use practical resources – Count out ten toy cars, ten pieces of dry pasta or beads etc. If some are removed, how many more are needed to make 10?

Make a poster – We use Numicon at school. You can find pictures of the Numicon shapes here: www.bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 6.



Key Instant Recall Facts

Year 1 – Spring 1

I know doubles of numbers to 10 and halves of even numbers to 10.

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

$$0 + 0 = 0$$

$$1 + 1 = 1$$

$$2 + 2 = 4$$

$$3 + 3 = 6$$

$$4 + 4 = 8$$

$$5 + 5 = 10$$

$$6 + 6 = 12$$

$$7 + 7 = 14$$

$$8 + 8 = 16$$

$$9 + 9 = 18$$

$$10 + 10 = 20$$

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

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

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

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

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

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

Key Vocabulary

What is double 4?

What is half of 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

- Rehearse skills regularly on the Numbots app to develop fluency.

– 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 can count forwards and backwards in multiples of 2, 5 and 10, up to ten multiples and count forwards and backwards through the odd numbers.

Pupils must be able to count in multiples of 2, 5 and 10 by the end of year 1 so that they are ready to progress to multiplication involving groups of 2, 5 and 10 in year 2.

As with counting in ones, this is a skill that will need to be practised throughout year 1.

Key Vocabulary

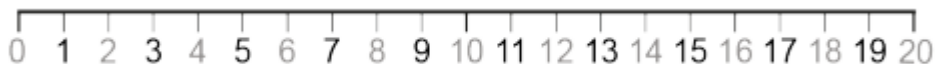
“Ten, twenty, thirty...”

“1 group of 10, 2 groups of 10, 3 groups of 10...”

In time, shortened to:

Top Tips

Rehearse counting forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple. In school we use ‘Number Rolling’ to practise. Can your child teach you the song? Practise reciting the odd number sequence, both forwards and backwards. This can initially be supported by a number line with odd numbers highlighted.



Give your child opportunities to recognise 2p, 5p and 10p coins, they can then apply their knowledge of counting in multiples of 2, 5 and 10 to find the value of a set of like coins, and to find how many of a particular coin is required to pay for a given item.

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 1 – Summer 1

I can tell the time using O'clock and half past.

By the end of this half term the 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 smaller 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

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 do not need to practise them all at once; perhaps you could have a fact of the day.

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

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.

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

Read books about time.



Key Instant Recall Facts

Year 1 – Summer 2

I know number bonds for each number up to 10.

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

Number Bonds to 10—children should already have learnt their number bonds to 6 and beyond earlier in the year, so this target rehearses those skills and extends to the number 10.

It is very important for pupils to be able to add and subtract within 10, fluently, by the end of year 1. This should be practised until children move beyond counting forwards or backwards in ones, to more efficient strategies and eventually to automatic recall of these number facts. This is necessary before children move on to additive calculation with larger numbers.

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

Key Vocabulary

What is 6 **add** 2?

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What is 9 **subtract** 2?

Top Tips

The 66 addition facts within 6 are shown on the grid above. The number of addition facts to be learnt is reduced when children recognise that $3 + 2$, for example, is the same as $2 + 3$. Children must also have automatic recall of the corresponding subtraction facts, for example $5 - 3$ and $5 - 2$.

Children should have already memorised over 48 number bonds within 10 (number bonds to 6, to 10 and some doubles facts). They now need to learn the remaining 18 facts. Most children won't remember all of their number facts by rote learning, so they should practise deriving these facts within 10 from previously memorised facts or knowledge. E.g. Near doubles - "I know that double 3 is equal to 6, so 4 plus 3 is equal to 7." Knowledge of the number system—"If I subtract 2 from an even number I get the previous even number, so 6 minus 2 is equal to 4." "If I subtract 2 from an odd number, I get the previous odd number, so 5 minus 2 equals 3." "If I add or subtract 0 from a number, the number will remain the same."

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