

**KS2 SATS meeting**  
**25th March 2024**



# What are the SATs?

- SATs are the Standardised Assessment Tests that are given to children at the end of Key Stage 2.
- The SATs take place over four days, starting on **Monday 13th** ending on **Thursday 16th May 2024**.
- The SATs papers consist of:
  - Spelling, punctuation and grammar (paper 1: Grammar/ Punctuation/ Spelling) – Monday 13th May
  - Spelling, punctuation and grammar (paper 2: Spelling test) – Monday 13th May
  - Reading – Tuesday 14th May
  - Maths (paper 1: Arithmetic) – Wednesday 15th May
  - Maths (paper 2: Reasoning) – Wednesday 15th May
  - Maths (paper 3: Reasoning) – Thursday 16th May
- Writing is assessed using evidence collected throughout Year 6. There is no Year 6 SATs writing test.

*The key stage 2 tests will be taken on set dates unless your child is absent, in which case they may be able to take them up to 5 school days afterwards.*

# When and how the SATs are completed

- The tests take place during normal school hours, under exam conditions.
- Children are not allowed to talk to each other from the moment the assessments are handed out until they are collected at the end of the test.
- After the tests are completed, the papers are sent away to be marked **externally**.
- The results are then sent to the school in July.
- Each test lasts no longer than 60 minutes:
  - Spelling, punctuation and grammar (paper 1: Grammar/ Punctuation) – 45 minutes
  - Spelling, punctuation and grammar (paper 2: Spelling) – 15 minutes
  - Reading – 60 minutes
  - Maths (paper 1: Arithmetic) – 30 minutes
  - Maths (paper 2: Reasoning) – 40 minutes
  - Maths (paper 3: Reasoning) – 40 minutes

# Specific arrangements for SATs

Children with additional needs (who have similar support as part of day-to-day learning in school) may be allotted specific arrangements, including:

- Additional (extra) time;
- Tests being opened early to be modified;
- An adult to scribe (write) for them;
- Using word processors independently;
- An adult to read for them (including a translator);
- The use of prompts or rest breaks;
- Arrangements for children who are ill or injured at the time of the tests.

Any pupil can ask for a question to be read aloud to them.

*Pupils with an EHCP are automatically allowed up to 25% additional time (except for the spelling paper, which is not strictly timed).*

# SATS timetable

The SATS are completed in the mornings during SATS week

- Before they take the test, we give the Year 6 children a special 'SATS breakfast' with toast, bagels, orange juice and more.
- In order to fit the breakfast into the day, **children should arrive at school at 8:15am.**
- Please speak to your child's class teacher if you have any questions about this.

# The results

Tests are marked externally. Once marked, the tests will be given the following scores:

- A raw score (total number of marks achieved for each paper);
- A scaled score (see below);
- A judgement on if the National Standard has been met.

After marking each test, the external marker will convert the raw score to a scaled score. Even though the tests are made to the same standard each year, the questions must be different. This means the difficulty of the tests may vary. Scaled scores ensures an accurate comparison of performance over time.

Scaled scores range from 80 to 120.

A scaled score of 100 or more shows the pupil is meeting the National Standard.

# Spelling, Punctuation and Grammar: Monday

Spelling, Punctuation and Grammar consists of two papers.

- Paper 1 focuses on all three elements (spelling, punctuation and grammar). The paper lasts for **45 minutes**.
- Paper 2 consists of a spelling test only. It should take approximately **15 minutes**, although this is not a set amount of time (pupils should be given as much time as they need to complete the test).

# Spelling, Punctuation and Grammar: Paper 1

The children will have been working hard with their class teacher on developing and securing their knowledge of the technical vocabulary needed in this test.

This test focuses on:

- Grammatical terms/ word classes;
- Functions of sentences;
- Combining words, phrases and clauses;
- Verb forms, tenses and consistency;
- Punctuation;
- Vocabulary;
- Standard English and formality.

This test requires a range of answer types but does not require longer formal answers.



# Spelling, Punctuation and Grammar: Paper 1

Example questions:

1

Tick the sentence that must end with a **question mark**.

Tick **one**.

The teacher asked them what they were doing

I wonder what time the next train arrives

Did she play tennis on your team last year

He asked if he could use my pen

1 mark

8

Insert a **relative pronoun** to complete the sentence below.

e.g. that, which

Everyone loved the music \_\_\_\_\_ was played last night.

1 mark

34

Explain how the **comma** changes the meaning of the second sentence.

1. I asked if Jake Thomas and Lily were coming to the barbecue.
2. I asked if Jake, Thomas and Lily were coming to the barbecue.

e.g. The first sentence is about two people and \_\_\_\_\_  
the second sentence is about three people.

1 mark

# Spelling, Punctuation and Grammar: Paper 2

Paper 2 is a shorter paper that focuses solely on spellings.

Example questions:

## Spelling task

1. The dragon is an imaginary \_\_\_\_\_.
2. There was \_\_\_\_\_ food for everyone.
3. My little brother is in \_\_\_\_\_ class.

# Reading: Tuesday

There is one reading test that lasts for **60 minutes**.

The test is designed to measure if the children's comprehension of age-appropriate reading material meets the national standard. There are three different set texts for children to read. These could be any combination of **non-fiction, fiction and/ or poetry**.

The test covers the following areas (known as Content Domains):

- Give/ explain the meaning of words in context;
- Retrieve and record information/ identify key details from fiction and non-fiction;
- Summarise main ideas from more than one paragraph;
- Make inferences from the text/ explain and justify inferences with evidence from the text;
- Predict what might happen from details stated and implied;
- Identify/ explain how information/ narrative content is related and contributes to meaning as a whole;
- Identify/ explain how meaning is enhanced through choice of words and phrases;
- Make comparisons within the text.

# Reading

The reading SATs paper requires a range of answer styles.

Questions 1 – 13 are about *The Park* (pages 4–5)

1 What is Ajay doing when the post arrives?

1 mark

Ajay was just about to tuck into his tea and toast dripping in sour rhubarb jam when there was a loud clatter from the letterbox as an important-looking brown envelope landed on the mat. 'Bit early for the post isn't it?' Mum said. 'Ooh, it says Special Delivery.' Mum opened it, and unfolded the letter.

Qu.	Requirement	Mark
1	<p>What is Ajay doing when the post arrives?</p> <p><b>Content domain:</b> 2b – retrieve and record information / identify key details from fiction and non-fiction</p> <p><b>Award 1 mark</b> for reference to him eating (his breakfast), e.g.</p> <ul style="list-style-type: none"><li>• <i>just about to tuck into his tea and toast</i></li><li>• <i>having his breakfast</i></li><li>• <i>drinking tea.</i></li></ul>	1m

# Reading

Example questions:

Based on text 2: Fact Sheet: About Bumblebees



## Buzz pollination

Only bumblebees are capable of buzz pollination. This is when the bee grabs the flower and produces a high-pitched buzz. This releases pollen that would otherwise stay trapped inside. Key ingredients in our diet such as tomatoes are pollinated in this way. Many other common foods such as beans and peas would also be harder to produce and much more expensive without British bumblebees.

**19** In what way is *buzz pollination* more useful than other forms of pollination?

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1 mark

Qu.	Requirement	Mark
19	<p>In what way is <i>buzz pollination</i> more useful than other forms of pollination?</p> <p><b>Content domain:</b> 2b – retrieve and record information / identify key details from fiction and non-fiction</p> <p><b>Award 1 mark</b> for reference to either of the following:</p> <ol style="list-style-type: none"><li>it releases pollen that would otherwise stay inside the flower, e.g.<ul style="list-style-type: none"><li><i>because it releases trapped pollen that they wouldn't have been able to get out</i></li><li><i>it makes a buzz that gets more pollen than other bees do</i></li><li><i>it helps release more pollen.</i></li></ul></li><li>key produce is more expensive / harder to get without it, e.g.<ul style="list-style-type: none"><li><i>it makes some vegetables we eat easier to produce and sell a lot cheaper</i></li><li><i>it means we can buy more common foods cheaper</i></li><li><i>it would be harder to grow beans.</i></li></ul></li></ol>	1m

# Reading

Example questions:

Based on text 3: Music Box

**32** What impressions do you get of Piper's house?

Give **two** impressions, using evidence from the text to support your answer.

Impression	Evidence

3 marks

Qu.	Requirement	Mark																
32	<p>What impressions do you get of Piper's house?</p> <p>Give <b>two</b> impressions, using evidence from the text to support your answer.</p> <p><b>Content domain:</b> 2d – make inferences from the text / explain and justify inferences with evidence from the text</p> <table border="1"> <thead> <tr> <th>Acceptable points (impressions)</th> <th>Likely evidence</th> </tr> </thead> <tbody> <tr> <td>1. it is rickety / old</td> <td> <ul style="list-style-type: none"> <li>there are widening cracks in the planks in the ceiling</li> </ul> </td> </tr> <tr> <td>2. it is small / tiny</td> <td> <ul style="list-style-type: none"> <li>she wishes she had a bigger work space</li> <li>she has to eat at the same table that she works at</li> </ul> </td> </tr> <tr> <td>3. it is warm / cosy</td> <td> <ul style="list-style-type: none"> <li>there is a fire / stove</li> <li><i>comfortable nest</i></li> </ul> </td> </tr> <tr> <td>4. it is untidy / cluttered</td> <td> <ul style="list-style-type: none"> <li><i>Piston rings, bolts, and cylinders littered its surface</i></li> </ul> </td> </tr> <tr> <td>5. it is old fashioned</td> <td> <ul style="list-style-type: none"> <li>no electricity / kerosene lamps / cast-iron stove</li> </ul> </td> </tr> <tr> <td>6. it is isolated</td> <td> <ul style="list-style-type: none"> <li>it is situated among fields</li> <li><i>to go outside and watch the fields</i></li> </ul> </td> </tr> <tr> <td>7. it is safe</td> <td> <ul style="list-style-type: none"> <li>the storm coming outside is dangerous</li> </ul> </td> </tr> </tbody> </table> <p><b>Award 3 marks</b> for <b>two</b> acceptable points, at least <b>one</b> with evidence.</p> <p><b>Award 2 marks</b> for either <b>two</b> acceptable points, or <b>one</b> acceptable point with evidence.</p> <p><b>Award 1 mark</b> for <b>one</b> acceptable point.</p>	Acceptable points (impressions)	Likely evidence	1. it is rickety / old	<ul style="list-style-type: none"> <li>there are widening cracks in the planks in the ceiling</li> </ul>	2. it is small / tiny	<ul style="list-style-type: none"> <li>she wishes she had a bigger work space</li> <li>she has to eat at the same table that she works at</li> </ul>	3. it is warm / cosy	<ul style="list-style-type: none"> <li>there is a fire / stove</li> <li><i>comfortable nest</i></li> </ul>	4. it is untidy / cluttered	<ul style="list-style-type: none"> <li><i>Piston rings, bolts, and cylinders littered its surface</i></li> </ul>	5. it is old fashioned	<ul style="list-style-type: none"> <li>no electricity / kerosene lamps / cast-iron stove</li> </ul>	6. it is isolated	<ul style="list-style-type: none"> <li>it is situated among fields</li> <li><i>to go outside and watch the fields</i></li> </ul>	7. it is safe	<ul style="list-style-type: none"> <li>the storm coming outside is dangerous</li> </ul>	Up to 3m
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# Reading

Since the current testing formation for the SATs began in 2016, there has been a tendency for three types of questions to be the most popular.

In the 2019 Reading SATs paper,

- 12% of marks could be gained from answering questions involving giving and explaining the meaning of words in context;
- 42% of marks could be gained from answering questions involving retrieving and recording information or identifying key details from a text;
- 36% of marks could be gained from answering questions involving making inferences from a text and justifying inferences with text evidence.

When reading with your child at home try focusing on these types of questions.

# Maths: Wednesday and Thursday

The maths assessments consist of three tests.

- Paper 1: Arithmetic (30 minutes) – Wednesday
- Paper 2: Reasoning (40 minutes) – Wednesday
- Paper 3: Reasoning (40 minutes) – Thursday



# Maths Paper 1 (Arithmetic)

The maths arithmetic paper has a total of 40 marks.

The test covers the four operations (addition, subtraction, multiplication, division, including order of operations requiring BIDMAS), percentages of amounts and calculating with decimals and fractions.

Example question:

<b>23</b>	$\begin{array}{r} 836 \\ \times 27 \\ \hline \end{array}$	<div style="border: 1px solid black; width: 80px; height: 20px; margin: 0 auto;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div> <p>2 marks</p>
Show your method		

Qu.	Requirement	Mark	Additional guidance
23	<p>Award <b>TWO</b> marks for the correct answer of 22,572</p> <p>If the answer is incorrect, award <b>ONE</b> mark for a formal method of long multiplication with no more than <b>ONE</b> arithmetic error, e.g.</p> <ul style="list-style-type: none"> <li>• <math display="block">\begin{array}{r} 836 \\ \times 27 \\ \hline 5852 \\ 16720 \\ \hline 22602 \text{ (error)} \end{array}</math></li> <li>OR</li> <li>• <math display="block">\begin{array}{r} 836 \\ \times 27 \\ \hline 5612 \text{ (error)} \\ 16720 \\ \hline 22332 \end{array}</math></li> </ul>	Up to 2m	<p>Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.</p> <p><b>Do not</b> award any marks if the error is in the place value, e.g. the omission of the zero when multiplying by tens:</p> $\begin{array}{r} 836 \\ \times 27 \\ \hline 5852 \\ 1672 \text{ (place value error)} \\ \hline 7524 \end{array}$

# Maths Paper 1 (Arithmetic)

Example questions:

**6**  $5.87 + 3.123 =$

$$\begin{array}{r} 5.87 \\ + 3.123 \\ \hline 8.993 \end{array}$$

1 mark

**11**   $= 87 - 65$

$$\begin{array}{r} 87 \\ - 65 \\ \hline 22 \end{array}$$

1 mark

**15**  $60 \div (30 - 24) =$

$$\begin{array}{r} 60 \div (30 - 24) \\ 60 \div 6 = 10 \end{array}$$

1 mark

**18**  $20\% \text{ of } 3,000 =$

$$\begin{array}{r} 10\% \text{ of } 3,000 = 300 \\ 20\% \text{ of } 3,000 = 600 \end{array}$$

1 mark

# Maths Paper 1 (Arithmetic)

Example questions:

**22**  $1\frac{3}{7} - \frac{4}{7} =$

$\frac{10}{7} - \frac{4}{7} = \frac{6}{7}$

$\frac{6}{7}$

1 mark

**25**  $37 \overline{) 888}$

Show your method

2 marks

Qu.	Requirement	Mark	Additional guidance
25	<p>Award <b>TWO</b> marks for the correct answer of 24</p> <p>If the answer is incorrect, award <b>ONE</b> mark for the formal methods of division with no more than <b>ONE</b> arithmetic error, i.e.</p> <ul style="list-style-type: none"> <li>long division algorithm, e.g.</li> </ul> $\begin{array}{r} 23 \text{ r}29 \\ 37 \overline{) 888} \\ - 740 \\ \hline 140 \text{ (error)} \\ - 111 \\ \hline 29 \end{array}$ <p>OR</p> $\begin{array}{r} 42 \text{ (error)} \\ 37 \overline{) 888} \\ - 740 \\ \hline 148 \\ - 148 \\ \hline 0 \end{array} \quad \begin{array}{l} 20 \times 37 \\ 4 \times 37 \end{array}$ <ul style="list-style-type: none"> <li>short division algorithm, e.g.</li> </ul> $\begin{array}{r} 23 \text{ r}27 \text{ (error)} \\ 37 \overline{) 888} \end{array}$	Up to 2m	<p>Working must be carried through to reach a final answer for the award of <b>ONE</b> mark.</p> <p>Short division methods <b>must</b> be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure <b>must</b> be less than the divisor.</p>

# Maths Papers 2 and 3 (Reasoning)

Paper 2 will take place on Wednesday and paper 3 will take place on Thursday. These tests have a total of 35 marks each.

These papers require children to demonstrate their mathematical knowledge and skills, as well as their ability to solve problems and their mathematical reasoning. They cover a wide range of mathematical topics from key stage 2 including,

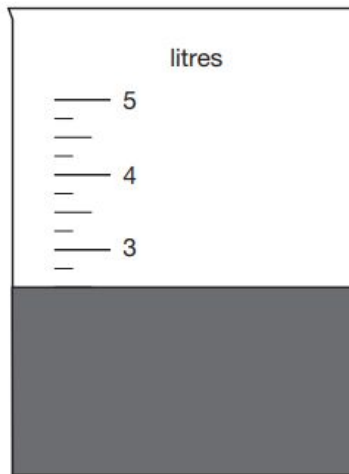
- Number and place value (including Roman numerals);
- The four operations;
- Geometry (properties of shape, position and direction);
- Statistics;
- Measurement (length, perimeter, mass, volume, time, money);
- Algebra;
- Ratio and proportion;
- Fractions, decimals and percentages.

# Maths Papers 2 (Reasoning)

Example questions:

7

Jack pours some dark paint into a container.



In litres, how much paint is in the container?

2.5 or 2 ½

litres

1 mark

8

In this sequence, the rule to get the next number is

Multiply by 2, and then add 3

Write the missing numbers.

11

25

53

109

1 mark

1 mark

# Maths Papers 2 (Reasoning)

Example question:

18

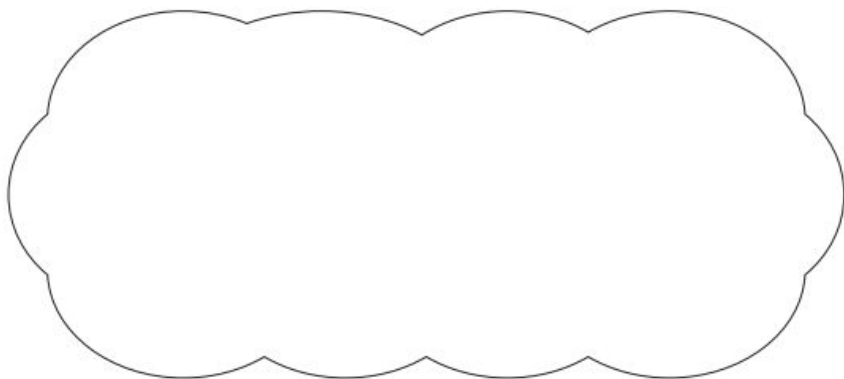
Circle the **prime** number.

95

89

87

Explain how you know the other numbers are **not** prime.



1 mark

18

Award **ONE** mark for a correct explanation of why the 95 **AND** 87 are **NOT** prime, e.g.

- 87 is divisible by 3 and/or 29 **AND** 95 is divisible by 5 and/or 19
- 87 is in the 3 times table **AND** 95 is in the 5 times table
- 95 is divisible by five because every number in the five times table ends in five or zero. 87 is divisible by three because 9 is in the three times table so is ninety. Ninety minus three is 87
- $8 + 7 = 15$  and 15 is divisible by 3 **AND** 95 is divisible by 5

1m

No mark is awarded for circling '89' alone.

Both non-primes must be explained correctly for the award of the mark.

**Do not** accept vague or incomplete explanations, e.g.

- The other 2 numbers have more than 2 factors (vague)
- 87 is divisible by 3 (incomplete).

**Do not** accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation, e.g.

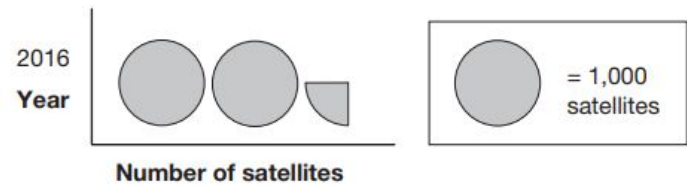
- $3 \times 27 = 87$
- 89 has three factors
- no numbers go into 89

# Maths Papers 3 (Reasoning)

Example questions:

9

This pictogram shows the number of satellites above the Earth in 2016.



How many satellites were above the Earth in 2016?

2,250

1 mark

15



The International Space Station orbits the Earth at a height of 250 miles.

What is the height of the International Space Station in **kilometres**?

Use 8 kilometres equals 5 miles.

400 km

1 mark

# Maths Papers 3 (Reasoning)

Example question:

19

Layla makes jewellery to sell at a school fair.

Each bracelet has 53 beads.

She makes 68 bracelets.



Each necklace has 105 beads.

She makes 34 necklaces.

How many beads does Layla use **altogether**?

Show  
your  
method

--

beads

3 marks

Qu.	Requirement	Mark	Additional guidance
19	<p>Award <b>THREE</b> marks for the correct answer of 7,174</p> <p>If the answer is incorrect, award <b>TWO</b> marks for:</p> <ul style="list-style-type: none"><li>evidence of an appropriate complete method which contains no more than one arithmetic error, e.g.</li></ul> $\begin{array}{r} 53 \\ \times 68 \\ \hline 3504 \text{ (error)} \end{array} \quad \begin{array}{r} 105 \\ \times 34 \\ \hline 3570 \end{array}$ $3,504 + 3,570 = 7,074$ <p>Award <b>ONE</b> mark for:</p> <ul style="list-style-type: none"><li>evidence of an appropriate method with more than one arithmetic error.</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>sight of 3,604 as evidence of long multiplication step (<math>68 \times 53</math>) completed correctly.</li></ul> <p><b>OR</b></p> <ul style="list-style-type: none"><li>sight of 3,570 as evidence of long multiplication step (<math>105 \times 34</math>) completed correctly.</li></ul>	Up to 3m	<p>Answer need not be obtained for the award of <b>ONE</b> mark.</p> <p>A misread of a number may affect the award of marks. No marks are awarded if there is more than one misread or if the mathematics is simplified.</p> <p><b>TWO</b> marks will be awarded if an appropriate method with the misread number is followed through correctly.</p> <p><b>ONE</b> mark will be awarded for evidence of an appropriate method with the misread number followed through correctly with no more than one arithmetic error.</p>



# Supporting your child in preparing for the SATs

Firstly, a positive attitude goes a long way! Give them as much encouragement and support as you can (but we don't need to tell you that)!

Tips:

- Don't use past papers as they are used in school to prepare the children – there are lots of other practice papers available.
- Attend any SATs meetings at school (or read any literature sent home).
- Talk to your child's class teacher if you have any concerns rather than worry your child.
- Encourage your child to talk to their teacher or a trusted adult (including yourself) about their anxieties. Don't forget that a small amount of anxiety is normal and not harmful.
- Give your child a quiet, distraction free space to complete homework or study.
- Give your child time to go outside and reduce screen time.
- Ensure your child is eating and drinking well and getting a good amount of sleep.
- Plan something nice and fun for the weekends before and after SATs. This will help them to relax before the SATs and give them something to look forward to after.

# Supporting your child in preparing for the SATs

Further tips:

- Create a revision timetable that works for you and your child. For some families, 10 to 20 minute activities over a few days works best. For others, a longer study session one day a week might be better.
- Keep revision light. Going over key skills (times tables, real world mental maths as you are shopping or cooking) is a good way to keep revision light.
- There are plenty of free or inexpensive SATs practice materials for parents available.
- Children received a revision pack over Easter with lots of relevant and appropriate materials - use this if you haven't already.

# What to do if you are worried about your child

SATs often induce a certain degree of worry or anxiety but there is, of course, a tipping point.

SATs anxiety should not:

- Affect a child's appetite
- Affect a child's sleep
- Affect a child's personality
- Induce panic, tears or disengagement from lessons
- Be a reason not to attend school.

If any of the above are evident, SATs may be causing an excessive degree of anxiety and may benefit from some additional support. This isn't about removing the reality of SATs but rather equipping your 10 or 11 year old with the ability to better cope with the situation.

# What to do if you are worried about your child

## **Talk to the school**

Sometimes concerns present at home and not at school. If you notice a change in your child, talk to the school so that everyone concerned can offer the support needed.

## **Talk to your child**

Talk to your child about what aspect of SATs concerns them the most. If you can help them pinpoint what is bothering them the most, you can take specific steps to help reassure them.

## **Encourage your child to talk to their teacher**

SATs are obviously linked to school. Don't be surprised if your child would prefer seek reassurance from teachers over family members.

## **Try not to project your own anxieties or views about the SATs**

Children can be very intuitive. If they see that you are anxious, this could add to their own anxieties. Similarly, if you don't believe in SATs, your child may reflect this view.

# Advice for Year 6 children

- Listen to your teacher.
- The adults you work with all want you to do your best.
- Get plenty of sleep and eat well, this will help your brain.
- Read all the questions carefully. This can help you to avoid silly mistakes.
- Don't panic. There may be questions you think you can't answer. Take a deep breath. Read it again. You can always move on and go back to it later. It's often better to write something rather than nothing. Don't leave a box empty if you can help it!
- Remember that the Year 6 SATs last for 4 days out of your whole life!
- **YOU CAN DO IT!**

*“Stay focused in class so you don't have loads of extra studying to do at home!” – Year 7 pupil's advice.*

## Multiplication and division vocabulary

Term	Definition	Example
factor	a number that divides exactly into another number	factors of 12 = 1, 2, 3, 4, 6, 12
common factor	factors of two numbers that are the same	common factors of 8 and 12 = 1, 2, 4
prime number	a number with only 2 factors: 1 and itself	2, 3, 5, 7, 11, 13, 17, 19...
composite number	a number with more than two factors	12 (it has 6 factors)
prime factor	a factor that is prime	prime factors of 12 = 2, 3
multiple	a number in another number's times table	multiples of 9 = 9, 18, 27, 36...
common multiple	multiples of two numbers that are the same	common multiples of 4 and 6 = 12, 24...
square numbers	the result when a number has been multiplied by itself	25 ( $5^2 = 5 \times 5$ ) 49 ( $7^2 = 7 \times 7$ )
cube numbers	the result when a number has been multiplied by itself 3 times	8 ( $2^3 = 2 \times 2 \times 2$ ) 27 ( $3^3 = 3 \times 3 \times 3$ )

## Fractions, decimals & percentages

$\frac{1}{100}$	0.01	1%	÷ 100
$\frac{1}{20}$	0.05	5%	÷ 20
$\frac{1}{10}$	0.1	10%	÷ 10
$\frac{1}{5}$	0.2	20%	÷ 5
$\frac{1}{4}$	0.25	25%	÷ 4
$\frac{1}{2}$	0.5	50%	÷ 2
$\frac{3}{4}$	0.75	75%	÷ 4, x3
1	1	100%	÷ 1

## Angles

full turn	360°
half turn	180°
right angle	90°
acute angle	< 90°
obtuse angle	> 90°
reflex angle	> 180°
angles on a straight line	180°
angles inside a triangle	180°
angles inside a quadrilateral	360°

## Shape vocabulary

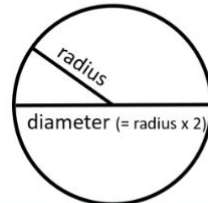
**perimeter** = measure around the edge (**circumference** = perimeter of a circle)

horizontal line

parallel lines

vertical line

perpendicular lines  
(at right angles)



## Roman numerals

1	I	100	C
5	V	500	D
10	X	1000	M
50	L		

# YEAR 6 MATHS KNOWLEDGE ORGANISER

## 2D shapes

Name	No. of sides
quadrilateral	4
pentagon	5
hexagon	6
heptagon	7
octagon	8
nonagon	9
decagon	10

polygon = shape with straight sides  
regular = all sides/angles the same  
irregular = sides/angles **not** same

### Types of triangle



### Types of quadrilateral



## AREA

is the amount of space inside a 2D shape  
usually measured in  $\text{cm}^2$  or  $\text{m}^2$ .

**Area of a triangle**

= (base x height) ÷ 2

**Area of a parallelogram**

= base x height

(Height = perpendicular height)

## Measurement conversions

Month	Days
January	31
February	28 (29 in leap year)
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

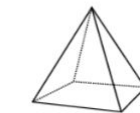
1 year = 365 days ( $\approx$  52 weeks)  
Leap year = 366 days

1 centimetre	10mm
1 metre	100cm
1 kilometre	1,000 m
1 mile	1.6 km
1 kilometre	0.625 ( $\frac{5}{8}$ ) mile
1 kilogram	1,000 grams
1 litre	1,000 millilitres

## Co-ordinates

Read co-ordinates along the x axis (horizontal) first, then the y axis (vertical). E.g. (3,-4) = go right 3, down 4.

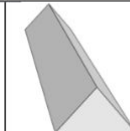
## 3D shapes



square-based pyramid



triangular-based pyramid



triangular prism

	square-based pyramid	triangular-based pyramid	triangular prism
<b>faces</b> (the flat sides)	5	4	5
<b>edges</b>	8	6	9
<b>vertices</b> (the points where the edges meet)	5	4	6

**Volume** = the amount of space a 3D shape takes up, usually measured in  $\text{cm}^3$  or  $\text{m}^3$



**Volume of a cuboid** =  
length x width x height

## The mean

The mean is a type of average. To find the mean, add up all the numbers and divide by how many there are. E.g. the mean of 4, 5, 3, 4 is 4.  
(Because  $4 + 5 + 3 + 4 = 16$ , and  $16 \div 4 = 4$ )