KEY INSTANT RECALL FACTS

To develop your child's fluency and mental maths skills, we have decided to introduce 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 a crucial part of a child's learning journey. They underpin a learner's mental development and ensure that they're able to answer maths questions with confidence.

They are particularly useful when calculating: adding; subtracting; multiplying or dividing. They contain number facts such as number bonds and times tables that need constant practice and rehearsal, so children can recall them quickly and accurately. Instant recall of facts helps enormously with mental agility within 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 home for the half term. They will also be available on our school website under the maths section. 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 practiced 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 practiced 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 learned to a wide range of problems that confront us regularly.

Key Instant Recall Facts

Year 4 – Autumn 1

I know the multiplication and division facts for the 7 and 9 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**.

1 x 7 = 7	7 ÷ 1 = 7	1 x 9 = 9	9 ÷ 1 = 9
2 x 7 = 14	14 ÷ 2 = 7	2 x 9 = 18	18 ÷ 2 = 9
3 x 7 = 21	21 ÷ 3 = 7	3 x 9 = 27	27 ÷ 3 = 9
4 x 7 = 28	28 ÷ 4 = 7	4 x 9 = 36	36 ÷ 4 = 9
5 x 7 = 35	35 ÷ 5 = 7	5 x 9 = 45	45 ÷ 5 = 9
6 x 7 = 42	42 ÷ 6 = 7	6 x 9 = 54	54 ÷ 6 = 9
7 x 7 = 49	49 ÷ 7 = 7	7 x 9 = 63	63 ÷ 7 = 9
8 x 7 = 56	56 ÷ 8 = 7	8 x 9 = 72	72 ÷ 8 = 9
9 x 7 = 63	63 ÷ 9 = 7	9 x 9 = 81	81 ÷ 9 = 9
10 x 7 = 70	70 ÷ 10 = 7	10 x 9 = 90	90 ÷ 10 = 9
11 x 7 = 77	77 ÷ 11 = 7	11 x 9 = 99	99 ÷ 11 = 9
12 x 7 = 84	84 ÷ 12 = 7	12 x 9 = 108	108 ÷ 12 = 9

Key Vocabulary

What is 7 **multiplied by** 6?

What is 7 **times** 8?

What is 84 **divided by** 7?

What times 9 = 27 ?

They should be able to answer these questions in any order, including missing number questions e.g. 7 x ◯ = 28 or ◯ ÷ 6 = 7

Top Tips

The secret to success is practising **little** and **often**. 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.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. You can also use Education City songs and websites www.timestables.co.uk and www.timestables.me.uk

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some picture stories to help children remember.

Key Instant Recall Facts

Year 4 – Autumn 2

I know the multiplication and division facts for the 11 and 12 times tables.

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 11 = 11	11 ÷ 11 = 1	1 x 12 = 12	12 ÷ 12 = 1
2 x 11 = 22	22 ÷ 11 = 2	2 x 12 = 24	24 ÷ 12 = 2
3 x 11 = 33	33 ÷ 11 = 3	3 x 12 = 36	36 ÷ 12 = 3
4 x 11 = 44	44 ÷ 11 = 4	4 x 12 = 48	48 ÷ 12 = 4
5 x 11 = 55	55 ÷ 11 = 5	5 x 12 = 60	60 ÷ 12 = 5
6 x 11 = 66	66 ÷ 11 = 6	6 x 12 = 72	72 ÷ 12 = 6
7 x 11 = 77	77 ÷ 11 = 7	7 x 12 = 84	84 ÷ 12 = 7
8 x 11 = 88	88 ÷ 11 = 8	8 x 12 = 96	96 ÷ 12 = 8
9 x 11 = 99	99 ÷ 11 = 9	9 x 12 = 108	108 ÷ 12 = 9
10 x 11 = 110	110 ÷ 11 = 10	10 x 12 = 120	120 ÷ 12 = 10
11 x 11 = 121	121 ÷ 11 = 11	11 x 12 = 132	132 ÷ 12 = 11
12 x 11 = 132	132 ÷ 11 = 12	12 x 12 = 144	144 ÷ 12 = 12

Key Vocabulary

What is 11 **multiplied by** 6?

What is 12 **times** 8?

What is 84 **divided by** 12?

They should be able to answer these questions in any order, including missing number questions e.g. 9 x ◯ = 54 or ◯ ÷ 11 = 7

Top Tips

The secret to success is practising **little** and **often**.

Look for patterns – These times tables are full of patterns for your child to find. How many can they spot?

What do you already know? – Your child will already know many of these facts from the 2, 3, 4, 5, 6, 8 and 10 times tables. It may be worth practising these again!

Key Instant Recall Facts

Year 4 – Spring 1

I can recall decimal equivalents of fractions.

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

$\frac{1}{2} = 0.5$	$\frac{1}{10} = 0.1$	$\frac{1}{100} = 0.01$
$\frac{1}{4} = 0.25$	$\frac{2}{10} = 0.2$	$\frac{7}{100} = 0.07$
$\frac{3}{4} = 0.75$	$\frac{5}{10} = 0.5$	$\frac{21}{100} = 0.21$
	$\frac{6}{10} = 0.6$	$\frac{75}{100} = 0.75$
	$\frac{9}{10} = 0.9$	$\frac{99}{100} = 0.99$

Key Vocabulary

How many **tenths** is 0.8?

How many **hundredths** is 0.12?

Write 0.75 as a **fraction**.

Write ¼ as a **decimal**.

Children should be able to convert between decimals and fractions for ½ , ¼ , ¾ and any number of tenths and hundredths.

Top Tips

The secret to success is practising **little** and **often**. You do not need to practise them all at once; perhaps you could have a fact of the day.

Play games – Make some cards with pairs of equivalent fractions and decimals. Use these to play the memory game or snap. Or make your own dominoes with fractions on one side and decimals on the other.

Place value grid – make a place value grid to place the decimals on which can help your child's understanding of conversion of decimals to fractions and vice versa.

My Place Value Grid

Th Thousands	H Hundreds	T Tens	U Units	•	$\frac{1}{10}$ Tenths	$\frac{1}{100}$ Hundredths

Key Instant Recall Facts

Year 4 – Spring 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**.

Fact families:

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

What is 700 **divided by** 70?

Thousands, hundreds, tens, ones, tenths , hundredths

These are just examples of the facts for this term. They should be able to answer these questions in any order, including missing number questions e.g. 10 x ◯ = 5 or ◯ ÷ 10 = 60

Top Tips

The secret to success is practising **little** and **often.**

Warning: It is tempting to tell children that to multiply by ten or one hundred it is just a case of adding zeroes to 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 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.

My Place Value Grid

Th Thousands	H Hundreds	T Tens	U Units	•	$\frac{1}{10}$ Tenths	$\frac{1}{100}$ Hundredths

Key Instant Recall Facts

Year 4 – Summer 1

I know the multiplication facts for all times tables up to 12 x 12.

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

0 X 1 = 0	0 X 2 = 0	0 X 3 = 0	0 X 4 = 0	0 X 5 = 0	0 X 6 = 0
1 X 1 = 1	1 X 2 = 2	1 X 3 = 3	1 X 4 = 4	1 X 5 = 5	1 X 6 = 6
2 X 1 = 2	2 X 2 = 4	2 X 3 = 6	2 X 4 = 8	2 X 5 = 10	2 X 6 = 12
3 X 1 = 3	3 X 2 = 6	3 X 3 = 9	3 X 4 = 12	3 X 5 = 15	3 X 6 = 18
4 X 1 = 4	4 X 2 = 8	4 X 3 = 12	4 X 4 = 16	4 X 5 = 20	4 X 6 = 24
5 X 1 = 5	5 X 2 = 10	5 X 3 = 15	5 X 4 = 20	5 X 5 = 25	5 X 6 = 30
6 X 1 = 6	6 X 2 = 12	6 X 3 = 18	6 X 4 = 24	6 X 5 = 30	6 X 6 = 36
7 X 1 = 7	7 X 2 = 14	7 X 3 = 21	7 X 4 = 28	7 X 5 = 35	7 X 6 = 42
8 X 1 = 8	8 X 2 = 16	8 X 3 = 24	8 X 4 = 32	8 X 5 = 40	8 X 6 = 48
9 X 1 = 9	9 X 2 = 18	9 X 3 = 27	9 X 4 = 36	9 X 5 = 45	9 X 6 = 54
10 X 1 = 10	10 X 2 = 20	10 X 3 = 30	10 X 4 = 40	10 X 5 = 50	10 X 6 = 60
11 X 1 = 11	11 X 2 = 22	11 X 3 = 33	11 X 4 = 44	11 X 5 = 55	11 X 6 = 66
12 X 1 = 12	12 X 2 = 24	12 X 3 = 36	12 X 4 = 48	12 X 5 = 60	12 X 6 = 72
0 X 7 = 0	0 X 8 = 0	0 X 9 = 0	0 X 10 = 0	0 X 11 = 0	0 X 12 = 0
1 X 7 = 7	1 X 8 = 8	1 X 9 = 9	1 X 10 = 10	1 X 11 = 11	1 X 12 = 12
2 X 7 = 14	2 X 8 = 16	2 X 9 = 18	2 X 10 = 20	2 X 11 = 22	2 X 12 = 24
3 X 7 = 21	3 X 8 = 24	3 X 9 = 27	3 X 10 = 30	3 X 11 = 33	3 X 12 = 36
4 X 7 = 28	4 X 8 = 32	4 X 9 = 36	4 X 10 = 40	4 X 11 = 44	4 X 12 = 48
5 X 7 = 35	5 X 8 = 40	5 X 9 = 45	5 X 10 = 50	5 X 11 = 55	5 X 12 = 60
6 X 7 = 42	6 X 8 = 48	6 X 9 = 54	6 X 10 = 60	6 X 11 = 66	6 X 12 = 72
7 X 7 = 49	7 X 8 = 56	7 X 9 = 63	7 X 10 = 70	7 X 11 = 77	7 X 12 = 84
8 X 7 = 56	8 X 8 = 64	8 X 9 = 72	8 X 10 = 80	8 X 11 = 88	8 X 12 = 96
9 X 7 = 63	9 X 8 = 72	9 X 9 = 81	9 X 10 = 90	9 X 11 = 99	9 X 12 = 108
10 X 7 = 70	10 X 8 = 80	10 X 9 = 90	10 X 10 = 100	10 X 11 = 110	10 X 12 = 120
11 X 7 = 77	11 X 8 = 88	11 X 9 = 99	11 X 10 = 110	11 X 11 = 121	11 X 12 = 132
12 X 7 = 84	12 X 8 = 96	12 X 9 = 108	12 X 10 = 120	12 X 11 = 132	12 X 12 = 144

Top Tips

The secret to success is practising **little** and **often**. 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.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. You can also use Education City songs and websites www.timestables.co.uk , www.timestables.me.uk and www.conkermaths.com

Key Instant Recall Facts

Year 4 – Summer 2

I know number bonds to £1.00.

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

60p + 40p = £1.00	£1.00 – 37p = 63p	25p + 75p = £1.00
37p + 63p = £1.00	£1.00 – 60p = 40p	52p + 48p = £1.00
40p + 60p = £1.00	£1.00 – 63p = 37p	£1.00 – 25p = 75p
63p + 37p = £1.00	75p + 25p = £1.00	£1.00 – 52p = 48p
£1.00 – 40p = 60p	48p + 52p = £1.00	£1.00 – 75p = 25p
£1.00 – 55p = 45p	37p + 63p = £1.00	£1.00 – 48p = 52p

Key Vocabulary

What do I **add** to 65p to make £1?

What is £1 **take away** 60p?

What is 13p **less than** £1?

How many more pence than 57p is £1?

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions.

e.g. 49p + **?** = £1.00 or £1.00 - **?** = 72p

Top Tips

The secret to success is practising little and often. 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.

Buy one get three free – If your child knows one fact (e.g. 85p + 15p = £1.00), can they tell you the other three facts in the same fact family? (15p + 85p = £1.00 / £1.00 – 15p = 85p / £1.00 – 85p = 15p).

Use number bonds to 100 – How can your number bonds to 100 help you work out number bonds to £1.00?