



# Fluency Facts

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Temperance 1		<a href="#">All Number Bonds to 10</a>	<a href="#">10x tables</a>	<a href="#">3x tables</a>	<a href="#">6x tables</a>	<a href="#">Roman Numerals to 1000</a>	<a href="#">Multiples, Factors and Primes</a>
Temperance 2		<a href="#">Addition with 10</a>	<a href="#">2x tables</a>	<a href="#">4x tables</a>	<a href="#">7x tables</a>	<a href="#">Applying known multiplication facts</a>	<a href="#">Finding Percentages</a>
Justice 1	<a href="#">Days of the Week</a>	<a href="#">Number Bonds to 20</a>	<a href="#">5x tables</a>	<a href="#">8x tables</a>	<a href="#">9x tables</a>	<a href="#">Decimal bonds to 1 and 10</a>	<a href="#">Unit Conversions</a>
Justice 2	<a href="#">Subitise up to 5</a>	<a href="#">Doubles and Halves</a>	<a href="#">2x, 5x and 10x mixed tables</a>	<a href="#">2x, 3x, 4x, 5x, 8x and 10x</a>	<a href="#">11x tables</a>	<a href="#">Multiplying and Dividing by 10</a>	<a href="#">Geometry Facts</a>
Courage 1	<a href="#">Number Bonds to 5</a>	<a href="#">Addition Bonds within 20</a>	<a href="#">Bonds to 100 (multiples of 10)</a>	<a href="#">Addition and Subtraction bonds to 100</a>	<a href="#">12x tables</a>	<a href="#">Percentages/ Decimals/ Fractions Equivalents</a>	Consolidation
Courage 2	<a href="#">Some Number Bonds to 10</a>	<a href="#">Counting in 2s, 5s and 10s</a>	<a href="#">Telling the Time</a>	<a href="#">Time Facts</a>	<a href="#">Consolidate ALL tables</a>	<a href="#">Squares and Cubes</a>	Consolidation

## **Rationale:**

The National Curriculum states that children should 'become fluent in the fundamentals of Mathematics, including varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately' (DfE, 2014).

When they first learn new mathematical concepts, pupils use much of their working memory to think about what they are being taught. Research shows that our working memory is limited to around 4–7 pieces of information. Learning is defined as a 'change in long-term memory' – learners take what they hold in their working-memory and encode it into their long-term memory. Fluency in Mathematics is the process of retrieving information from our long-term memory with no effort, freeing up valuable space in our working memory to give attention to other things.

Jakes (2020) argues that fluency means so much more than just recalling key facts; it allows for children to delve deeper into the Mathematics. Fluency in calculations – such as their multiplication facts – has led to pupils tackling more complex problems with greater confidence and resilience. This should in turn make children more successful within their Maths lessons.

Additionally, the Mathematics Research Review from Ofsted (published 25th May 2021) sets out their findings from the research literature regarding the sort of curriculum and teaching that best supports all pupils to make good progress in Maths. They suggest that early curriculum emphasis on core facts and concepts is the key to closing the gaps in knowledge. They recommend:

- Teachers can 'engineer the best possible start for pupils' by closing the school-entry gap in knowledge through teaching pupils core facts, formulae and concepts which form the building blocks for the next stages of education.
- Rather than having to rely on derivation or guessing, teachers should help pupils to develop 'automatic recall' of key concepts to prevent their working memory from becoming overloaded.

# Fluency Facts

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

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

SUNDAY

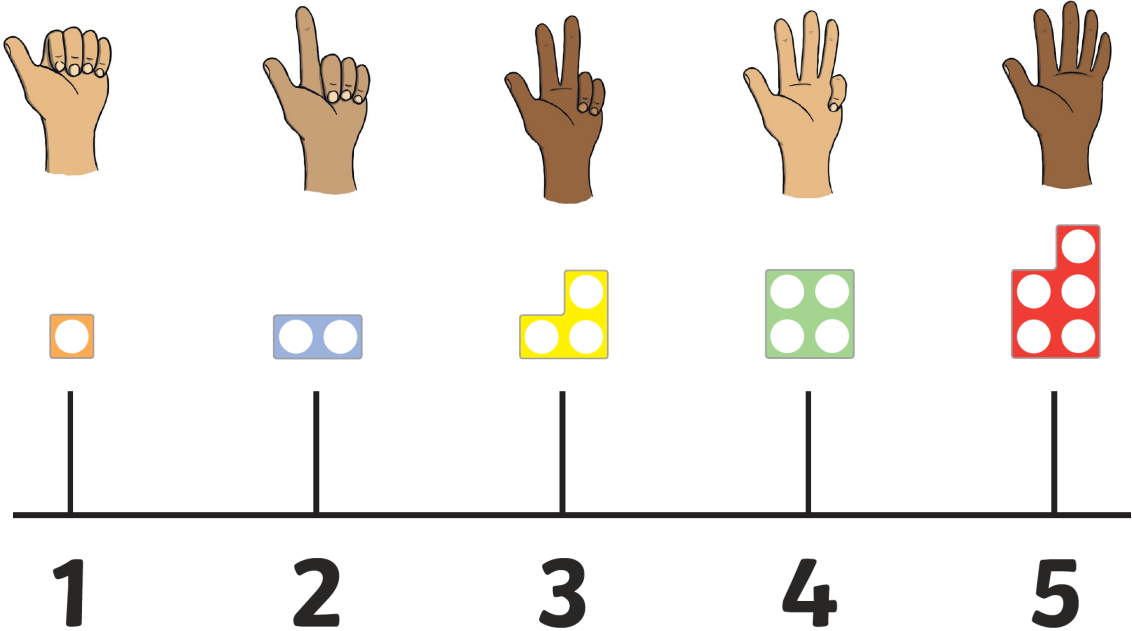
- You should be able to recall the days of the week in order
- You should be able to say which day comes before another
- You should be able to say which day comes after another



- ☆ Practise little and often.
- ☆ Listen to and sing along with some days of the week songs – you can find these on Youtube!
- ☆ You could make some cards with the days of the week on to place in order.
- ☆ Every day, find out what the day is. Tell someone what day it was yesterday and what day it will be tomorrow.
- ☆ Revisit – You may think you know your facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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



You should be able to look at any representation of the numbers 1, 2, 3, 4 or 5 and identify the number without counting.

## TOP TIPS

- ☆ Practise little and often.
- ☆ Use practical resources – ask someone to place 1-5 objects in front of you in different patterns. This can be anything – counters, pebbles, shells – even toys!
- ☆ Take 1-5 objects and see how many different patterns you can make with them.
- ☆ Play games with a dice – see if you can identify the number without counting.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$0 + 5 = 5$

$5 + 0 = 5$

$1 + 4 = 5$

$4 + 1 = 5$

$2 + 3 = 5$

$3 + 2 = 5$

$3 + 2 = 5$

$2 + 3 = 5$

$4 + 1 = 5$

$1 + 4 = 5$

$5 + 0 = 5$

$0 + 5 = 5$

You should be able to answer these questions in any order, including missing box questions such as  $4 + \_ = 5$ .

## TOP TIPS

- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Use practical resources – use objects around you when you are first practising, such as Lego bricks or even peas on your dinner plate!
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$$0 + 10 = 10$$

$$1 + 9 = 10$$

$$2 + 8 = 10$$

$$3 + 7 = 10$$

$$4 + 6 = 10$$

$$5 + 5 = 10$$

$$10 + 0 = 10$$

$$9 + 1 = 10$$

$$8 + 2 = 10$$

$$7 + 3 = 10$$

$$6 + 4 = 10$$

$$5 + 5 = 10$$

You should be able to answer these questions in any order, including missing box questions such as  $4 + \_ = 10$ .

## TOP TIPS

- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Use practical resources – use objects around you when you are first practising, such as Lego bricks or even peas on your dinner plate!
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like Hit The Button to learn your number bonds.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$0 + 10 = 10$

$10 + 0 = 10$

$10 - 10 = 0$

$10 - 0 = 10$

$2 + 8 = 10$

$8 + 2 = 10$

$10 - 8 = 2$

$10 - 2 = 8$

$4 + 6 = 10$

$6 + 4 = 10$

$10 - 6 = 4$

$10 - 4 = 6$

$1 + 9 = 10$

$9 + 1 = 10$

$10 - 9 = 1$

$10 - 1 = 9$

$3 + 7 = 10$

$7 + 3 = 10$

$10 - 7 = 3$

$10 - 3 = 7$

$5 + 5 = 10$

$10 - 5 = 5$

You should be able to answer these questions in any order, including missing box questions such as  $4 + \_ = 10$ .



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Use practical resources – use objects around you when you are first practising, such as Lego bricks or even peas on your dinner plate!
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like Hit The Button to learn your number bonds.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$$\begin{aligned} 0 + 10 &= 10 \\ 1 + 9 &= 10 \\ 2 + 8 &= 10 \\ 3 + 7 &= 10 \\ 4 + 6 &= 10 \\ 5 + 5 &= 10 \\ 6 + 4 &= 10 \\ 7 + 3 &= 10 \\ 8 + 2 &= 10 \\ 9 + 1 &= 10 \\ 10 + 0 &= 10 \end{aligned}$$

$$\begin{aligned} 0 + 9 &= 9 \\ 1 + 8 &= 9 \\ 2 + 7 &= 9 \\ 3 + 6 &= 9 \\ 4 + 5 &= 9 \\ 5 + 4 &= 9 \\ 6 + 3 &= 9 \\ 7 + 2 &= 9 \\ 8 + 1 &= 9 \\ 9 + 0 &= 9 \end{aligned}$$

$$\begin{aligned} 0 + 8 &= 8 \\ 1 + 7 &= 8 \\ 2 + 6 &= 8 \\ 3 + 5 &= 8 \\ 4 + 4 &= 8 \\ 5 + 3 &= 8 \\ 6 + 2 &= 8 \\ 7 + 1 &= 8 \\ 8 + 0 &= 8 \end{aligned}$$

$$\begin{aligned} 0 + 7 &= 7 \\ 1 + 6 &= 7 \\ 2 + 5 &= 7 \\ 3 + 4 &= 7 \\ 4 + 3 &= 7 \\ 5 + 2 &= 7 \\ 6 + 1 &= 7 \\ 7 + 0 &= 7 \end{aligned}$$

$$\begin{aligned} 6 + 0 &= 6 \\ 1 + 5 &= 6 \\ 2 + 4 &= 6 \\ 3 + 3 &= 6 \\ 4 + 2 &= 6 \\ 5 + 1 &= 6 \\ 6 + 0 &= 6 \end{aligned}$$

$$\begin{aligned} 5 + 0 &= 5 \\ 4 + 1 &= 5 \\ 3 + 2 &= 5 \\ 2 + 3 &= 5 \\ 1 + 4 &= 5 \\ 0 + 5 &= 5 \end{aligned}$$

$$\begin{aligned} 4 + 0 &= 4 \\ 3 + 1 &= 4 \\ 2 + 2 &= 4 \\ 1 + 3 &= 4 \\ 0 + 4 &= 4 \end{aligned}$$

$$\begin{aligned} 3 + 0 &= 3 \\ 2 + 1 &= 3 \\ 1 + 2 &= 3 \\ 0 + 3 &= 3 \end{aligned}$$

$$\begin{aligned} 2 + 0 &= 2 \\ 1 + 1 &= 2 \\ 0 + 2 &= 2 \end{aligned}$$

$$\begin{aligned} 0 + 1 &= 1 \\ 1 + 0 &= 1 \end{aligned}$$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Use practical resources – use objects around you when you are first practising, such as Lego bricks or even peas on your dinner plate!
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like Hit The Button to learn your number bonds.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

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

TOP TIPS

- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Use practical resources – use objects around you when you are first practising, such as Lego bricks or even peas on your dinner plate!
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like Hit The Button to learn your number bonds.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!



# Fluency Facts

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

$0 + 0 = 0$

$6 + 6 = 12$

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

$1 + 1 = 1$

$7 + 7 = 14$

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

$2 + 2 = 4$

$8 + 8 = 16$

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

$3 + 3 = 6$

$9 + 9 = 18$

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

$4 + 4 = 8$

$10 + 10 = 20$

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

$5 + 5 = 10$

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



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Use practical resources – use objects around you when you are first practising, such as Lego bricks or even peas on your dinner plate!
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like Hit The Button to learn your doubles and halves
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

11

$2 + 9 = 11$

$3 + 8 = 11$

$4 + 7 = 11$

$5 + 6 = 11$

$6 + 5 = 11$

$7 + 4 = 11$

$8 + 3 = 11$

$9 + 2 = 11$

12

$3 + 9 = 12$

$4 + 8 = 12$

$5 + 7 = 12$

$6 + 6 = 12$

$7 + 5 = 12$

$8 + 4 = 12$

$9 + 3 = 12$

13

$4 + 9 = 13$

$5 + 8 = 13$

$6 + 7 = 13$

$7 + 6 = 13$

$8 + 5 = 13$

$9 + 4 = 13$

14

$5 + 9 = 14$

$6 + 8 = 14$

$7 + 7 = 14$

$8 + 6 = 14$

$9 + 5 = 14$

15

$6 + 9 = 15$

$7 + 8 = 15$

$8 + 7 = 15$

$9 + 6 = 15$

16

$7 + 9 = 16$

$8 + 8 = 16$

$9 + 7 = 16$

17

$8 + 9 = 17$

$9 + 8 = 17$

18

$9 + 9 = 18$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Use practical resources – use objects around you when you are first practising, such as Lego bricks or even peas on your dinner plate!
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like Hit The Button to learn your number bonds.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

## Counting in 10s

0	10	20	30	40	50	60	70	80	90	100
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## Counting in 2s

0	2	4	6	8	10	12	14	16	18	20
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## Counting in 5s

0	5	10	15	20	25	30	35	40	45	50
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You should be able to count on in 2s, 5s and 10s, starting from any number on the track. You should be able to recognise which number is missing from each sequence.



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 10 = 10$	$10 \div 10 = 1$
$2 \times 10 = 20$	$20 \div 10 = 2$
$3 \times 10 = 30$	$30 \div 10 = 3$
$4 \times 10 = 40$	$40 \div 10 = 4$
$5 \times 10 = 50$	$50 \div 10 = 5$
$6 \times 10 = 60$	$60 \div 10 = 6$
$7 \times 10 = 70$	$70 \div 10 = 7$
$8 \times 10 = 80$	$80 \div 10 = 8$
$9 \times 10 = 90$	$90 \div 10 = 9$
$10 \times 10 = 100$	$100 \div 10 = 10$
$11 \times 10 = 110$	$110 \div 10 = 11$
$12 \times 10 = 120$	$120 \div 10 = 12$

## TOP TIPS

- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 2 = 2$

$2 \div 2 = 1$

$2 \times 2 = 4$

$4 \div 2 = 2$

$3 \times 2 = 6$

$6 \div 2 = 3$

$4 \times 2 = 8$

$8 \div 2 = 4$

$5 \times 2 = 10$

$10 \div 2 = 5$

$6 \times 2 = 12$

$12 \div 2 = 6$

$7 \times 2 = 14$

$14 \div 2 = 7$

$8 \times 2 = 16$

$16 \div 2 = 8$

$9 \times 2 = 18$

$18 \div 2 = 9$

$10 \times 2 = 20$

$20 \div 2 = 10$

$11 \times 2 = 22$

$22 \div 2 = 11$

$12 \times 2 = 24$

$24 \div 2 = 12$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 5 = 5$

$2 \times 5 = 10$

$3 \times 5 = 15$

$4 \times 5 = 20$

$5 \times 5 = 25$

$6 \times 5 = 30$

$7 \times 5 = 35$

$8 \times 5 = 40$

$9 \times 5 = 45$

$10 \times 5 = 50$

$11 \times 5 = 55$

$12 \times 5 = 60$

$5 \div 5 = 1$

$10 \div 5 = 2$

$15 \div 5 = 3$

$20 \div 5 = 4$

$25 \div 5 = 5$

$30 \div 5 = 6$

$35 \div 5 = 7$

$40 \div 5 = 8$

$45 \div 5 = 9$

$50 \div 5 = 10$

$55 \div 5 = 11$

$60 \div 5 = 12$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 2 = 2$	$2 \div 2 = 1$	$1 \times 5 = 5$	$5 \div 5 = 1$	$1 \times 10 = 10$	$10 \div 10 = 1$
$2 \times 2 = 4$	$4 \div 2 = 2$	$2 \times 5 = 10$	$10 \div 5 = 2$	$2 \times 10 = 20$	$20 \div 10 = 2$
$3 \times 2 = 6$	$6 \div 2 = 3$	$3 \times 5 = 15$	$15 \div 5 = 3$	$3 \times 10 = 30$	$30 \div 10 = 3$
$4 \times 2 = 8$	$8 \div 2 = 4$	$4 \times 5 = 20$	$20 \div 5 = 4$	$4 \times 10 = 40$	$40 \div 10 = 4$
$5 \times 2 = 10$	$10 \div 2 = 5$	$5 \times 5 = 25$	$25 \div 5 = 5$	$5 \times 10 = 50$	$50 \div 10 = 5$
$6 \times 2 = 12$	$12 \div 2 = 6$	$6 \times 5 = 30$	$30 \div 5 = 6$	$6 \times 10 = 60$	$60 \div 10 = 6$
$7 \times 2 = 14$	$14 \div 2 = 7$	$7 \times 5 = 35$	$35 \div 5 = 7$	$7 \times 10 = 70$	$70 \div 10 = 7$
$8 \times 2 = 16$	$16 \div 2 = 8$	$8 \times 5 = 40$	$40 \div 5 = 8$	$8 \times 10 = 80$	$80 \div 10 = 8$
$9 \times 2 = 18$	$18 \div 2 = 9$	$9 \times 5 = 45$	$45 \div 5 = 9$	$9 \times 10 = 90$	$90 \div 10 = 9$
$10 \times 2 = 20$	$20 \div 2 = 10$	$10 \times 5 = 50$	$50 \div 5 = 10$	$10 \times 10 = 100$	$100 \div 10 = 10$
$11 \times 2 = 22$	$22 \div 2 = 11$	$11 \times 5 = 55$	$55 \div 5 = 11$	$11 \times 10 = 110$	$110 \div 10 = 11$
$12 \times 2 = 24$	$24 \div 2 = 12$	$12 \times 5 = 60$	$60 \div 5 = 12$	$12 \times 10 = 120$	$120 \div 10 = 12$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$100 + 0 = 100$

$0 + 100 = 100$

$100 - 0 = 100$

$90 + 10 = 100$

$10 + 90 = 100$

$100 - 10 = 90$

$100 - 90 = 10$

$80 + 20 = 100$

$20 + 80 = 100$

$100 - 20 = 80$

$100 - 80 = 20$

$70 + 30 = 100$

$30 + 70 = 100$

$100 - 70 = 30$

$100 - 30 = 70$

$60 + 40 = 100$

$40 + 60 = 100$

$100 - 40 = 60$

$100 - 60 = 40$

$50 + 50 = 100$

$100 - 50 = 50$

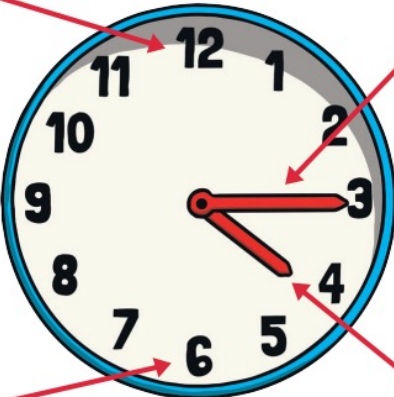


- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like Hit The Button to learn your number bonds.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!



# Fluency Facts

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



**O'Clock**  
A new hour begins when the minute hand points to 12.

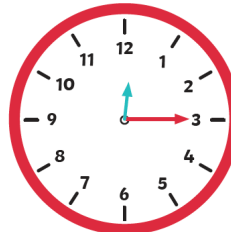
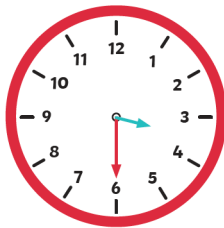
**Minute Hand**  
The long hand points to the minutes past or to the hour.

**Quarter To**  
45 minutes into the hour and 15 minutes before a new hour begins.

**Quarter Past**  
15 minutes into the hour. 15 is one quarter of 60.

**Half Past**  
30 minutes into the hour. 30 is half of 60.

**Hour Hand**  
The short hand points to the hour. If this hand is pointing in between hours, it is the earlier hour of the two.



You should be able to recognise the hour hand and the minute hand. You should be able to tell the time to the hour, half past the hour, quarter past the hour and quarter to the hour.



- ☆ Practise little and often. If you spot a clock showing one of these times, read the time.
- ☆ Ask any family members for an old watch to wear and use.
- ☆ Make your own clock using a paper plate to help you learn the time.
- ☆ Use fun websites like TopMarks to play some time games

# Fluency Facts

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

$1 \times 3 = 3$

$2 \times 3 = 6$

$3 \times 3 = 9$

$4 \times 3 = 12$

$5 \times 3 = 15$

$6 \times 3 = 18$

$7 \times 3 = 21$

$8 \times 3 = 24$

$9 \times 3 = 27$

$10 \times 3 = 30$

$11 \times 3 = 33$

$12 \times 3 = 36$

$3 \div 3 = 1$

$6 \div 3 = 2$

$9 \div 3 = 3$

$12 \div 3 = 4$

$15 \div 3 = 5$

$18 \div 3 = 6$

$21 \div 3 = 7$

$24 \div 3 = 8$

$27 \div 3 = 9$

$30 \div 3 = 10$

$33 \div 3 = 11$

$36 \div 3 = 12$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 4 = 4$

$4 \div 4 = 1$

$2 \times 4 = 8$

$8 \div 4 = 2$

$3 \times 4 = 12$

$12 \div 4 = 3$

$4 \times 4 = 16$

$16 \div 4 = 4$

$5 \times 4 = 20$

$20 \div 4 = 5$

$6 \times 4 = 24$

$24 \div 4 = 6$

$7 \times 4 = 28$

$28 \div 4 = 7$

$8 \times 4 = 32$

$32 \div 4 = 8$

$9 \times 4 = 36$

$36 \div 4 = 9$

$10 \times 4 = 40$

$40 \div 4 = 10$

$11 \times 4 = 44$

$44 \div 4 = 11$

$12 \times 4 = 48$

$48 \div 4 = 12$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
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- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 8 = 8$

$8 \div 8 = 1$

$2 \times 8 = 16$

$16 \div 8 = 2$

$3 \times 8 = 24$

$24 \div 8 = 3$

$4 \times 8 = 32$

$32 \div 8 = 4$

$5 \times 8 = 40$

$40 \div 8 = 5$

$6 \times 8 = 48$

$48 \div 8 = 6$

$7 \times 8 = 56$

$56 \div 8 = 7$

$8 \times 8 = 64$

$64 \div 8 = 8$

$9 \times 8 = 72$

$72 \div 8 = 9$

$10 \times 8 = 80$

$80 \div 8 = 10$

$11 \times 8 = 88$

$88 \div 8 = 11$

$12 \times 8 = 96$

$96 \div 8 = 12$



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- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 2 = 2$	$2 \div 2 = 1$	$1 \times 5 = 5$	$5 \div 5 = 1$	$1 \times 10 = 10$	$10 \div 10 = 1$
$2 \times 2 = 4$	$4 \div 2 = 2$	$2 \times 5 = 10$	$10 \div 5 = 2$	$2 \times 10 = 20$	$20 \div 10 = 2$
$3 \times 2 = 6$	$6 \div 2 = 3$	$3 \times 5 = 15$	$15 \div 5 = 3$	$3 \times 10 = 30$	$30 \div 10 = 3$
$4 \times 2 = 8$	$8 \div 2 = 4$	$4 \times 5 = 20$	$20 \div 5 = 4$	$4 \times 10 = 40$	$40 \div 10 = 4$
$5 \times 2 = 10$	$10 \div 2 = 5$	$5 \times 5 = 25$	$25 \div 5 = 5$	$5 \times 10 = 50$	$50 \div 10 = 5$
$6 \times 2 = 12$	$12 \div 2 = 6$	$6 \times 5 = 30$	$30 \div 5 = 6$	$6 \times 10 = 60$	$60 \div 10 = 6$
$7 \times 2 = 14$	$14 \div 2 = 7$	$7 \times 5 = 35$	$35 \div 5 = 7$	$7 \times 10 = 70$	$70 \div 10 = 7$
$8 \times 2 = 16$	$16 \div 2 = 8$	$8 \times 5 = 40$	$40 \div 5 = 8$	$8 \times 10 = 80$	$80 \div 10 = 8$
$9 \times 2 = 18$	$18 \div 2 = 9$	$9 \times 5 = 45$	$45 \div 5 = 9$	$9 \times 10 = 90$	$90 \div 10 = 9$
$10 \times 2 = 20$	$20 \div 2 = 10$	$10 \times 5 = 50$	$50 \div 5 = 10$	$10 \times 10 = 100$	$100 \div 10 = 10$
$11 \times 2 = 22$	$22 \div 2 = 11$	$11 \times 5 = 55$	$55 \div 5 = 11$	$11 \times 10 = 110$	$110 \div 10 = 11$
$12 \times 2 = 24$	$24 \div 2 = 12$	$12 \times 5 = 60$	$60 \div 5 = 12$	$12 \times 10 = 120$	$120 \div 10 = 12$

$1 \times 3 = 3$	$3 \div 3 = 1$	$1 \times 4 = 4$	$4 \div 4 = 1$	$1 \times 8 = 8$	$8 \div 8 = 1$
$2 \times 3 = 6$	$6 \div 3 = 2$	$2 \times 4 = 8$	$8 \div 4 = 2$	$2 \times 8 = 16$	$16 \div 8 = 2$
$3 \times 3 = 9$	$9 \div 3 = 3$	$3 \times 4 = 12$	$12 \div 4 = 3$	$3 \times 8 = 24$	$24 \div 8 = 3$
$4 \times 3 = 12$	$12 \div 3 = 4$	$4 \times 4 = 16$	$16 \div 4 = 4$	$4 \times 8 = 32$	$32 \div 8 = 4$
$5 \times 3 = 15$	$15 \div 3 = 5$	$5 \times 4 = 20$	$20 \div 4 = 5$	$5 \times 8 = 40$	$40 \div 8 = 5$
$6 \times 3 = 18$	$18 \div 3 = 6$	$6 \times 4 = 24$	$24 \div 4 = 6$	$6 \times 8 = 48$	$48 \div 8 = 6$
$7 \times 3 = 21$	$21 \div 3 = 7$	$7 \times 4 = 28$	$28 \div 4 = 7$	$7 \times 8 = 56$	$56 \div 8 = 7$
$8 \times 3 = 24$	$24 \div 3 = 8$	$8 \times 4 = 32$	$32 \div 4 = 8$	$8 \times 8 = 64$	$64 \div 8 = 8$
$9 \times 3 = 27$	$27 \div 3 = 9$	$9 \times 4 = 36$	$36 \div 4 = 9$	$9 \times 8 = 72$	$72 \div 8 = 9$
$10 \times 3 = 30$	$30 \div 3 = 10$	$10 \times 4 = 40$	$40 \div 4 = 10$	$10 \times 8 = 80$	$80 \div 8 = 10$
$11 \times 3 = 33$	$33 \div 3 = 11$	$11 \times 4 = 44$	$44 \div 4 = 11$	$11 \times 8 = 88$	$88 \div 8 = 11$
$12 \times 3 = 36$	$36 \div 3 = 12$	$12 \times 4 = 48$	$48 \div 4 = 12$	$12 \times 8 = 96$	$96 \div 8 = 12$

## TOP TIPS

- ☆ Practise little and often. Use your time wisely - could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster - either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit - You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$0 + 100 = 100$

$1 + 99 = 100$

$2 + 98 = 100$

$3 + 97 = 100$

$4 + 96 = 100$

$5 + 95 = 100$

$6 + 94 = 100$

$7 + 93 = 100$

$8 + 92 = 100$

$9 + 91 = 100$

$10 + 90 = 100$

$21 + 79 = 100$

$22 + 78 = 100$

$23 + 77 = 100$

$24 + 76 = 100$

$25 + 75 = 100$

$26 + 74 = 100$

$27 + 73 = 100$

$28 + 72 = 100$

$29 + 71 = 100$

$30 + 70 = 100$

$41 + 59 = 100$

$42 + 58 = 100$

$43 + 57 = 100$

$44 + 56 = 100$

$45 + 55 = 100$

$46 + 54 = 100$

$47 + 53 = 100$

$48 + 52 = 100$

$49 + 51 = 100$

$50 + 50 = 100$

$61 + 39 = 100$

$62 + 38 = 100$

$63 + 37 = 100$

$64 + 36 = 100$

$65 + 35 = 100$

$66 + 34 = 100$

$67 + 33 = 100$

$68 + 32 = 100$

$69 + 31 = 100$

$70 + 30 = 100$

$81 + 19 = 100$

$82 + 18 = 100$

$83 + 17 = 100$

$84 + 16 = 100$

$85 + 15 = 100$

$86 + 14 = 100$

$87 + 13 = 100$

$88 + 12 = 100$

$89 + 11 = 100$

$90 + 10 = 100$

$11 + 89 = 100$

$12 + 88 = 100$

$13 + 87 = 100$

$14 + 86 = 100$

$15 + 85 = 100$

$16 + 84 = 100$

$17 + 83 = 100$

$18 + 82 = 100$

$19 + 81 = 100$

$20 + 80 = 100$

$31 + 69 = 100$

$32 + 68 = 100$

$33 + 67 = 100$

$34 + 66 = 100$

$35 + 65 = 100$

$36 + 64 = 100$

$37 + 63 = 100$

$38 + 62 = 100$

$39 + 61 = 100$

$40 + 60 = 100$

$51 + 49 = 100$

$52 + 48 = 100$

$53 + 47 = 100$

$54 + 46 = 100$

$55 + 45 = 100$

$56 + 44 = 100$

$57 + 43 = 100$

$58 + 42 = 100$

$59 + 41 = 100$

$60 + 40 = 100$

$71 + 29 = 100$

$72 + 28 = 100$

$73 + 27 = 100$

$74 + 26 = 100$

$75 + 25 = 100$

$76 + 24 = 100$

$77 + 23 = 100$

$78 + 22 = 100$

$79 + 21 = 100$

$80 + 20 = 100$

$91 + 9 = 100$

$92 + 8 = 100$

$93 + 7 = 100$

$94 + 6 = 100$

$95 + 5 = 100$

$96 + 4 = 100$

$97 + 3 = 100$

$98 + 2 = 100$

$99 + 1 = 100$

$100 + 0 = 100$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

60 seconds = 1 minute

60 minutes = 1 hour

24 hours = 1 day

7 days = 1 week

365 days = 1 year

52 weeks = 1 year

10 years = 1 decade

100 years = 1 century

30 days has September,  
April, June and November.

All the rest have 31,  
Excepting February alone,  
Which only has 28 days clear,  
And 29 in each leap year.

You should also be able to apply these facts to solve scaling questions, such as how many minutes are in 2 hours.

## TOP TIPS

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- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 6 = 6$

$2 \times 6 = 12$

$3 \times 6 = 18$

$4 \times 6 = 24$

$5 \times 6 = 30$

$6 \times 6 = 36$

$7 \times 6 = 42$

$8 \times 6 = 48$

$9 \times 6 = 54$

$10 \times 6 = 60$

$11 \times 6 = 66$

$12 \times 6 = 72$

$6 \div 6 = 1$

$12 \div 6 = 2$

$18 \div 6 = 3$

$24 \div 6 = 4$

$30 \div 6 = 5$

$36 \div 6 = 6$

$42 \div 6 = 7$

$48 \div 6 = 8$

$54 \div 6 = 9$

$60 \div 6 = 10$

$66 \div 6 = 11$

$72 \div 6 = 12$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
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- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
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# Fluency Facts

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

$1 \times 7 = 7$

$7 \div 7 = 1$

$2 \times 7 = 14$

$14 \div 7 = 2$

$3 \times 7 = 21$

$21 \div 7 = 3$

$4 \times 7 = 28$

$28 \div 7 = 4$

$5 \times 7 = 35$

$35 \div 7 = 5$

$6 \times 7 = 42$

$42 \div 7 = 6$

$7 \times 7 = 49$

$49 \div 7 = 7$

$8 \times 7 = 56$

$56 \div 7 = 8$

$9 \times 7 = 63$

$63 \div 7 = 9$

$10 \times 7 = 70$

$70 \div 7 = 10$

$11 \times 7 = 77$

$77 \div 7 = 11$

$12 \times 7 = 84$

$84 \div 7 = 12$



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- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1 \times 9 = 9$	$9 \div 9 = 1$
$2 \times 9 = 18$	$18 \div 9 = 2$
$3 \times 9 = 27$	$27 \div 9 = 3$
$4 \times 9 = 36$	$36 \div 9 = 4$
$5 \times 9 = 45$	$45 \div 9 = 5$
$6 \times 9 = 54$	$54 \div 9 = 6$
$7 \times 9 = 63$	$63 \div 9 = 7$
$8 \times 9 = 72$	$72 \div 9 = 8$
$9 \times 9 = 81$	$81 \div 9 = 9$
$10 \times 9 = 90$	$90 \div 9 = 10$
$11 \times 9 = 99$	$99 \div 9 = 11$
$12 \times 9 = 108$	$108 \div 9 = 12$



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# Fluency Facts

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

$1 \times 11 = 11$

$11 \div 11 = 1$

$2 \times 11 = 22$

$22 \div 11 = 2$

$3 \times 11 = 33$

$33 \div 11 = 3$

$4 \times 11 = 44$

$44 \div 11 = 4$

$5 \times 11 = 55$

$55 \div 11 = 5$

$6 \times 11 = 66$

$66 \div 11 = 6$

$7 \times 11 = 77$

$77 \div 11 = 7$

$8 \times 11 = 88$

$88 \div 11 = 8$

$9 \times 11 = 99$

$99 \div 11 = 9$

$10 \times 11 = 110$

$110 \div 11 = 10$

$11 \times 11 = 121$

$121 \div 11 = 11$

$12 \times 11 = 132$

$132 \div 11 = 12$



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# Fluency Facts

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

$1 \times 12 = 12$	$12 \div 12 = 1$
$2 \times 12 = 24$	$24 \div 12 = 2$
$3 \times 12 = 36$	$36 \div 12 = 3$
$4 \times 12 = 48$	$48 \div 12 = 4$
$5 \times 12 = 60$	$60 \div 12 = 5$
$6 \times 12 = 72$	$72 \div 12 = 6$
$7 \times 12 = 84$	$84 \div 12 = 7$
$8 \times 12 = 96$	$96 \div 12 = 8$
$9 \times 12 = 108$	$108 \div 12 = 9$
$10 \times 12 = 120$	$120 \div 12 = 10$
$11 \times 12 = 132$	$132 \div 12 = 11$
$12 \times 12 = 144$	$144 \div 12 = 12$

## TOP TIPS

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- ☆ Use fun websites like TTRS or Hit The Button to learn your times tables.
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# Fluency Facts

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

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



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# Fluency Facts

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

$$I = 1$$

$$V = 5$$

$$X = 10$$

$$L = 50$$

$$C = 100$$

$$D = 500$$

$$M = 1000$$

Here are some important Roman Numeral examples

I = 1	XX = 20	CCC = 300
II = 2	XXX = 30	CD = 400
III = 3	XL = 40	D = 500
IV = 4	L = 50	DC = 600
V = 5	LX = 60	DCC = 700
VI = 6	LXX = 70	DCCC = 800
VII = 7	LXXX = 80	CM = 900
VIII = 8	XC = 90	M = 1000
IX = 9	C = 100	MCD = 1400
X = 10	CL = 150	MD = 1500
XV = 15	CC = 200	MCM = 1900

A letter placed AFTER a greater value *adds*;

$$XVI = 10 + 5 + 1 = 16$$

A letter placed BEFORE a greater value *subtracts*;

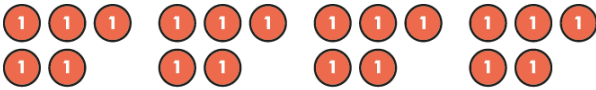
$$XIX = 10 + (10 - 1) = 19$$


## TOP TIPS


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# Fluency Facts

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


  
 $4 \times 5 = 20$


  
 $4 \times 50 = 200$


  
 $4 \times 500 = 2,000$

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

You should be able to apply your times tables (up to 12x12) to solve larger calculations mentally. Here are some examples:

$5 \times 9 = 45$

so

$50 \times 9 = 450$

$5 \times 90 = 450$

$500 \times 9 = 4,500$

$50 \times 90 = 4,500$

$8 \times 8 = 64$

so

$80 \times 8 = 640$

$8 \times 80 = 640$

$800 \times 8 = 6,400$

$80 \times 80 = 6,400$

$2 \times 9 = 18$

so

$20 \times 9 = 180$

$2 \times 90 = 180$

$200 \times 9 = 1,800$

$20 \times 90 = 1,800$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$0.1 + 0.9 = 1$

$0.4 + 0.6 = 1$

$0.7 + 0.3 = 1$

$0.2 + 0.8 = 1$

$0.5 + 0.5 = 1$

$0.8 + 0.2 = 1$

$0.3 + 0.7 = 1$

$0.6 + 0.4 = 1$

$0.9 + 0.1 = 1$

$0.1 + 9.9 = 10$

$2.1 + 7.9 = 10$

$4.1 + 5.9 = 10$

$6.1 + 3.9 = 10$

$8.1 + 1.9 = 10$

$0.2 + 9.8 = 10$

$2.2 + 7.8 = 10$

$4.2 + 5.8 = 10$

$6.2 + 3.8 = 10$

$8.2 + 1.8 = 10$

$0.3 + 9.7 = 10$

$2.3 + 7.7 = 10$

$4.3 + 5.7 = 10$

$6.3 + 3.7 = 10$

$8.3 + 1.7 = 10$

$0.4 + 9.6 = 10$

$2.4 + 7.6 = 10$

$4.4 + 5.6 = 10$

$6.4 + 3.6 = 10$

$8.4 + 1.6 = 10$

$0.5 + 9.5 = 10$

$2.5 + 7.5 = 10$

$4.5 + 5.5 = 10$

$6.5 + 3.5 = 10$

$8.5 + 1.5 = 10$

$0.6 + 9.4 = 10$

$2.6 + 7.4 = 10$

$4.6 + 5.4 = 10$

$6.6 + 3.4 = 10$

$8.6 + 1.4 = 10$

$0.7 + 9.3 = 10$

$2.7 + 7.3 = 10$

$4.7 + 5.3 = 10$

$6.7 + 3.3 = 10$

$8.7 + 1.3 = 10$

$0.8 + 9.2 = 10$

$2.8 + 7.2 = 10$

$4.8 + 5.2 = 10$

$6.8 + 3.2 = 10$

$8.8 + 1.2 = 10$

$0.9 + 9.1 = 10$

$2.9 + 7.1 = 10$

$4.9 + 5.1 = 10$

$6.9 + 3.1 = 10$

$8.9 + 1.1 = 10$

$1.0 + 9.0 = 10$

$3.0 + 7.0 = 10$

$5.0 + 5.0 = 10$

$7.0 + 3.0 = 10$

$9.0 + 1.0 = 10$

$1.1 + 8.9 = 10$

$3.1 + 6.9 = 10$

$5.1 + 4.9 = 10$

$7.1 + 2.9 = 10$

$9.1 + 0.9 = 10$

$1.2 + 8.8 = 10$

$3.2 + 6.8 = 10$

$5.2 + 4.8 = 10$

$7.2 + 2.8 = 10$

$9.2 + 0.8 = 10$

$1.3 + 8.7 = 10$

$3.3 + 6.7 = 10$

$5.3 + 4.7 = 10$

$7.3 + 2.7 = 10$

$9.3 + 0.7 = 10$

$1.4 + 8.6 = 10$

$3.4 + 6.6 = 100$

$5.4 + 4.6 = 10$

$7.4 + 2.6 = 10$

$9.4 + 0.6 = 10$

$1.5 + 8.5 = 10$

$3.5 + 6.5 = 10$

$5.5 + 4.5 = 10$

$7.5 + 2.5 = 10$

$9.5 + 0.5 = 10$

$1.6 + 8.4 = 10$

$3.6 + 6.4 = 10$

$5.6 + 4.4 = 10$

$7.6 + 2.4 = 10$

$9.6 + 0.4 = 10$

$1.7 + 8.3 = 10$

$3.7 + 6.3 = 10$

$5.7 + 4.3 = 10$

$7.7 + 2.3 = 10$

$9.7 + 0.3 = 10$

$1.8 + 8.2 = 10$

$3.8 + 6.2 = 10$

$5.8 + 4.2 = 10$

$7.8 + 2.2 = 10$

$9.8 + 0.2 = 10$

$1.9 + 8.1 = 10$

$3.9 + 6.1 = 10$

$5.9 + 4.1 = 10$

$7.9 + 2.1 = 10$

$9.9 + 0.1 = 10$

$2.0 + 8.0 = 10$

$4.0 + 6.0 = 10$

$6.0 + 4.0 = 10$

$8.0 + 2.0 = 10$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!



# Fluency Facts

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

Tens	Ones	Tenths	Hundredths	Thousandths
3	8			
	3	8		
3	8			

Diagram illustrating multiplication and division by 10 on a place value chart. An orange arrow labeled  $\div 10$  points from 38 in the top row to 3.8 in the middle row. Another orange arrow labeled  $\times 10$  points from 3.8 in the middle row to 38 in the bottom row. A decimal point is shown above the 8 in the middle row.

You should be able to multiply and divide any number by 10 mentally, including decimal numbers. For example:

$0.1 \times 10 = 1$	$1 \div 10 = 0.1$	$1.1 \times 10 = 11$	$11 \div 10 = 1.1$
$0.2 \times 10 = 2$	$2 \div 10 = 0.2$	$1.2 \times 10 = 12$	$12 \div 10 = 1.2$
$0.3 \times 10 = 3$	$3 \div 10 = 0.3$	$1.3 \times 10 = 13$	$13 \div 10 = 1.3$
$0.4 \times 10 = 4$	$4 \div 10 = 0.4$	$1.4 \times 10 = 14$	$14 \div 10 = 1.4$
$0.5 \times 10 = 5$	$5 \div 10 = 0.5$	$1.5 \times 10 = 15$	$15 \div 10 = 1.5$
$0.6 \times 10 = 6$	$6 \div 10 = 0.6$	$1.6 \times 10 = 16$	$16 \div 10 = 1.6$
$0.7 \times 10 = 7$	$7 \div 10 = 0.7$	$1.7 \times 10 = 17$	$17 \div 10 = 1.7$
$0.8 \times 10 = 8$	$8 \div 10 = 0.8$	$1.8 \times 10 = 18$	$18 \div 10 = 1.8$
$0.9 \times 10 = 9$	$9 \div 10 = 0.9$	$1.9 \times 10 = 19$	$19 \div 10 = 1.9$
		$2.0 \times 10 = 20$	$20 \div 10 = 2.0$

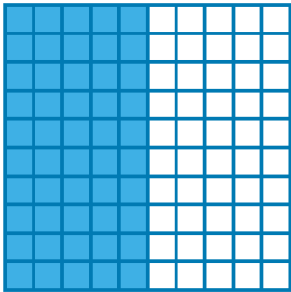
...and so on for every two-digit number



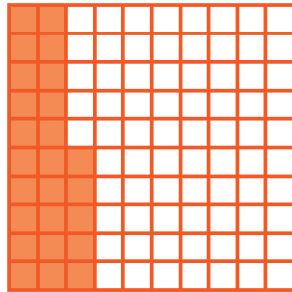
- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

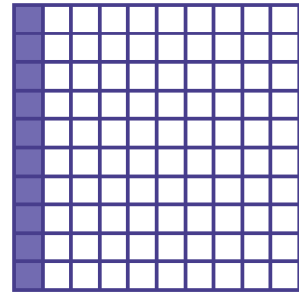
By the end of this half term, you should know the following facts. The aim is to recall these facts instantly.



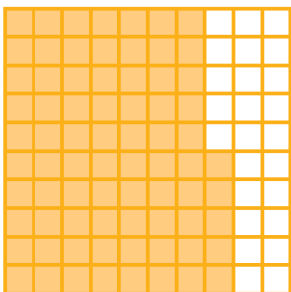
$$\frac{50}{100} = \frac{1}{2} = 0.5 = 50\%$$



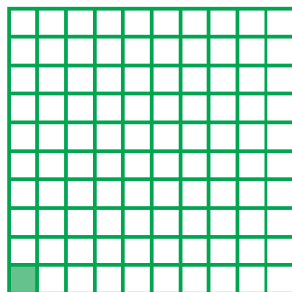
$$\frac{25}{100} = \frac{1}{4} = 0.25 = 25\%$$



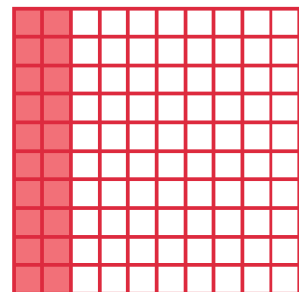
$$\frac{10}{100} = \frac{1}{10} = 0.1 = 10\%$$



$$\frac{75}{100} = \frac{3}{4} = 0.75 = 75\%$$



$$\frac{1}{100} = 0.01 = 1\%$$



$$\frac{20}{100} = \frac{2}{10} = 0.2 = 20\%$$

## TOP TIPS

- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

$1^2$	$1 \times 1 =$	<b>1</b>
$2^2$	$2 \times 2 =$	<b>4</b>
$3^2$	$3 \times 3 =$	<b>9</b>
$4^2$	$4 \times 4 =$	<b>16</b>
$5^2$	$5 \times 5 =$	<b>25</b>
$6^2$	$6 \times 6 =$	<b>36</b>
$7^2$	$7 \times 7 =$	<b>49</b>
$8^2$	$8 \times 8 =$	<b>64</b>
$9^2$	$9 \times 9 =$	<b>81</b>
$10^2$	$10 \times 10 =$	<b>100</b>
$11^2$	$11 \times 11 =$	<b>121</b>
$12^2$	$12 \times 12 =$	<b>144</b>

$1^3$	$1 \times 1 \times 1 =$	<b>1</b>
$2^3$	$2 \times 2 \times 2 =$	<b>8</b>
$3^3$	$3 \times 3 \times 3 =$	<b>27</b>
$4^3$	$4 \times 4 \times 4 =$	<b>64</b>
$5^3$	$5 \times 5 \times 5 =$	<b>125</b>
$6^3$	$6 \times 6 \times 6 =$	<b>216</b>
$7^3$	$7 \times 7 \times 7 =$	<b>343</b>
$8^3$	$8 \times 8 \times 8 =$	<b>512</b>
$9^3$	$9 \times 9 \times 9 =$	<b>729</b>
$10^3$	$10 \times 10 \times 10 =$	<b>1000</b>



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

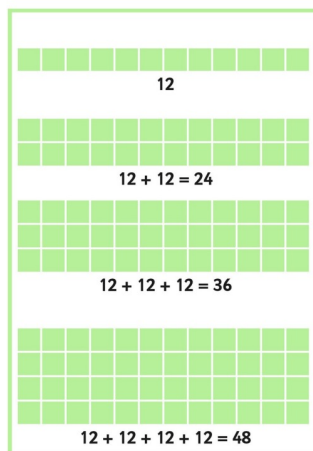
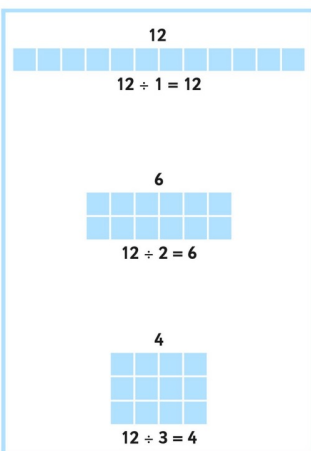
# Fluency Facts

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

## Factors & Multiples

A factor can be used to divide a number and produce a whole number answer. Factors come in pairs.

Multiples appear in the number's multiplication table. You can calculate them by counting on by that number.



The **Factors** of 12 are:  
1, 2, 3, 4, 6 and 12

The **Multiples** of 12 include:  
12, 24, 36, 48...

The shaded numbers are prime numbers. They can only be divided by itself and 1.

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

You need to be able to multiples of any given number using your multiplication facts up to  $12 \times 12$



- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

<p><b>Finding 50% of a number</b></p> <p><math>50\% = \frac{1}{2}</math> so we divide by 2</p> <p><b>50% of 180 = 90</b></p>	<p><b>Finding 10% of a number</b></p> <p><math>10\% = \frac{1}{10}</math> so we divide by 10</p> <p><b>10% of 180 = 18</b></p>
<p><b>Finding 25% of a number</b></p> <p><math>25\% = \frac{1}{4}</math> so we divide by 4</p> <p><b>25% of 180 = 45</b></p>	<p><b>Finding 1% of a number</b></p> <p><math>1\% = \frac{1}{100}</math> so we divide by 100</p> <p><b>1% of 180 = 1.8</b></p>

You should be to apply these four key facts to find 50%, 25%, 10% and 1% of any given number.



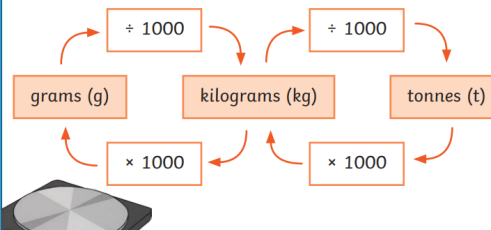

- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Ask adults or siblings to ask you questions related to this fact.
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily – perhaps in your bedroom or on the fridge.
- ☆ Google 'percentages games KS2' and play some games to practise this skill.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

# Fluency Facts

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

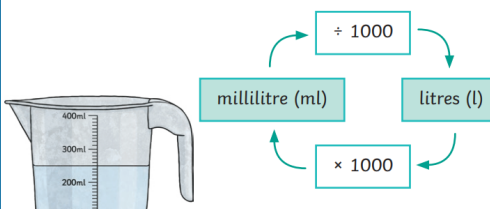
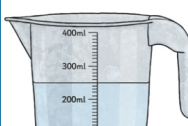
### Converting Mass

1 tonne = 1000kg	$\frac{1}{4}$ kg = 0.25kg = 250g
1000g = 1kg	$\frac{1}{2}$ kg = 0.5kg = 500g
$\frac{1}{10}$ kg = 0.1kg = 100g	$\frac{3}{4}$ kg = 0.75 = 750g

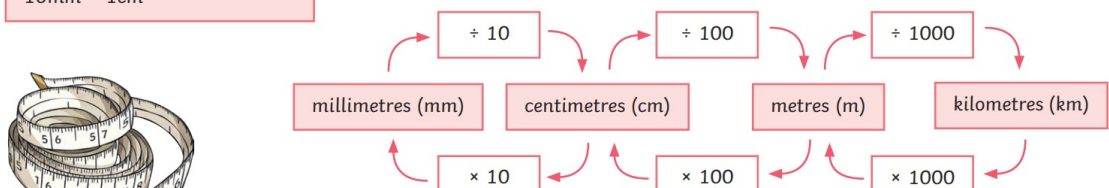
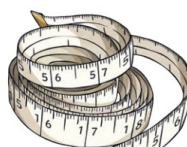
### Converting Capacity

1000ml = 1l	$\frac{1}{2}$ l = 0.5l = 500ml
$\frac{1}{10}$ l = 0.1l = 100ml	$\frac{3}{4}$ l = 0.75l = 750ml
$\frac{1}{4}$ l = 0.25l = 250ml	$\frac{1}{100}$ l = 0.01l = 10ml

### Converting Length

1000m = 1km	$\frac{1}{2}$ m = 0.5m = 50cm	$\frac{3}{4}$ m = 0.75m = 75cm
100cm = 1m	$\frac{1}{4}$ m = 0.25m = 25cm	$\frac{1}{10}$ m = 0.1m = 10cm
10mm = 1cm		

## TOP TIPS

- ☆ Practise little and often. Use your time wisely – could you practise on the way to school or while waiting in a queue at the supermarket?
- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!

By the time you sit your SATs, you should know the following facts. The aim is to recall these facts instantly.

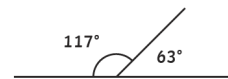
## Angle Types

**Acute Angles**  
Any angle that measures less than  $90^\circ$  is called an **acute** angle.

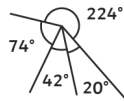
**Obtuse Angles**  
Any angle that measures greater than  $90^\circ$  and less than  $180^\circ$  is called an **obtuse** angle.

**Reflex Angles**  
Any angle that measures greater than  $180^\circ$  is called a **reflex** angle.

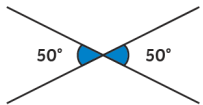
## Calculating Angles



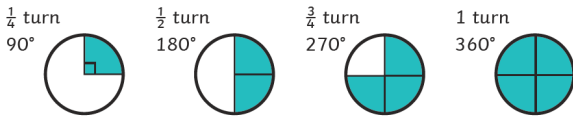
Angles on a straight line always total  $180^\circ$ .



Angles around a point always total  $360^\circ$ .



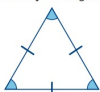
Opposite angles that share a vertex are equal.



Multiples of  $90^\circ$  can be used as descriptions of a turn.

## Triangles

Triangles have 3 sides and 3 vertices. The total of the angles in a triangle is  $180^\circ$ .



An equilateral triangle is a regular polygon. It has sides of equal length and each angle is  $60^\circ$ .



An isosceles triangle has two sides of equal length and two angles of equal size.



A right-angled triangle always has one  $90^\circ$  angle. It can be isosceles or scalene.



A scalene triangle has no equal sides or angles.

## Quadrilaterals

A quadrilateral is a polygon with four sides.



A square has four sides of equal length and four right angles ( $90^\circ$ ). A square is also a rectangle, a rhombus and a parallelogram.



A rectangle has two pairs of parallel, equal sides and four right angles. A rectangle is also a parallelogram.



A parallelogram has two pairs of parallel, equal sides and opposite equal angles.



A rhombus has four sides of equal length and opposite equal angles. A rhombus is also a parallelogram.

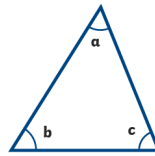


A trapezium only has one pair of opposite parallel sides.



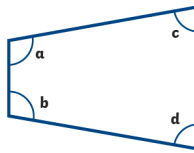
A kite has two pairs of adjacent equal sides and one pair of opposite equal angles.

## Angles in a Triangle



$$a + b + c = 180^\circ$$

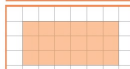
## Angles in a Quadrilateral



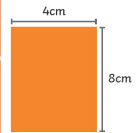
$$a + b + c + d = 360^\circ$$

## Area of Rectangles

$$\text{length} \times \text{width} = \text{area of a rectangle}$$



Counting squares:  
area =  $18\text{cm}^2$   
Use formula:  
 $6\text{cm} \times 3\text{cm}$   
area =  $18\text{cm}^2$



$$8\text{cm} \times 4\text{cm} \text{ area} = 32\text{cm}^2$$

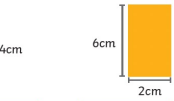
## Perimeter of Rectangles

$$\text{perimeter} = \text{length} + \text{width} + \text{length} + \text{width} \text{ or } (\text{length} + \text{width}) \times 2$$



$$5\text{cm} + 4\text{cm} + 5\text{cm} + 4\text{cm}$$

$$\text{area} = 18\text{cm}^2$$

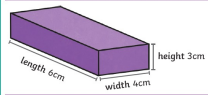


$$(6 + 2) \times 2$$

$$\text{area} = 16\text{cm}^2$$

## Volume of Cuboids

$$\text{length} \times \text{width} \times \text{height} = \text{volume of a cuboid}$$

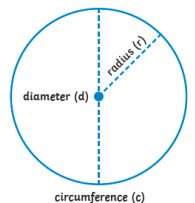


Multiply dimensions in **any** order:  
 $3\text{cm} \times 6\text{cm} \times 4\text{cm}$   
volume =  $72\text{cm}^3$

## Parts of Circles

A circle is a 2D shape. The perimeter of a circle is called the **circumference** (c). The distance across the circle, passing through the centre, is called the **diameter** (d).

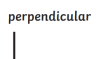
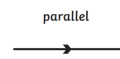
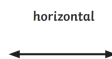
The distance from the centre of the circle to the circumference is called the **radius** (r).



$$r \times 2 = d$$

$$\frac{d}{2} = r$$

## Type of Lines



## TOP TIPS

- ☆ Make a poster – either keep this sheet displayed somewhere where you will see it daily or make your own colourful poster of the facts for your bedroom or the fridge.
- ☆ Revisit – You may think you know your target facts after one week, but if you don't practise regularly, you'll soon forget!