Key Instant Recall Facts

KIRFs

To help develop children’s fluency in mathematics, we ask them to learn Key Instant Recall Facts.

These lists of KIRFs align with the curriculum.

They are intended to be challenging and it is intended that children will be taught the necessary maths in lessons beforehand. We expect children to practice their KIRFs at least 3 times a week; they will explore them in lessons at school also. These facts will greatly help the children achieve their expected outcomes at the end of their respective academic year group.

**I know number bonds for each number to 6.**

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

1 + 1 = 2

2 + 0 = 2

4 + 0 = 4

4 + 2 = 6

5 + 1 = 6

|  |  |  |
| --- | --- | --- |
|  | 0 + 5 = 5 | 6 + 0 = 6 |
| 0 + 3 = 3 | 1 + 4 = 5 |  |
| 1 + 2 = 3 | 2 + 3 = 5 |  |
| 2 + 1 = 3 | 3 + 2 = 5 |  |
| 3 + 0 = 3 | 4 + 1 = 5 |  |
|  | 5 + 0 = 5 |  |

**Key Vocabulary**

What is 3 **add** 2? What is 2 **plus** 2?

|  |  |  |
| --- | --- | --- |
| 0 + 1 = 1 | 0 + 4 = 4 | 0 + 6 = 6 |
| 1 + 0 = 1 | 1 + 3 = 4 | 1 + 5 = 6 |
|  | 2 + 2 = 4 | 2 + 4 = 6 |
| 0 + 2 = 2 | 3 + 1 = 4 | 3 + 3 = 6 |

What is 5 **take away** 2?

What is 1 **less than** 4?

They should be able to answer these questions in any order, including missing number questions e.g. 3 + ⃝ = 5 or 4 – ⃝ = 2.

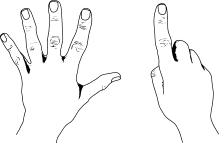
Top Tips

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.

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: bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 5.

**I can count forward and backward in steps of 2,5 and 10**



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 able to start at zero and then count on

0 2 4 6 8 10 12 14 16 18 20

0 5 10 15 20 25 30 35 40 45 50

0 10 20 30 40 50 60 70 80 90

When confident they should try counting backwards steps from any of the numbers above

**Key Vocabulary**

**How many tens can you count?**

**How many 2s do we count to make 10?**

**Top tips**

The key is to make learning fun! Try taking it in turns to SHOUT the times tables e.g for the

2x table, one person shouts 2, another shouts 4

Use fingers to count each step 2 4 6 8 10 12 so children see they have counted six lots of two to make 12.

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

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 + 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

½ of 0 = 0

½ of 2 = 1

½ of 4 = 2

½ of 6 = 3

½ of 8 = 4

½ of 10 = 5

**Key Vocabulary** What is **double** 9? What is **half** of 6?

Top Tips

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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.

**I know number bonds to 10.**

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

0 + 10 = 10

10 + 0 = 10

10 – 10 = 0

10 – 0 = 10

1 + 9 = 10

9 + 1 = 10

10 – 9 = 1

10 – 1 = 9

2 + 8 = 10

8 + 2 = 10

10 – 8 = 2

10 – 2 = 8

3 + 7 = 10

7 + 3 = 10

10 – 7 = 3

10 – 3 = 7

4 + 6 = 10

6 + 4 = 10

10 – 6 = 4

10 – 4 = 6

5 + 5 = 10

10 – 5 = 5

**Key Vocabulary**

What is 3 **add** 2? What is 2 **plus** 2?

What is 5 **take away** 2?

What is 1 **less than** 4?

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

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.

Use practical resources – Your child has one potato on their plate and you give them two 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: bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 5.

**I know days of the week, months of the year and seasons.**

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 know the months of the year in order and also talk about the seasons of the year and the order they happen.

January February March April

May

June July August

September October November

December

**Key Vocabulary**

**12 months in one year**

**Four seasons**

Spring Summer Autumn Winter

Top Tips

The secret to success is practising **little** and **often**. If you would like more ideas, please

speak to your child’s teacher.

Talk about time - Discuss what time in the year things happen. When does your child have their birthday? When is Christmas? When do we celebrate Harvest? When does blossom appear on the trees?

Calendars -Make sure that you have a calendar to see the months pass during the year. You could also give your child some responsibility for marking off or turning over to a new month on a home calendar

Read books about time Lots of story books have opportunities to talk about the seasons and predict the time of year the events take place.

**I know number bonds for each number to 10.**

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

0 + 7 = 7

1 + 6 = 7

2 + 5 = 7

3 + 4 = 7

4 + 3 = 7

5 + 2 = 7

0 + 8 = 8

1 + 7 = 8

2 + 6 = 8

3 + 5 = 8

4 + 4 = 8

5 + 3 = 8

0 + 9 = 9

1 + 8 = 9

2 + 7 = 9

3 + 6 = 9

4 + 5 = 9

5 + 4 = 9

|  |  |  |  |
| --- | --- | --- | --- |
| 6 + 2 = 8 | 6 + 2 = 8 | 6 + 3 = 9 | 6 + 4 = 10 |
| 7 + 1 = 8 | 7 + 1 = 8 | 7 + 2 = 9 | 7 + 3 = 10 |
| 8 + 0 = 8 | 8 + 0 = 8 | 8 + 1 = 9 | 8 + 2 = 10 |
|  |  | 9 + 0 = 9 | 9 + 1 = 10 |
|  |  |  | 10 + 0 = 10 |

0 + 10 = 10

1 + 9 = 10

2 + 8 = 10

3 + 7 = 10

4 + 6 = 10

5 + 5 = 10

**Key Vocabulary**

What do I **add** to 5 to make 10? What is 10 **take away** 6?

What is 3 **less than** 10?

**How many more** than 2 is 10?

They should be able to answer these questions in any order, including missing number questions e.g. 1 + ⃝ = 10 or 9 – ⃝ = 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.

**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**.

|  |  |  |  |
| --- | --- | --- | --- |
| 0+ 20 = 20  1 + 19 = 20  2 + 18 = 20  3 + 17 = 20  4 + 16 = 20  5 + 15 = 20  6 + 14 = 20  7 + 13 = 20  8 + 12 = 20  9 + 11 = 20  10 + 10 = 20 | 20 + 0 = 20  19 + 1 = 20  18 + 2 = 20  17 + 3 = 20  16 + 4 = 20  15 + 5 = 20  14 + 6 = 20  13 + 7 = 20  12 + 8 = 20  11 + 9 = 20 | 20 –0 = 20  20 –1 = 19  20–2 = 18  20 –3 = 17  20 –4 = 16  20 –5 = 15  20 –6 = 14  20 –7 = 13  20 –8 = 12  20 –9 = 11  20 –10 = 10 | 20 –20 = 0  20–19 = 1  20 –18 = 2  20 –17 = 3  20 –16 = 4  20 –15 = 5  20 –14 = 6  20 –13 = 7  20 –12 = 8  20 –11 = 9 |

|  |  |  |  |
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**Key Vocabulary**

What do I **add** to 5 to make 20? What is 20 **take away** 6?

What is 3 **less than** 20?

**How many more** than 16 is 20?

They should be able to answer these questions in any order, including missing number questions e.g. 19 + ⃝ = 20 or 20 – ⃝ = 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.

Use what you already know – Use number bonds to 10 (e.g. 7 + 3 = 10) to work out related number bonds to 20 (e.g. 17 + 3 = 20).

Use practical resources – Make 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:

bit.ly/NumiconPictures – your child could make a poster showing the different ways of making 20.

**I know the 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**.

2 × 1 = 2

2 × 2 = 4

2 × 3 = 6

2 × 4 = 8

2 × 5 = 10

2 × 6 = 12

2 × 7 = 14

2 × 8 = 16

2 × 9 = 18

2 × 10 = 20

2 × 11 = 22

2 × 12 = 24

2 ÷ 2 = 1

4 ÷ 2 = 2

6 ÷ 2 = 3

8 ÷ 2 = 4

10 ÷ 2 = 5

12 ÷ 2 = 6

14 ÷ 2 = 7

16 ÷ 2 = 8

18 ÷ 2 = 9

20 ÷ 2 = 10

22 ÷ 2 = 11

24 ÷ 2 = 12

**Key Vocabulary** What is 2 **multiplied by** 7? What is 2 **times** 9?

What is 12 **divided by** 2?

They should be able to answer these questions in any order, including missing number questions e.g. 2 × ⃝ = 8 or ⃝ ÷ 2 = 6.

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.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Use what you already know – If your child knows that 2 × 5 = 10, they can use this fact to work out

that 2 × 6 = 12.

Test the Parent – Your child can make up their own tricky division questions for you e.g. *What is 18 divided by 2?* They need to be able to multiply to create these questions.

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember. TT Rockstars helps with multiplication fact recall.

**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**.

**Key Vocabulary**

What is **double** 9? What is **half** of 14?

|  |  |  |
| --- | --- | --- |
| 0 + 0 = 0 | ½ of 0 = 0 |  |
| 1 + 1 = 1 | ½ of 2 = 1 | 11 + 11 = 22 |
| 2 + 2 = 4 | ½ of 4 = 2 | 12 + 12 = 24 |
| 3 + 3 = 6 | ½ of 6 = 3 | 13 + 13 = 26 |
| 4 + 4 = 8 | ½ of 8 = 4 | 14 + 14 = 28 |
| 5 + 5 = 10 | ½ of 10 = 5 | 15 + 15 = 30 |
| 6 + 6 = 12 | ½ of 12 = 6 | 16 + 16 = 32 |
| 7 + 7 = 14 | ½ of 14 = 7 | 17 + 17 = 34 |
| 8 + 8 = 16 | ½ of 16 = 8 | 18 + 18 = 36 |
| 9 + 9 = 18 | ½ of 18 = 9 | 19 + 19 = 38 |
| 10 + 10 = 20 | ½ of 20 = 10 | 20 + 20 = 40 |

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.

Use what you already know – Encourage your child to find the connection between the 2 times table and double facts.

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.

**I know the 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**.

10 × 1 = 10

10 × 2 = 20

10 × 3 = 30

10 × 4 = 40

10 × 5 = 50

10 × 6 = 60

10 × 7 = 70

10 × 8 = 80

10 × 9 = 90

10 × 10 = 100

10 × 11 = 110

10 × 12 = 120

10 ÷ 10 = 1

20 ÷ 10 = 2

30 ÷ 10 = 3

40 ÷ 10 = 4

50 ÷ 10 = 5

60 ÷ 10 = 6

70 ÷ 10 = 7

80 ÷ 10 = 8

90 ÷ 10 = 9

100 ÷ 10 = 10

110 ÷ 10 = 11

120 ÷ 10 = 12

**Key Vocabulary**

What is 10 **multiplied by** 3? What is 10 **times** 9?

What is 70 **divided by** 10?

They should be able to answer these questions in any order, including missing number questions e.g. 10 × ⃝ = 80 or ⃝ ÷ 10 = 6.

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.

Pronunciation – Make sure that your child is pronouncing the numbers correctly and not getting confused between thirt**een** and thirt**y.**

Songs and Chants – You can find multiplication songs and chants online (youtube). If

your child creates their own song, this can make the times tables even more memorable. TT Rockstars helps with multiplication fact recall.

Test the Parent – Your child can make up their own tricky division questions for you e.g. *What is 70 divided by 7?* They need to be able to multiply to create these questions.

Apply these facts to real life situations – How many toes are in your house? What other multiplication and division questions can your child make up?

**I know addition and subtraction facts for multiples of 10 to 100**

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

Some examples;

30+20=50

20+30=50

50-30=20

50-20=30

60 + 40 = 100

40 + 60 = 100

100 – 40 = 60

100 – 60 = 40

Key Vocabulary

What do I **add** to 60 to make

100?

What is 100 **take away** 60? What is 20 **less than** 50? **How many more** than 60 is

100?

What is the **difference**

between 50 and 30?

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.

Buy one get three free - If your child knows one fact (e.g. 30+40=70), can they tell you the other three facts in the same fact family?

Use number bonds to 10 - How can number bonds to 10 help you work out number bonds

to 100?

**I know the 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**.

5 × 1 = 5

5 × 2 = 10

5 × 3 = 15

5 × 4 = 20

5 × 5 = 25

5 × 6 = 30

5 × 7 = 35

5 × 8 = 40

5 × 9 = 45

5 × 10 = 50

5 × 11 = 55

5 × 12 = 60

5 ÷ 5 = 1

10 ÷ 5 = 2

15 ÷ 5 = 3

20 ÷ 5 = 4

25 ÷ 5 = 5

30 ÷ 5 = 6

35 ÷ 5 = 7

40 ÷ 5 = 8

45 ÷ 5 = 9

50 ÷ 5 = 10

55 ÷ 5 = 11

60 ÷ 5 = 12

**Key Vocabulary** What is 5 **multiplied by** 7? What is 5 **times** 9?

What is 60 **divided by** 5?

They should be able to answer these questions in any order, including missing number questions e.g. 5 × ⃝ = 40 or ⃝ ÷ 5 = 9.

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.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Spot patterns – What patterns can your child spot in the 5 times table? Are there any similarities

with the 10 times table?

Test the Parent – Your child can make up their own tricky division questions for you e.g. *What is 45 divided by 5?* They need to be able to multiply to create these questions.

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember. TT Rockstars helps with multiplication/division fact recall.

**I know number bonds for all 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**.

|  |  |  |
| --- | --- | --- |
| 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 –9 = 6  Examples of other facts  4 + 5 = 9  13 + 5 = 18  19 –7 = 12  10 –6 = 4 |

5 + 9 = 14

6 + 8 = 14

Example of a fact family

6 + 9 = 15

5 + 6 = 11

3 + 9 = 12

4 + 8 = 12

5 + 7 = 12

6 + 6 = 12

4 + 9 = 13

5 + 8 = 13

6 + 7 = 13

6 + 9 = 15

7 + 8 = 15

7 + 9 = 16

8 + 8 = 16

8 + 9 = 17

9 + 9 = 18

15 – 9 = 6

15 – 9 = 6

Examples of other facts

4 + 5 = 9

13 + 5 = 18

19 – 7 = 12

10 – 6 = 4

What do I **add** to 5 to make 19? What is 17 **take away** 6?

What is 13 **less than** 15?

**How many more** than 8 is 11?

What is the **difference** between

9 and 13?

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).

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.

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?

**I know the multiplication and division facts for the 3 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**.

**Key Vocabulary** What is 3 **multiplied by** 8? What is 8 **times** 3?

|  |  |  |  |
| --- | --- | --- | --- |
| 3 × 1 = 3 | 1 × 3 = 3 | 3 ÷ 3 = 1 | 3 ÷ 1 = 3 |
| 3 × 2 = 6 | 2 × 3 = 6 | 6 ÷ 3 = 2 | 6 ÷ 2 = 3 |
| 3 × 3 = 9 | 3 × 3 = 9 | 9 ÷ 3 = 3 | 9 ÷ 3 = 3 |
| 3 × 4 = 12 | 4 × 3 = 12 | 12 ÷ 3 = 4 | 12 ÷ 4 = 3 |
| 3 × 5 = 15 | 5 × 3 = 15 | 15 ÷ 3 = 5 | 15 ÷ 5 = 3 |
| 3 × 6 = 18 | 6 × 3 = 18 | 18 ÷ 3 = 6 | 18 ÷ 6 = 3 |
| 3 × 7 = 21 | 7 × 3 = 21 | 21 ÷ 3 = 7 | 21 ÷ 7 = 3 |
| 3 × 8 = 24 | 8 × 3 = 24 | 24 ÷ 3 = 8 | 24 ÷ 8 = 3 |
| 3 × 9 = 27 | 9 × 3 = 27 | 27 ÷ 3 = 9 | 27 ÷ 9 = 3 |
| 3 × 10 = 30 | 10 × 3 = 30 | 30 ÷ 3 = 10 | 30 ÷ 10 = 3 |
| 3 × 11 = 33 | 11 × 3 = 33 | 33 ÷ 3 = 11 | 33 ÷ 11 = 3 |
| 3 × 12 = 36 | 12 × 3 = 36 | 36 ÷ 3 = 12 | 36 ÷ 12 = 3 |

What is 24 **divided by** 3?

They should be able to answer these questions in any order, including missing number questions e.g. 3 × ⃝ = 18 or ⃝ ÷ 3 = 11.

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 family 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. If your child creates their own song, this can make the times tables even more memorable. TT Rockstars helps with multiplication fact recall.

Buy one get three free – If your child knows one fact (e.g. 3 × 5 = 15), can they tell you the other

three facts in the same fact family?

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 × 12 = 36. The answer to the multiplication is 36, so 36 ÷ 3 = 12 and 36 ÷ 12 = 3

**I can recall facts about durations of time.**

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

There are 60 seconds in a minute. There are 60 minutes in an hour. There are 24 hours in a day.

|  |  |  |  |
| --- | --- | --- | --- |
| January | 31 | July | 31 |
| February | 28/29 | August | 31 |
| March | 31 | September | 30 |
| April | 30 | October | 31 |
| May | 31 | November | 30 |
| June | 30 | December | 31 |

There are 7 days in a week. There are 12 months in a year. There are 365 days in a year. There are 366 days in a leap year.

Number of days in each month

Children also need to know the order of the months in a year. They should be able to apply these facts to answer questions, such as:

What day comes after 30th April? What day comes before 1st February?

Top Tips

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Use rhymes and memory games– The rhyme, *Thirty days hath September*, can help children remember which months have 30 days. There are poems describing the months of the year in order.

Use calendars – If you have a calendar for the new year, your child could be responsible for recording the birthdays of friends and family members in it. Your child could even make their own calendar.

How long is a minute? – Ask your child to sit with their eyes closed for exactly one minute while you time them. Can they guess the length of a minute? Carry out different activities for one minute. How many times can they jump in sixty seconds?

**I know the multiplication and division facts for the 4 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**.

**Key Vocabulary** What is 4 **multiplied by** 6? What is 8 **times** 4?

|  |  |  |  |
| --- | --- | --- | --- |
| 4 × 1 = 4 | 1 × 4 = 4 | 4 ÷ 4 = 1 | 4 ÷ 1 = 4 |
| 4 × 2 = 8 | 2 × 4 = 8 | 8 ÷ 4 = 2 | 8 ÷ 2 = 4 |
| 4 × 3 = 12 | 3 × 4 = 12 | 12 ÷ 4 = 3 | 12 ÷ 3 = 4 |
| 4 × 4 = 16 | 4 × 4 = 16 | 16 ÷ 4 = 4 | 16 ÷ 4 = 4 |
| 4 × 5 = 20 | 5 × 4 = 20 | 20 ÷ 4 = 5 | 20 ÷ 5 = 4 |
| 4 × 6 = 24 | 6 × 4 = 24 | 24 ÷ 4 = 6 | 24 ÷ 6 = 4 |
| 4 × 7 = 28 | 7 × 4 = 28 | 28 ÷ 4 = 7 | 28 ÷ 7 = 4 |
| 4 × 8 = 32 | 8 × 4 = 32 | 32 ÷ 4 = 8 | 32 ÷ 8 = 4 |
| 4 × 9 = 36 | 9 × 4 = 36 | 36 ÷ 4 = 9 | 36 ÷ 9 = 4 |
| 4 × 10 = 40 | 10 × 4 = 40 | 40 ÷ 4 = 10 | 40 ÷ 10 = 4 |
| 4 × 11 = 44 | 11 × 4 = 44 | 44 ÷ 4 = 11 | 44 ÷ 11 = 4 |
| 4 × 12 = 48 | 12 × 4 = 48 | 48 ÷ 4 = 12 | 48 ÷ 12 = 4 |

What is 24 **divided by** 4?

They should be able to answer these questions in any order, including missing number questions e.g. 4 × ⃝ = 16 or ⃝ ÷ 4 = 7.

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 family of the day. If you would like more ideas, please speak to your child’s teacher.

What do you already know? – Your child will already know many of these facts from the 2,

3, 5 and 10 times tables. TT Rockstars helps with multiplication fact recall.

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 × 4 = 24.

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

**I can count in 50s**

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 count in 50s

1x50=50 50 ÷ 50=1

2x50=100 100 ÷ 50=2

3x50=150 150 ÷ 50=3

4x50=200 200 ÷ 50=4

5x50=250 250 ÷ 50=5

6x50=300 300 ÷ 50=6

7x50=350 350 ÷ 50=7

8x50=400 400 ÷ 50=8

9x50=450 450 ÷ 50=9

10x50=500 500 ÷ 50=10

**Key Vocabulary**

How many 50s make 300?

Multiply 50 by 6? What are 4 lots of 50?

They should be able to answer these questions in any order, including missing

number questions e.g. 50× ⃝ = 150 or ⃝ ÷ 50 = 7.

Top Tips

Try counting on in 50s from 0 or any multiple of 50.

Can your child use their 5x table to help with counting in 50s?

Buy one get three free – If your child knows one fact (e.g. 3 × 50 = 150), can they tell you the other three facts in the same fact family?

**I know the multiplication and division facts for the 8 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**.

**Key Vocabulary** What is 8 **multiplied by** 6? What is 8 **times** 8?

|  |  |  |  |
| --- | --- | --- | --- |
| 8 × 1 = 8 | 1 × 8 = 8 | 8 ÷ 8 = 1 | 8 ÷ 1 = 8 |
| 8 × 2 = 16 | 2 × 8 = 16 | 16 ÷ 8 = 2 | 16 ÷ 2 = 8 |
| 8 × 3 = 24 | 3 × 8 = 24 | 24 ÷ 8 = 3 | 24 ÷ 3 = 8 |
| 8 × 4 = 32 | 4 × 8 = 32 | 32 ÷ 8 = 4 | 32 ÷ 4 = 8 |
| 8 × 5 = 40 | 5 × 8 = 40 | 40 ÷ 8 = 5 | 40 ÷ 5 = 8 |
| 8 × 6 = 48 | 6 × 8 = 48 | 48 ÷ 8 = 6 | 48 ÷ 6 = 8 |
| 8 × 7 = 56 | 7 × 8 = 56 | 56 ÷ 8 = 7 | 56 ÷ 7 = 8 |
| 8 × 8 = 64 | 8 × 8 = 64 | 64 ÷ 8 = 8 | 64 ÷ 8 = 8 |
| 8 × 9 = 72 | 9 × 8 = 72 | 72 ÷ 8 = 9 | 72 ÷ 9 = 8 |
| 8 × 10 = 80 | 10 × 8 = 80 | 80 ÷ 8 = 10 | 80 ÷ 10 = 8 |
| 8 × 11 = 88 | 11 × 8 = 88 | 88 ÷ 8 = 11 | 88 ÷ 11 = 8 |
| 8 × 12 = 96 | 12 × 8 = 96 | 96 ÷ 8 = 12 | 96 ÷ 12 = 8 |

What is 24 **divided by** 8?

They should be able to answer these questions in any order, including missing number questions e.g. 8 × ⃝ = 16 or ⃝ ÷ 8 = 7.

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 family 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. If your child creates their own song, this can make the times tables even more memorable.

Double your fours – Multiplying a number by 8 is the same as multiply by 4 and then doubling the

answer. 8 × 4 = 32 and double 32 is 64, so 8 × 8 = 64.

Five six seven eight – fifty-six is seven times eight (56 = 7 × 8).

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember.

**I know number bonds to 100.**

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

Some examples:

|  |  |  |
| --- | --- | --- |
| 60 + 40 = 100  40 + 60 = 100  100 – 40 = 60 | 37 + 63 = 100  63 + 37 = 100  100 – 63 = 37 | **Key Vocabulary**  What do I **add** to 65 to make  100? |
| 100 – 60 = 40 | 100 – 37 = 63 | What is 100 **take away** 6? |
|  |  | What is 13 **less than** 100? |
| 75 + 25 = 100  25 + 75 = 100 | 48 + 52 = 100  52 + 48 = 100 | **How many more** than 98 is  100? |
| 100 – 25 = 75 | 100 – 52 = 48 | What is the **difference** between |
| 100 – 75 = 25 | 100 – 48 = 52 | 89 and 100? |

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. 49 + ⃝ = 100 or 100 – ⃝ = 72.

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.

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 number bonds to 10 - How can number bonds to 10 help you work out number bonds to 100?

**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**.

**Key Vocabulary**

What is 5 **multiplied by** 10?

What is 10**times** 0.9?

What is 700 **divided by** 70?

**hundreds, tens, units**

**tenths, hundredths**

7 × 10 = 70

30 × 10 = 300

0.8 × 10 = 8

|  |  |  |  |
| --- | --- | --- | --- |
| 10 × 7 = 70  70 ÷ 7 = 10 | 10 × 30 = 300  300 ÷ 30 = 10 | 10 × 0.8 = 8  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 |  |

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.

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 family of the day. If you would like more ideas, please speak to your child’s teacher.

**I know the multiplication and division facts for the 6 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**.

**Key Vocabulary** What is 8 **multiplied by** 6? What is 6 **times** 8?

|  |  |  |  |
| --- | --- | --- | --- |
| 6 × 1 = 6 | 1 × 6 = 6 | 6 ÷ 6 = 1 | 6 ÷ 1 = 6 |
| 6 × 2 = 12 | 2 × 6 = 12 | 12 ÷ 6 = 2 | 12 ÷ 2 = 6 |
| 6 × 3 = 18 | 3 × 6 = 18 | 18 ÷ 6 = 3 | 18 ÷ 3 = 6 |
| 6 × 4 = 24 | 4 × 6 = 24 | 24 ÷ 6 = 4 | 24 ÷ 4 = 6 |
| 6 × 5 = 30 | 5 × 6 = 30 | 30 ÷ 6 = 5 | 30 ÷ 5 = 6 |
| 6 × 6 = 36 | 6 × 6 = 36 | 36 ÷ 6 = 6 | 36 ÷ 6 = 6 |
| 6 × 7 = 42 | 7 × 6 = 42 | 42 ÷ 6 = 7 | 42 ÷ 7 = 6 |
| 6 × 8 = 48 | 8 × 6 = 48 | 48 ÷ 6 = 8 | 48 ÷ 8 = 6 |
| 6 × 9 = 54 | 9 × 6 = 54 | 54 ÷ 6 = 9 | 54 ÷ 9 = 6 |
| 6 × 10 = 60 | 10 × 6 = 60 | 60 ÷ 6 = 10 | 60 ÷ 10 = 6 |
| 6 × 11 = 66 | 11 × 6 = 66 | 66 ÷ 6 = 11 | 66 ÷ 11 = 6 |
| 6 × 12 = 72 | 12 × 6 = 72 | 72 ÷ 6 = 12 | 72 ÷ 12 = 6 |

What is 24 **divided by** 6?

They should be able to answer these questions in any order, including missing number questions e.g. 6 × ⃝ = 72 or ⃝ ÷ 6 = 7.

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 family 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. If your child creates their own song, this can make the times tables even more memorable. . TT Rockstars helps with multiplication/division fact recall.

Double your threes – Multiplying a number by 6 is the same as multiplying by 3 and then doubling the answer. 7 × 3 = 21 and double 21 is 42, so 7 × 6 = 42.

Buy one get three free – If your child knows one fact (e.g. 3 × 6 = 18), can they tell you the other

three facts in the same fact family?

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. 6 × 12 = 72. The answer to the multiplication is 72, so 72 ÷ 6 = 12 and 72 ÷ 12 = 6

**I know the multiplication and division facts for the 9 and 11 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**.

**Key Vocabulary**

What is 8 **multiplied by** 6?

What is 6 **times** 8?

What is 24 **divided by** 6?

|  |  |  |  |
| --- | --- | --- | --- |
| 9 ×1 = 9  9 ×2 = 18  9 ×3 = 27  9 ×4 = 36  9 ×5 = 45  9 ×6 = 54  9 ×7 = 63  9 ×8 = 72  9 ×9 = 81  9 ×10 = 90  9 ×11 = 99  9 ×12 = 108 | 9 ÷9 = 1  18 ÷9= 2  27÷9 = 3  36 ÷9= 4  45 ÷9 = 5  54 ÷9= 6  63 ÷9 = 7  72 ÷9= 8  81 ÷9 = 9  90 ÷9 = 10  99 ÷9= 11  108 ÷9= 12 | 11 ×1 = 11  11 ×2 = 22  11 ×3 = 33  11 ×4 = 44  11 ×5 = 55  11 ×6 = 66  11 ×7 = 77  11 ×8 = 88  11 ×9 = 99  11×10 = 110  11×11 = 121  11×12 = 132 | 11 ÷11 = 1  22 ÷11 = 2  33 ÷11 = 3  44 ÷11 = 4  55 ÷11 = 5  66 ÷11 = 6  77 ÷11 = 7  88 ÷11 = 8  99 ÷11 = 9  110÷11 = 10  121÷11 = 11  132÷11 = 12 |

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

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 family of the day. If you would like more ideas, please speak to your child’s teacher.

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

Use your ten times table – Multiply a number by 10 and subtract the original number

(e.g. 7 × 10 – 7 = 70 – 7 = 63). What do you notice?

What happens if you add your original number instead?

(e.g. 7 × 10 + 7 = 70 + 7 = 77)

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 might be worth practising these again! . TT Rockstars helps with multiplication/division fact recall.

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

**Key Vocabulary** What is 7 **multiplied by** 6? What is 7 **times** 8?

|  |  |  |  |
| --- | --- | --- | --- |
| 7 × 1 = 7 | 1 × 7 = 7 | 7 ÷ 7 = 1 | 7 ÷ 1 = 7 |
| 7 × 2 = 14 | 2 × 7 = 14 | 14 ÷ 7 = 2 | 14 ÷ 2 = 7 |
| 7 × 3 = 21 | 3 × 7 = 21 | 21 ÷ 7 = 3 | 21 ÷ 3 = 7 |
| 7 × 4 = 28 | 4 × 7 = 28 | 28 ÷ 7 = 4 | 28 ÷ 4 = 7 |
| 7 × 5 = 35 | 5 × 7 = 35 | 35 ÷ 7 = 5 | 35 ÷ 5 = 7 |
| 7 × 6 = 42 | 6 × 7 = 42 | 42 ÷ 7 = 6 | 42 ÷ 6 = 7 |
| 7 × 7 = 49 | 7 × 7 = 49 | 49 ÷ 7 = 7 | 49 ÷ 7 = 7 |
| 7 × 8 = 56 | 8 × 7 = 56 | 56 ÷ 7 = 8 | 56 ÷ 8 = 7 |
| 7 × 9 = 63 | 9 × 7 = 63 | 63 ÷ 7 = 9 | 63 ÷ 9 = 7 |
| 7 × 10 = 70 | 10 × 7 = 70 | 70 ÷ 7 = 10 | 70 ÷ 10 = 7 |
| 7 × 11 = 77 | 11 × 7 = 77 | 77 ÷ 7 = 11 | 77 ÷ 11 = 7 |
| 7 × 12 = 84 | 12 × 7 = 84 | 84 ÷ 7 = 12 | 84 ÷ 12 =7 |

What is 84 **divided by** 7?

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

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 family 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. If your child creates their own song, this can make the times tables even more memorable. . TT Rockstars helps with multiplication/division fact recall.

Order of difficulty – Ask your child to order these facts from the easiest to the most challenging. Can they explain why some facts are easier to remember? Then focus on practising the most challenging facts.

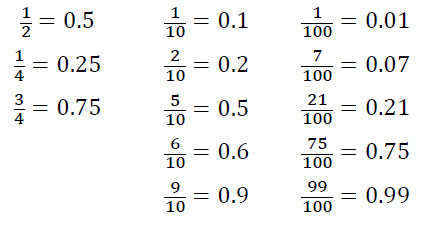
Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember.

**I can recognise decimal equivalents of fractions.**

10

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

1 = 0.5



2

1 = 0.25

4

3 = 0.75

4

1 = 0.1

2 = 0.2

10

5

10 = 0.5

6

10 = 0.6

9

10 = 0.9

**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**. 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: start with tenths before moving on to hundredths. If you would like more ideas, please speak to your child’s teacher.

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.

**I know decimal number bonds to 1 and 10.**

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

Some examples:

0.6 + 0.4 = 1

0.4 + 0.6 = 1

1 – 0.4 = 0.6

1– 0.6 = 0.4

0.75 + 0.25 = 1

0.25 + 0.75 = 1

1 – 0.25 = 0.75

1 – 0.75 = 0.25

3.7 + 6.3 = 10

6.3 + 3.7 = 10

10 – 6.3 = 3.7

10 – 3.7 = 6.3

4.8 + 5.2 = 10

5.2 + 4.8 = 10

10 – 5.2 = 4.8

10 – 4.8 = 5.2

**Key Vocabulary**

What do I **add** to 0.8 to make 1? What is 1 **take away** 0.06?

What is 1.3 **less than** 10?

**How many more** than 9.8 is 10?

What is the **difference** between

0.92 and 10?

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. 0.49 + ⃝ = 10 or 7.2 + ⃝ = 10.

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.

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 number bonds to 10 - How can number bonds to 10 help you work out number bonds to 100?

**I know the division facts for all times tables up to 12 × 12 .**

By the end of this half term, children should know all division facts, up to 12 x 12. The aim is for them to recall these facts **instantly**.

**Key Vocabulary**

What is 12 **multiplied by** 6? What is 7 **times** 8?

What is 84 **divided by** 7?

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

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 family of the day. If you would like more ideas, please speak to your child’s teacher.

Speed Challenge – Take two packs of playing cards and remove the kings. Turn over two cards and ask your child to multiply the numbers together (Ace = 1, Jack = 11, Queen = 12). How many questions can they answer correctly in 2 minutes? Practise regularly and see if they can beat their high score.

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember.

**I can recall metric conversions.**

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

1 kilogram = 1000 grams

1 kilometre = 1000 metres

1 metre = 100 centimetres

1 metre = 1000 millimetres

1 centimetre = 10 millimetres

1 litre = 1000 millilitres

They should also be able to apply these facts to answer questions. e.g. How many metres in 1½ km?

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.

Look at the prefixes – Can your child work out the meanings of *kilo-*, *centi-* and *milli-*? What other words begin with these prefixes?

Be practical – Do some baking and convert the measurements in the recipe.

How far? ***–*** Calculate some distances using unusual measurements. How tall is your child in mm? How far away is London in metres?

**I can identify prime numbers up 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**.

*A prime number is a number with no factors other than itself and one.*

*The following numbers are prime numbers:*

*2, 3, 5, 7, 11, 13, 17, 19*

*A composite number is divisible by a number other*

*than 1 or itself.*

*The following numbers are composite numbers:*

*4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20*

**Key Vocabulary prime number composite number factor**

**multiple**

Children should be able to explain how they know that a number is composite.

E.g. 15 is composite because it is a multiple of 3 and 5.

Top Tips

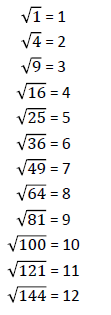
The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don’t need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child’s teacher.

It’s really important that your child uses mathematical vocabulary accurately. Choose a number between 2 and 20. How many correct statements can your child make about this number using the vocabulary above?

Make a set of cards for the numbers from 2 to 20. How quickly can your child sort these into prime and composite numbers? How many even prime numbers can they find? How many odd composite numbers?

**I can recall square numbers up to 122 and their square roots.**

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



12 = 1 × 1 = 1

22 = 2 × 2 = 4

32 = 3 × 3 = 9

42 = 4 × 4 = 16

52 = 5 × 5 = 25

62 = 6 × 6 = 36

72 = 7 × 7 = 49

82 = 8 × 8 = 64

92 = 9 × 9 = 81

102 = 10 × 10 = 100

112 = 11 × 11 = 121

122 = 12 × 12 = 144

1 = 1

4 = 2

9 = 3

16 = 4

25 = 5

36 = 6

49 = 7

64 = 8

81 = 9

100 = 10

121 = 11

144 = 12

**Key Vocabulary**

What is 8 **squared**?

What is 7 **multiplied by itself**? What is the **square root** of 144? Is 81 a **square number**?

Children should also be able to recognise whether a number below 150 is a square number or not.

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.

Cycling Squares – At [http://nrich.maths.org/1151 t](http://nrich.maths.org/1151)here is a challenge involving square numbers. Can you complete the challenge and then create your own examples?

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember.

**I can find factor pairs of a number.**

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 now know all multiplication and division facts up to 12 × 12. When given a number in one of these times tables, they should be able to state a factor pair which multiply to make this number. Below are some examples:

**Key Vocabulary**

Can you find a **factor** of 28? Find two numbers whose

**product** is 20.

I know that 6 is a factor of 72

24 = 4 × 6

24 = 8 × 3

56 = 7 × 8

54 = 9 × 6

42 = 6 × 7

25 = 5 × 5

84 = 7 × 12

15 = 5 × 3

because 6 multiplied by 12 equals 72.

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.

Think of the question – One player thinks of a times table question (e.g. 4 × 12) and states

the answer. The other player has to guess the original question.

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember.

**I can use x table facts to multiply and divide decimals**

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

Please see separate sheet for all times table facts.

This is a chance for Year 6 children to consolidate their knowledge of multiplication and division facts, increase their speed of recall and apply skills to decimal calculations.

**Key Vocabulary**

What is 1.2 **multiplied by** 6? What is 7 **times 0.**8?

What is 8.4 **divided by** 7?

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

Children should apply this knowledge to answer questions including decimals e.g. 0.7 × ⃝

= 4.2 or ⃝ ÷ 60 = 0.7

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 family of the day. If you would like more ideas, please speak to your child’s teacher.

Speed Challenge – Take two packs of playing cards and remove the kings. Turn over two cards and ask your child to multiply the numbers together (Ace = 1, Jack = 11, Queen = 12). How many questions can they answer correctly in 2 minutes? Practise regularly and see if they can beat their high score.

Use memory tricks – For those hard-to-remember facts, [www.multiplication.com](http://www.multiplication.com) has some strange picture stories to help children remember.

**I can identify common factors of a pair of numbers.**

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

*The factors of a number are all numbers which divide it with no remainder.*

*E.g. the factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24. The factors of 56 are 1, 2, 4, 7, 8, 14, 28 and 56.*

**factor**

**Key Vocabulary**

*The common factors of two numbers are the factors they share.*

*E.g. the common factors of 24 and 56 are 1, 2, 4 and 8.*

*The greatest common factor of 24 and 56 is 8.*

**common factor multiple**

**greatest common factor**

Children should be able to explain how they know that a number is a common factor.

E.g. 8 is a common factor of 24 and 56 because 24 = 8 × 3 and 56 = 8 × 7.

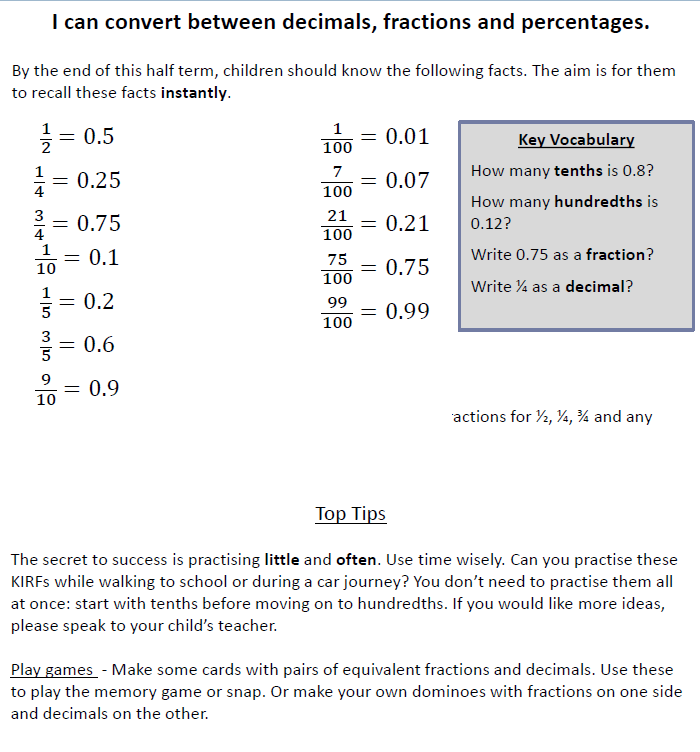
Top Tips

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? If your child is not yet confident with identifying factor pairs of a number, you may want to refer to the Year 5 Summer 2 sheet to practise this first. If you would like more ideas, please speak to your child’s teacher.

There are many online games to practise finding the greatest common factor, for example:

<http://www.fun4thebrain.com/beyondfacts/gcfsketch.html>

Choose two numbers. Take it in turns to name factors. Who can find the most?



**I can convert between decimals, fractions and percentages.**

Top Tips

able to convert bet nd hundredths.

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: start with tenths before moving on to hundredths. If you would like more ideas, please speak to your child’s teacher.

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.

**I can identify prime numbers up to 50.**

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

*A prime number is a number with no factors other than itself and one.*

*The following numbers are prime numbers:*

*2, 3, 5, 7, 11, 13, 17, 19, 23,*

*29, 31, 37, 41, 43, 47*

*A composite number is divisible by a number other than 1 or itself.*

*The following numbers are composite numbers:*

*4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20,*

*22, 24, 25, 26, 27, 28, 30, 32, 34, 35, 36,*

*38, 39, 40, 42, 44, 45, 46, 48, 49, 50*

**Key Vocabulary prime number composite number factor**

**multiple**

Children should be able to explain how they know that a number is composite.

E.g. 39 is composite because it is a multiple of 3 and 13.

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.

It’s really important that your child uses mathematical vocabulary accurately. Choose a number between 2 and 50. How many correct statements can your child make about this number using the vocabulary above?

Make a set of cards for the numbers from 2 to 50. How quickly can your child sort these into prime and composite numbers? How many even prime numbers can they find? How many odd composite numbers?

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Attached Sheet

