
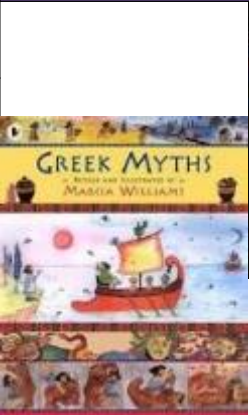

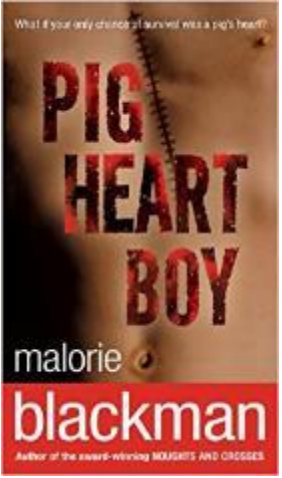


Ancient Greeks KS2 Knowledge Mat

Subject Specific Vocabulary			Where is Greece?
philosophy	Philosophy is a way of thinking about the world, the universe, and society.		<h2 style="text-align: center;">Sticky Knowledge about Ancient Greece</h2> <ul style="list-style-type: none"> <input type="checkbox"/> The Ancient Greeks invented the theatre because they loved watching plays, and most cities had a theatre. <input type="checkbox"/> Events at the Greek's Olympics included wrestling, boxing, long jump, javelin, discus and chariot racing. <input type="checkbox"/> The Ancient Greeks held many festivals in honour of their gods. <input type="checkbox"/> Most Ancient Greeks wore a chiton, which was a long T-shirt made from one large piece of cotton. The poor slaves, however, had to make do with a loincloth.
Athenians	It is the birth place of democracy and the heart of the Ancient Greek civilisation.	<h2 style="text-align: center;">Exciting Books</h2> <div style="display: flex; justify-content: space-around;">   </div>	
Spartans	The Spartans believed that strict discipline and a tough upbringing was the secret to making the best soldiers.		
democracy	Democracy means allowing citizens to make their own decisions for their personal lives.		
Olympics	The ancient Olympic Games were originally a festival, or celebration of Zeus.		
plague	The plague of Athens was an epidemic illness that devastated the city.		
truce	A truce is when two fighting sides declare peace or a break in the war.		
Zeus	The supreme god of the Olympians, Zeus was the father of Perseus and Heracles.		
loincloth	A single piece of cloth wrapped round the hips, typically worn by men in some hot countries as their only garment.		
Apollo	Apollo was the god of music, truth and prophecy.		
sacred truce	A special truce called whilst the Olympics were taking place.		
temple	A building devoted to the worship of a god or gods.		

Year 6: Circulatory System Knowledge Mat

Subject Specific Vocabulary		Interesting Book	Sticky Knowledge about the circulatory system
blood vessels	Blood vessels are a series of tubes inside your body. They move blood to and from your heart.		<input type="checkbox"/> Your heart will beat about 115,000 times each day. Your heart pumps about 2,000 gallons of blood every day.
drugs	A drug is a chemical that is not food and that affects your body. Some drugs are given to people by doctors to make them healthy.		<input type="checkbox"/> The entire trip around your body only takes blood about 20 seconds in total. Blood is what is used to transport oxygen, waste, nutrients, and more throughout the body.
atria	The atria are the two uppermost chambers of the heart. Blood is pushed from the atria to the ventricles.		<input type="checkbox"/> The circulatory system includes the heart, blood vessels and blood, and is vital for fighting diseases and maintaining proper temperature.
William Harvey	He was the first person to accurately describe the function of the heart and the circulation of blood around the body.		<input type="checkbox"/> Because your heart is crucial to your survival, it's important to keep it healthy with a well-balanced diet and exercise, and avoiding things that can damage it, like smoking.
cardiovascular	The blood circulatory system (cardiovascular system) delivers nutrients and oxygen to all cells in the body.	Important facts to know by the end of the circulatory system topic: <ul style="list-style-type: none"> • Identify and name the main parts of the human circulatory system. • Know the function of the heart, blood vessels and blood. • Know the impact of diet, exercise, drugs and lifestyle on health. • Know the ways in which nutrients and water are transported in animals, including humans. • Know who William Harvey was. 	<input type="checkbox"/> Your heart affects every part of your body. That also means that diet, lifestyle, and your emotional well-being can affect your heart.
ultrasound	An ultrasound machine uses sound waves to take pictures of the inside of the body.		
cardiologists	A cardiologist is a doctor with special training and skill in finding, treating and preventing diseases of the heart and blood vessels.		
capillaries	Capillaries are very thin blood vessels. They bring nutrients and oxygen to tissues and remove waste products.		
pulse	Your heart has to push so much blood through your body that you can feel a little thump in your arteries each time the heart beats.		
ventricles	The ventricles are the two lower chambers in the heart.		

Year 6: Maths Knowledge Mat

Rounding

8,378,543

To the **nearest 10,000** is 8,380,000
 To the **nearest 100,000** is 8,400,000
 To the **nearest 1,000,000** is 8,000,000
 To the **nearest 10,000,000** is 10,000,000

Multiplying a fraction by a fraction

$$\frac{3}{5} \times \frac{6}{8} = \frac{3 \times 6}{5 \times 8} = \frac{18}{40}$$

$$\frac{3}{4} \times \frac{1}{3} = \frac{3 \times 1}{4 \times 3} = \frac{3}{12} = \text{reduces to } \frac{1}{4}$$

Percentages

On a calculator
 36% of 76 \rightarrow Change to a decimal and multiply
 0.36×76

Increasing
 Increase £70 by 14%
 $14\% \text{ of } 70 = 0.14 \times 70 = \pounds 9.80$
 New amount = $\pounds 70 + \pounds 9.80 = \pounds 79.80$

Fraction to %
 $\frac{15}{20} = \frac{75}{100} = 75\%$
 Or $15 \div 20 \times 100 = 75\%$

Decreasing
 Decrease £70 by 14%
 $14\% \text{ of } 70 = 0.14 \times 70 = \pounds 9.80$
 New amount = $\pounds 70 - \pounds 9.80 = \pounds 60.20$

Without a calculator

50% - half	10% - divide by 10
25% - half and half	5% - half 10%
75% - 50% + 25%	20% - double 10%

Calculations with mixed numbers

Add Mixed Numbers	Subtract Mixed Numbers
$8\frac{1}{2} + 3\frac{3}{4}$ $= \frac{17}{2} + \frac{15}{4}$ Change to improper fractions $= \frac{17 \times 2}{2 \times 2} + \frac{15}{4}$ Change to common denominator $= \frac{34}{4} + \frac{15}{4}$ $= \frac{49}{4}$ Add the numerators $= 12\frac{1}{4}$ Change to mixed numbers	$8\frac{1}{2} - 4\frac{3}{4}$ $= \frac{17}{2} - \frac{15}{4}$ Change to improper fractions $= \frac{17 \times 2}{2 \times 2} - \frac{15}{4}$ Change to common denominator $= \frac{34}{4} - \frac{15}{4}$ $= \frac{19}{4}$ Subtract the numerators $= 4\frac{3}{4}$ Change to mixed numbers

Adding fractions

$$\frac{1}{2} + \frac{1}{3} = ?$$

$$\frac{1 \times 3}{2 \times 3} = \frac{3}{6} \quad \frac{1 \times 2}{3 \times 2} = \frac{2}{6}$$

$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

Mean Average

The sum of all data points divided by the number of data points

Formal methods of multiplication and division

<p>134 x 27 becomes</p> <pre style="font-family: monospace; font-size: small;"> 2 2 1 3 4 X 2 7 --- 2 6 8 0 9 3 8 --- 3 6 1 8 1 1 </pre>	<p>564 ÷ 15 becomes</p> <pre style="font-family: monospace; font-size: small;"> 15 5 6 4 4 5 0 --- 1 1 4 1 0 5 --- 3 7 </pre> <p>$\frac{9}{15} = \frac{3}{5}$</p> <p>Answer: $37\frac{3}{5}$</p>	<p>432 ÷ 15 becomes</p> <pre style="font-family: monospace; font-size: small;"> 2 8 . 8 15 4 3 2 . 0 3 0 --- 1 3 2 1 2 0 --- 1 2 0 1 2 0 --- 0 </pre> <p>Answer: 28.8</p>	<p>384 ÷ 11 becomes</p> <pre style="font-family: monospace; font-size: small;"> 3 4 r10 11 3 8 4 3 --- 8 8 --- 0 4 0 --- 4 </pre> <p>Answer: $34\frac{10}{11}$</p>
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BODMAS

B → Bracket
 O → Of
 D → Division
 M → Multiplication
 A → Addition
 S → Subtraction

BODMAS EXAMPLE

$40 - (5 \times 2^2 + 7)$

Brackets 1st then use ODMAS inside the brackets

$40 - (5 \times 4 + 7)$ (2²)
 $40 - (20 + 7)$ (Multiply 5 x 4)
 $40 - 27$ (Add 20 + 7)
 Answer = 13

Ratio

Ratio compares values.
 A **ratio** says how much of one thing there is compared to another thing.
Ratio 3:1. There are 3 blue squares to 1 yellow square.

Year 6: Maths Knowledge Mat

Algebra

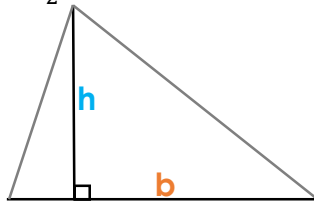
One step equation e.g. $y + 14 = 20$
 Undo addition or subtraction
 $y = 6$

Two step equation e.g. $2x + 5 = 11$
 Undo addition or subtraction
 $2x = 6$

Undo multiplication or division
 $x = 3$

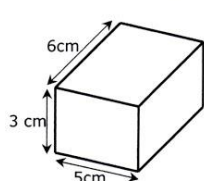
Area of a triangle

$$\text{Area} = \frac{1}{2} \times b \times h = \frac{bh}{2}$$

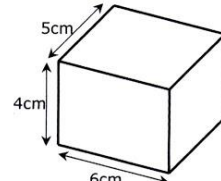


Volume

$$\text{volume} = \text{length} \times \text{width} \times \text{height}$$

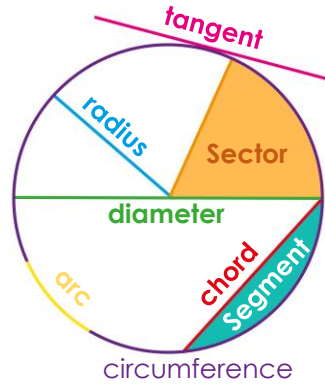


$$\text{volume} = 6 \times 5 \times 3 = 90 \text{ cm}^3$$



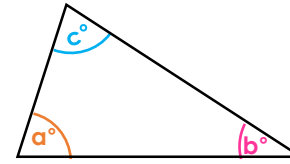
$$\text{volume} = 5 \times 6 \times 4 = 120 \text{ cm}^3$$

Circles

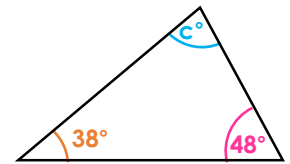


The **diameter** is twice the **radius**

Angles in a triangle



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

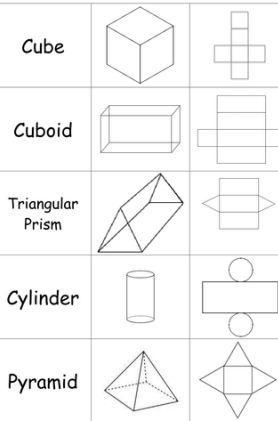


$$38^\circ + 60^\circ + c^\circ = 180^\circ$$

$$c^\circ = 180^\circ - 98$$

$$c^\circ = 82^\circ$$

Nets of 3D shapes



Square Numbers

1^2	1
2^2	4
3^2	9
4^2	16
5^2	25
6^2	36
7^2	49
8^2	64
9^2	81
10^2	100
11^2	121
12^2	144
13^2	169

Square Roots

$\sqrt{1}$	1
$\sqrt{4}$	2
$\sqrt{9}$	3
$\sqrt{16}$	4
$\sqrt{25}$	5
$\sqrt{36}$	6
$\sqrt{49}$	7
$\sqrt{64}$	8
$\sqrt{81}$	9
$\sqrt{100}$	10
$\sqrt{121}$	11
$\sqrt{144}$	12
$\sqrt{169}$	13

Cube Numbers

1^3	1
2^3	8
3^3	27
4^3	64
5^3	125

Cube Roots

$\sqrt[3]{1}$	1
$\sqrt[3]{8}$	2
$\sqrt[3]{27}$	3
$\sqrt[3]{64}$	4
$\sqrt[3]{125}$	5

Vocabulary

factors	numbers that you multiply together to get other numbers
multiple	the result of multiplying a number by an integer
HCF	Highest Common Factor - the largest factor shared by two or more numbers
LCM	Lowest Common Multiple - the smallest number that is a multiple of two or more numbers.