Year 2 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 2 – Autumn 1

I know number bonds 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.**

They should be able to answer these questions in any order, including missing number questions e.g. 8 + ☐ = 20 or 20 - ☐ = 4

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	

Key Vocabulary

What do I add to 9 to make 20?
What is 20 subtract 5?
What is 4 less than 20?
How many more than 16 is 20?

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.

Use what you already know - Use number bonds to 10 (e.g. 8 + 2 = 10 to work out related number bonds to 20 (e.g. 18 + 2 = 20).

Use practical resources - <ake 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: www.bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 20.

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.

Key Instant Recall Facts

Year 2 – Autumn 2

I know 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.**

They should be able to answer these questions in any order, including missing number questions e.g. 2 x ☐ = 8 or 16 ÷ 2 = ☐

2 x 0 = 0	2 x 7 = 14	0 ÷ 2 = 0	14 ÷ 2 = 7
2 x 1 = 2	2 x 8 = 16	2 ÷ 2 = 1	16 ÷ 2 = 8
2 x 2 = 4	2 x 9 = 18	4 ÷ 2 = 2	18 ÷ 2 = 9
2 x 3 = 6	2 x 10 = 20	6 ÷ 2 = 3	20 ÷ 2 = 10
2 x 4 = 8	2 x 11 = 22	8 ÷ 2 = 4	22 ÷ 2 = 11
2 x 5 = 10	2 x 12 = 24	10 ÷ 2 = 5	24 ÷ 2 = 12
2 x 6 = 12		12 ÷2 = 6	

Key Vocabulary

What is 2 multiplied by 6?

What is 2 times 8?

What is 12 divided by 2?

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.

Use what you already know - If your child knows that 2 x 5 = 10, they can use this fact to work out 2 x 6 = 12

Chanting—This is the most effective way for children to memorise these facts. Say the facts in full for best effect i.e. one 2 is 2, two 2's are 4, three 2's are 6...

Use a poster – It is really important that children can see the answers in front of them when they are chanting, so they learn the correct answers. Use this sheet or make a poster which they can refer back to every time they practise.

Play Games—We pay for all children to have a DoodleMaths account. This includes a DoodleTables app for them to practice with. Can you make up games which involve rehearsing these facts?

Key Instant Recall Facts

Year 2 – Spring 1

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

Key Vocabulary

What is double 6?

What is half of 18?

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.

Use what you already know - Encourage your child to find a connection between the 2 times table and the doubles facts.

Chanting—This is the most effective way for children to memorise these facts. Say the facts in full for best effect i.e. one 2 is 2, two 2's are 4, / 'double 1 is 2, double 2 is 4…' half of 8 is 4, half of 12 is 6' ...

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

Play games online— Hit the Button Doubles and Halves: https://www.topmarks.co.uk/maths-games/hit-the-button

Key Instant Recall Facts

Year 2 – Spring 2

I know 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.**

They should be able to answer these questions in any order, including missing number questions e.g. 10 x ☐ = 40 or 70 ÷ 10 = ☐

1 x 10 = 10	8 x 10 = 80	0 ÷ 10 = 0	70 ÷ 10 = 7
2 x 10= 20	9 x 10 = 90	10 ÷ 10 = 1	80 ÷ 10 = 8
3 x 10 = 30	10 x 10 = 100	20 ÷ 10 = 2	90 ÷ 10 = 9
4 x 10= 40	11 x 10 = 110	30 ÷ 10 = 3	100 ÷ 10 = 10
5 x 10= 50	12 x 10 = 120	40 ÷ 10 = 4	110 ÷ 10 = 11
6 x 10= 60		50 ÷ 10 = 5	120 ÷ 10 = 12
7 x 10= 70		60 ÷10 = 6	

Key Vocabulary

What is 10 multiplied by 8?

What is 10 times 4?

What is 70 divided by 10?

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.

Use what you already know - If your child knows that 5 x 10 = 50, they can use this fact to work out 10 x 5 = 50 and 50 ÷ 10 = 5 plus 50 ÷ 5 = 10

Misconceptions - Please don't teach your child to 'add a zero on the end' Instead, focus on place value 'The digits move one place to the left when we multiply by ten.'

Chanting—This is the most effective way for children to memorise these facts. Say the facts in full for best effect i.e. one 10 is 10, two 10's are 20, three 10's are 30...

Use a poster – It is really important that children can see the answers in front of them when they are chanting, so they learn the correct answers. Use this sheet or make a poster which they can refer back to every time they practise.

Play Games—We pay for all children to have a DoodleMaths account. This includes a DoodleTables app for them to practice with. Can you make up games which involve rehearsing these facts?

Key Instant Recall Facts

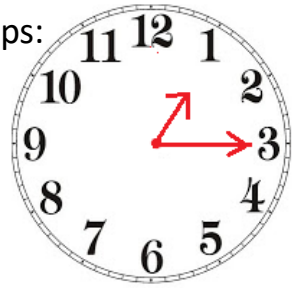
Year 2 – Summer 1

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

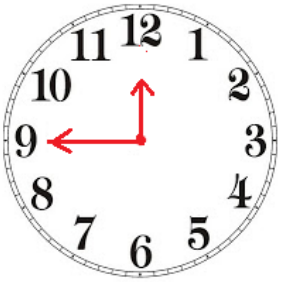
By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly.**

Children need to be able to tell the time using an analogue 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 three

Quarter past four

Quarter to 8

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.

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 about time regularly - You could also give your child some responsibility for watching the clock:

'The dinner will need to come out of the oven at quarter to five.'

'We need to leave the house at half past eight.'

Get children thinking about how long a duration of time is: 'This programme is on for half an hour.'

'You can play for another quarter of an hour.'

Key Instant Recall Facts

Year 2 – Summer 2

I know 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.**

They should be able to answer these questions in any order, including missing number questions e.g. 5 x ☐ = 40 or 35 ÷ 5 = ☐

1 x 5 = 5	8 x 5 = 40	0 ÷ 5 = 0	35 ÷ 5 = 7
2 x 5 = 10	9 x 5 = 45	5 ÷ 5 = 1	40 ÷ 5 = 8
3 x 5 = 15	10 x 5 = 50	10 ÷ 5 = 2	45 ÷ 5 = 9
4 x 5 = 20	11 x 5 = 55	15 ÷ 5 = 3	50 ÷ 5 = 10
5 x 5 = 25	12 x 5 = 60	20 ÷ 5 = 4	55 ÷ 5 = 11
6 x 5 = 30		25 ÷ 5 = 5	60 ÷ 5 = 12
7 x 5 = 35		30 ÷5 = 6	

Key Vocabulary

What is 5 multiplied by 7?

What is 5 times 3?

What is 40 divided by 5?

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.

Use what you already know - If your child knows that 5 x 10 = 50, they can use this fact to work out 10 x 5 = 50 and 50 ÷ 5 = 10 plus 50 ÷ 10 = 5

Finding Patterns - Identifying number patterns is a really important aspect of maths. All the answers in the five times table end in either zero or five. The odd factors have a multiple ending in 5 and the even factors have a multiple ending in zero. Spotting these patterns when you learn a times table helps to develop 'number sense.'

Chanting—This is the most effective way for children to memorise these facts. Say the facts in full for best effect i.e. one 5 is 5, two 5's are 10, three 5's are 15...

Use a poster – It is really important that children can see the answers in front of them when they are chanting, so they learn the correct answers. Use this sheet or make a poster which they can refer back to every time they practise.