GLOUCESTER ACADEMY

GREENSHAW LEARNING TRUST

Gloucester Academy

Unit 1

Year 10

Class of 2024

Knowledge Organiser

CORE SUBJECTS

Knowledge is power. Information is liberating.

Logins:

School email

Username: _____@gloucesteracademy.co.uk

Password: _____

School computer

Username: _____

Password: _____

sparx.co.uk

Username: _____

Password: _____

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Homework Guidance:

Knowledge Organiser homework is based on self-quizzing. It is expected that you complete one page of self-quizzing, every day. This should take around 30 minutes. You should not leave blank lines on the page, including in between pieces of information (if you are self-quizzing diagrams, you can use more than one line to copy the diagram into your practice book). The information you self-quiz should be numbered in your practice book with the same numbers used on the Subject Knowledge Organiser. Tutors will check your practice book. They will be looking for a full page of self-quizzing on the correct numbers of the Subject Knowledge Organiser, as well as for purple pen ticks/corrections and good presentation (including your H/W, Title and Date underlined with a ruler). Your writing needs to be neat and legible. If we feel that any of these elements are not up to standard, you will be issued with a same day detention.

A demonstrational video can be found here:
https://www.gloucesteracademy.com/students/homework-and-revision-guidance/knowledge-organisers

These are the steps you should follow to complete effective self-quizzing:

look repeatedly say aloud cover write check

1. **Identify** the Subject Knowledge Organiser segment for the day from your homework timetable.

2. **Open up your practice book** and on the top line, write 'H/W' in the margin. On the other side of the margin line, write the Title (the subject you are completing) the Week (which week you are completing). Write the Date on the right hand side. Underline everything with a ruler.

3. **Place your Subject Knowledge Organiser segment in front of you.** Start with the first numbered piece of information within the weekly segment. Read and memorise the information - we recommend saying it aloud. Repeat the process several times, until you are confident to write the knowledge point down.

4. **Close your Subject Knowledge Organiser** or cover up the piece of information, and try to recall the knowledge. On the line directly beneath your H/W, Title and Date, write the correct number from the Subject Knowledge Organiser and the piece of information from memory, ensuring there are no blank lines.

5. **Check it and correct any mistakes**. Open up your Subject Knowledge Organiser and look at the piece of information – using a purple pen tick the piece of information in your practice book if you have recalled it correctly (word for word, correctly spelled). If you have incorrectly recalled or missed any part of the information, use your purple pen to put a cross next to that knowledge point.

6. **If you recalled the piece of information incorrectly**, go back to step 3 and **in purple pen**, repeat the process again for the same piece of information (cover up previous attempts in your practice book as well as the piece of information in your Subject Knowledge Organiser). When you have recalled the information correctly, tick the attempt and move on to the next piece of information within the weekly segment.

7. **Repeat the steps above** until you have recalled and written down all pieces of information within the weekly segment. If this has not filled one full page of your practice book, go back to the first piece of information within the weekly segment and repeat the process again, until you have filled an entire page.

Example page:

H/W Science week 3 21 September 2020

1. A cell. This is the simplest unit of a living organism. ✓
2. Cell membrane. This is a ~~pt~~partaly premamble barrier and controls what goes in and out of the cell. X

2. Cell membrane. This is a partially permeable barrier and controls what goes in and out of the cell. ✓
3. Cytoplasm. This is a jelly-like substance in cells where chemical reactions occur. ✓
4. Nucleus. This contains DNA and controls the cell. ✓
5. Mitocondrion. A sub-cellular structure where respiration takes place to make energy. X

5 Mitochondrion. A sub-cellular structure where respiration takes place to make energy. ✓

6. Hypothesis. An idea that explains how or why something happens. ✓
7. Prediction. A statement suggesting what you think will happen in an experiment / investigation. ✓
8. Control variable. The variable that must be kept constant so that it doesn't affect the outcome of the investigation. (variable = something that can change in an experiment). ✓
9. Independent variable. The variable that is changed in an experiment / investigation. (Variable = something that can change in an experiment) ✓
10. Dependent variable. The variable that is recorded and measured for each change of the independent variable. (Variable = something that can change in an experiment) X

10 Dependent variable. The variable that is measured

Maths Homework – Sparx Maths

You will get one sparx.co.uk assignment to complete each week, which will be set on a Monday and will be due the following Monday. Your homework is made up of personalised questions that will help you develop your learning in maths. This will include topics you have covered within the past week and some older material for you to revise. The homework may include multiple tasks. We suggest you split it into three manageable chunks and complete this every Wednesday, Friday and Monday.

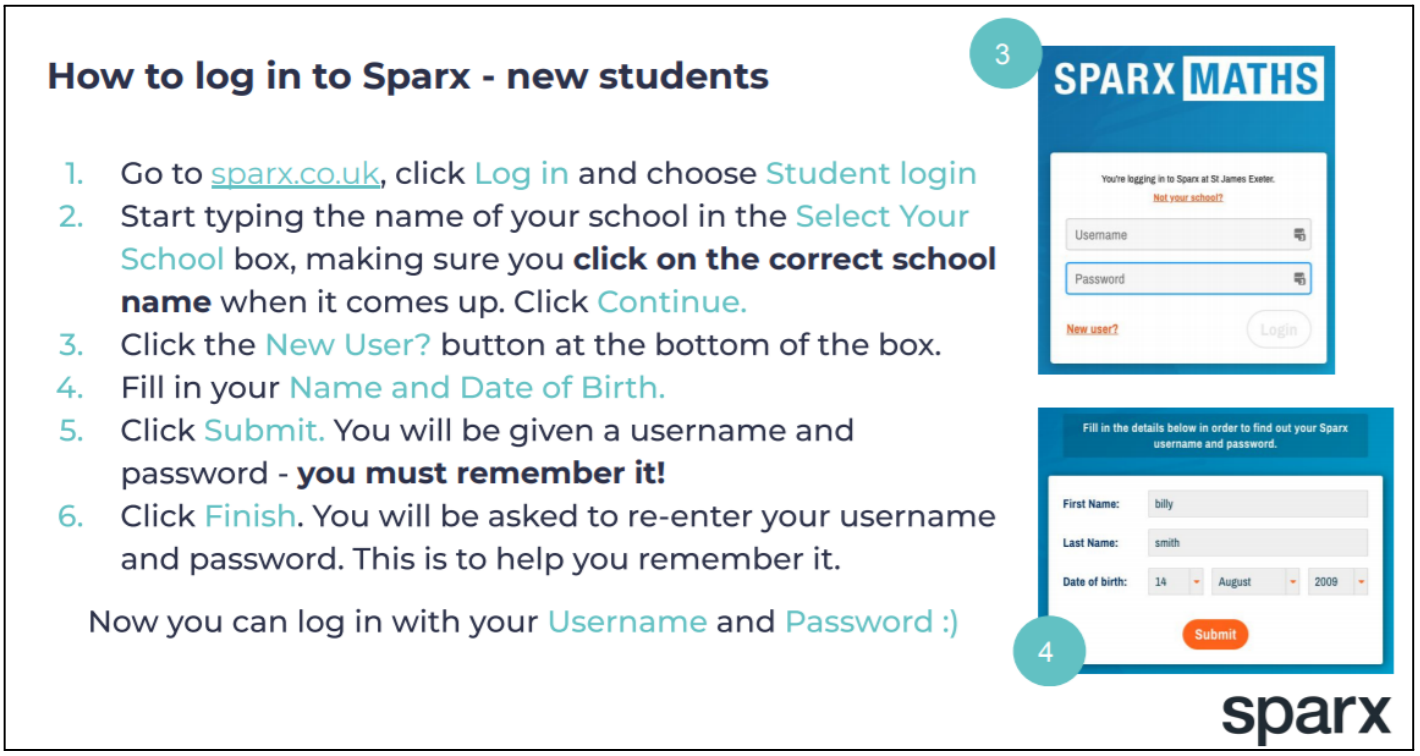
You should be able to complete all of the questions without too much support, however, if there is a question which you are finding hard to complete, we recommend you watch the video. If you are still unable to solve the question, move on to the next one and talk to your teacher before it's due.

Every Wednesday you will need to show your maths teacher your orange homework booklet to show your maths homework. Your teacher will be looking to see that you have:

- Written down the bookwork code
- Written down your workings and answers
- Marked your own work in purple pen, made corrections, and written down your score at the end.

Don't forget every lunchtime there is homework support!

For more information and guidance please go to:
https://www.gloucesteracademy.com/students/homework-and-revision-guidance/sparx-maths



Science Knowledge Organiser - Mondays

Week 1 05/09/22	Piece of Information	Answer
1	Ionic bonding	Formed from metals combined with non-metals.
2	Atomic number	Number of protons.
3	$E_k = 0.5 \times m \times v^2$	Equation for kinetic Energy
4	Covalent bonding	Formed from non-metals combined with other non-metals.
5	Metallic bonding	Formed between metals and in alloys.
6	$P = I \times V$	Equation for power using current and potential difference.
7	Independent variable	A factor that we change.
8	Dependent variable	A factor that we measure.
9	1+	Charge of a Group 1 Element as an ion.
10	Peer review	Results reviewed by other scientists to help prevent false claims, avoid bias, and make sure that conclusions are valid.

Week 2 12/09/22	Piece of Information	Answer
1	2+	Charge of a Group 2 Element as an ion.
2	Mass number.	Number of protons and neutrons.
3	$E_p = m \times g \times h$	Equation for gravitational potential energy.
4	1-	Charge of a Group 7 Element as an ion.
5	2-	Charge of a Group 6 Element as an ion.
6	$P = I^2 \times R$	Equation for power using current and resistance.
7	Control variable	A factor that we keep the same.
8	Independent variable	A factor that we change.
9	Covalent bond	When atoms share pairs of electrons. These bonds are very strong.
10	Mean	Total of all of the values ÷ The number of values.

Week 3 19/09/22	Piece of Information	Answer
1	Delocalised electrons	Free to move through the whole structure.
2	Isotopes	Same number of protons, different numbers of neutrons.
3	$E = P \times t$	Equation for energy transferred.
4	Solid, liquid, gas	3 States of matter.
5	Melting and freezing.	Takes place at melting point.
6	$E = Q \times V$	Equation for energy transferred using charge flow and potential difference.
7	Dependent variable	A factor that we measure.
8	Control variable	A factor that we keep the same.
9	Boiling and Condensing	Takes place at boiling point.
10	$\times$ 1000	Unit conversion for KJ to J

Week 4 26/09/22	Piece of Information	Answer
1	Giant ionic lattice	Regular structure with strong electrostatic forces of attraction in all directions between oppositely charged ions.
2	Aqueous (Aq)	Dissolved/Forms a solution.
3	$\mathbf{W = P\,t}$	Equation for Work done using power and time.
4	Diamond	Each carbon atom forms four covalent bonds so is very hard with a high melting point and does not conduct electricity.
5	Graphite	Each carbon atom forms three covalent bonds, formed as layers of hexagonal rings with a delocalised electron.
6	$m = \rho V$	Equation for mass using density and volume.
7	Independent variable	A factor that we change.
8	Dependent variable	A factor that we measure.
9	Pathogens	Microorganisms that cause infectious disease.
10	Peer review	Results reviewed by other scientists to help prevent false claims, avoid bias, and make sure that conclusions are valid.

Week 5 03/10/22	Piece of Information	Answer
1	Bacteria	A pathogen that reproduces rapidly inside the body and produces toxins that damage tissues and make us feel ill.
2	Atomic weight	The order of the early Periodic Table.
3	Useful output energy transfer = efficiency x total input energy transfer	Equation for useful output energy transfer.
4	Viruses	A pathogen that lives and reproduces inside cells, causing cell damage.
5	Antibiotics	Medicines that cure bacterial disease by killing bacteria inside the body BUT not viral diseases!
6	$E_k = 0.5 \times m \times v^2$	Equation for kinetic Energy
7	Control variable	A factor that we keep the same.
8	Independent variable	A factor that we change.
9	Conservation of Energy Law	Energy can be transferred usefully, stored or dissipated, but cannot be created or destroyed.
10	Mean	Total of all of the values ÷ The number of values.

Week 6 10/10/22	Piece of Information	Answer
1	Aspirin	Painkiller which originates from Willow.
2	Filtration	To separate an insoluble solid from a liquid.
3	Useful power output = efficiency x total power input	Equation for useful power input.
4	Penicillin	An antibiotic discovered by Alexander Fleming from mould.

5	Zero error	A reading on a device that is not correctly at zero.
6	$E_p = m\ g\ h$	Equation for gravitational potential energy.
7	Dependent variable	A factor that we measure.
8	Control variable	A factor that we keep the same.
9	Preclinical testing	Done in a lab using cells, tissues and live animals to test for toxicity and efficacy.
10	$\times\ 1000$	Unit conversion for KJ to J

Week 7 17/10/22	Piece of Information	Answer
1	Clinical testing	Uses healthy volunteers and patients with very low doses.
2	Double blind trial	Neither the patients nor the doctors know whether the drug or placebo is being used.
3	$Q = I\ t$	Equation for charge Flow.
4	Placebo	Tablet that does not contain the drug or active ingredient.
5	Renewable energy resource	An energy resource that can be replenished as it is used E.g. Biofuel, wind, hydro-electricity, geothermal, tidal, the Sun and water waves.
6	$E = P\ t$	Equation for energy transferred.
7	Independent variable	A factor that we change.
8	Dependent variable	A factor that we measure.
9	Non-renewable energy resources	An energy resource that cannot be replenished as it is used E.g. Fossil fuels and Nuclear.
10	Peer review	Results reviewed by other scientists to help prevent false claims, avoid bias, and make sure that conclusions are valid.

Week 8 31/10/22	Piece of Information	Answer
1	Anomalous Result	Does not fit the pattern so excluded when calculating the mean.
2	$\times\ 1000$	Unit conversion for KJ to J
3	$V = I\ R$	Equation for voltage.
4	Random error	Results vary unpredictably, so take more measurements and calculate a mean value.
5	Systematic error	Results differ from the true value by a consistent amount each time.
6	$W = P\ t$	Equation for Work done using power and time.
7	Control variable	A factor that we keep the same.
8	Independent variable	A factor that we change.
9	Repeatable.	When after repetition, under the same conditions by the same investigator, gives similar results.
10	Mean	Total of all of the values ÷ The number of values.

Week 9 07/11/22	Piece of Information	Answer
1	Bacteria	A pathogen that reproduces rapidly inside the body and produces toxins that damage tissues and make us feel ill.
2	Atomic weight	The order of the early Periodic Table.

3	Useful output energy transfer = efficiency x total input energy transfer	Equation for useful output energy transfer.
4	Viruses	A pathogen that lives and reproduces inside cells, causing cell damage.
5	Antibiotics	Medicines that cure bacterial disease by killing bacteria inside the body BUT not viral diseases!
6	Aspirin	Painkiller which originates from Willow.
7	Filtration	To separate an insoluble solid from a liquid.
8	Useful power output = efficiency x total power input.	Equation for useful power input.
9	Penicillin	An antibiotic discovered by Alexander Fleming from mould.
10	Zero error	A reading on a device that is not correctly at zero.

Week 10 14/11/22	Piece of Information	Answer
1	Clinical testing	Uses healthy volunteers and patients with very low doses.
2	Double blind trial	Neither the patients nor the doctors know whether the drug or placebo is being used.
3	Q = I t	Equation for charge Flow.
4	Placebo	Tablet that does not contain the drug or active ingredient.
5	Renewable energy resource	An energy resource that can be replenished as it is used E.g. Biofuel, wind, hydro-electricity, geothermal, tidal, the Sun and water waves.
6	Anomalous Result	Does not fit the pattern so excluded when calculating the mean.
7	$\times$ 1000	Unit conversion for KJ to J
8	V = I R	Equation for voltage.
9	Random error	Results vary unpredictably, so take more measurements and calculate a mean value.
10	Systematic error	Results differ from the true value by a consistent amount each time.

Maths Knowledge Organiser Foundation - Mondays

Week 1 05/09/22	Piece of Information	Answer
1	y = mx + c	Equation of a straight line
2	The gradient, the steepness of a line.	The "m" in y = mx+c
3	The y-intercept, the point at which a line crosses the y-axis.	The "c" in y = mx+c
4	Midpoint	The point half way along a line
5	2a	a + a
6	a^2	a x a
7	$\frac{2}{x}$	$\frac{1}{x} + \frac{1}{x}$
8	$\frac{1}{x}$	x^{-1}
9	$\frac{1}{x^2}$	x^{-2}
10	Parallel	Two lines that are the same distance apart

Week 2 12/09/22	Piece of Information	Answer
1	Perpendicular	Two lines that meet at 90^o
2	Quadrilateral	A four sided polygon
3	Parallelogram	A quadrilateral with two pairs of parallel sides
4	Trapezium	A quadrilateral with one pair of parallel sides
5	Kite	A quadrilateral with two pairs of adjacent (touching) sides which are equal
6	Rhombus	A quadrilateral whose four sides all have the same length
7	Integer	A whole number
8	Denominator	The bottom part of a fraction
9	Numerator	The top part of a fraction
10	Prime number	Has two factors; one and itself

Week 3 19/09/22	Piece of Information	Answer
1	2, 3, 5, 7, 11, 13, 17, 19, 23, 29	First ten prime numbers
2	1, 8, 27, 64, 125	First 5 cube numbers
3	1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144	First 12 square numbers
4	8, 16, 24, 32, 40, 48, 56	First 7 multiples of 8

5	9, 18, 27, 36, 45, 54, 63	First 7 multiples of 9
6	y = mx + c	Equation of a straight line
7	The gradient, the steepness of a line.	The "m" in y = mx+c
8	The y-intercept, the point at which a line crosses the y-axis.	The "c" in y = mx+c
9	Midpoint	The point half way along a line
10	2a	a + a

Week 4 26/09/22	Piece of Information	Answer
1	7, 14, 21, 28, 35, 42, 49	First 7 multiples of 7
2	2, 4, 6, 8, 10	First 5 even numbers
3	1, 3, 5, 7, 9	First 5 odd numbers
4	Vertex (vertices)	A corner or a point where lines meet
5	Centre	A point in the middle of the object such as a circle or sphere
6	a^2	a x a
7	$\frac{2}{x}$	$\frac{1}{x}+\frac{1}{x}$
8	$\frac{1}{x}$	x^{-1}
9	$\frac{1}{x^2}$	x^{-2}
10	Parallel	Two lines that are the same distance apart

Week 5 03/10/22	Piece of Information	Answer
1	$a^2 + b^2 = c^2$	Pythagoras' Theorem
2	$\frac{opposite}{hypotenuse}$	$sin\theta$
3	$\frac{adjacent}{hypotenuse}$	cosθ
4	$\frac{opposite}{adjacent}$	tanθ
5	C=2πr	Circumference of a circle when the radius is known
6	Perpendicular	Two lines that meet at 90^o
7	Quadrilateral	A four sided polygon
8	Parallelogram	A quadrilateral with two pairs of parallel sides

9	Trapezium	A quadrilateral with one pair of parallel sides
10	Kite	A quadrilateral with two pairs of adjacent (touching) sides which are equal

Week 6 10/10/22	Piece of Information	Answer
1	Length x width	Area of a rectangle
2	Acute angle	An angle less than 90^o
3	Obtuse angle	An angle greater than 90^o and less than 180^o
4	Reflex angle	An angle between 180^o and 360^o
5	180^o	Sum of angles on a straight line
6	Rhombus	A quadrilateral whose four sides all have the same length
7	Integer	A whole number
8	Denominator	The bottom part of a fraction
9	Numerator	The top part of a fraction
10	Prime number	Has two factors; one and itself

Week 7 17/06/22	Piece of Information	Answer
1	360^o	Sum of angles in a full turn
2	90^o	Right angle
3	Pentagon	A five sided polygon
4	Hexagon	A six sided polygon
5	Octagon	An eight sided polygon
6	2, 3, 5, 7, 11, 13, 17, 19, 23, 29	First ten prime numbers
7	1, 8, 27, 64, 125	First 5 cube numbers
8	1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144	First 12 square numbers
9	8, 16, 24, 32, 40, 48, 56	First 7 multiples of 8
10	9, 18, 27, 36, 45, 54, 63	First 7 multiples of 9

Week 8 31/10/22	Piece of Information	Answer
1	180^o.	Sum of angles in a triangle
2	Hypotenuse	The side opposite the right angle for a right angle triangle. It is the longest side in a right-angle triangle
3	Isosceles triangle	A triangle with two sides of equal length, and two angles of equal size
4	Equilateral triangle	A triangle with all the sides the same length, and all angles the same size
5	Scalene triangle	A triangle with all three sides of different length, and all angles of

		different size
6	7, 14, 21, 28, 35, 42, 49	First 7 multiples of 7
7	2, 4, 6, 8, 10	First 5 even numbers
8	1, 3, 5, 7, 9	First 5 odd numbers
9	Vertex (vertices)	A corner or a point where lines meet
10	Centre	A point in the middle of the object such as a circle or sphere

Week 9 07/11/22	Piece of Information	Answer
1	$a^2 + b^2 = c^2$	Pythagoras' Theorem
2	$\frac{opposite}{hypotenuse}$	$sin\theta$
3	$\frac{adjacent}{hypotenuse}$	$\cos\theta$
4	$\frac{opposite}{adjacent}$	$\tan\theta$
5	C=2πr	Circumference of a circle when the radius is known
6	Length x width	Area of a rectangle
7	Acute angle	An angle less than 90^o
8	Obtuse angle	An angle greater than 90^o and less than 180^o
9	Reflex angle	An angle between 180^o and 360^o
10	180^o	Sum of angles on a straight line

Week 10 14/11/22	Piece of Information	Answer
1	360^o	Sum of angles in a full turn
2	90^o	Right angle
3	Pentagon	A five sided polygon
4	Hexagon	A six sided polygon
5	Octagon	An eight sided polygon
6	180^o.	Sum of angles in a triangle
7	Hypotenuse	The side opposite the right angle for a right angle triangle. It is the longest side in a right-angle triangle
8	Isosceles triangle	A triangle with two sides of equal length, and two angles of equal size
9	Equilateral triangle	A triangle with all the sides the same length, and all angles the same size
10	Scalene triangle	A triangle with all three sides of different length, and all angles of different size

Maths Knowledge Organiser Higher - Mondays

Week 1 05/09/22	Piece of Information	Answer
1	2a	a + a
2	a^2	a x a
3	a^3	a x a x a
4	1	$\frac{a}{a}$
5	$12a^{13}$	$3a^5 \times 4a^8$
6	1	a^0
7	$\frac{2}{x}$	$\frac{1}{x}+\frac{1}{x}$
8	$\frac{1}{x}$	x^{-1}
9	$\frac{1}{x^2}$	x^{-2}
10	Reciprocals	Two numbers that multiply to make 1. e.g. 1/5 and 5

Week 2 12/09/22	Piece of Information	Answer
1	y = mx + c	Equation of a straight line
2	The gradient, the steepness of a line.	The "m" in y = mx+c
3	The y-intercept, the point at which a line crosses the y-axis.	The "c" in y = mx+c
4	Midpoint	The point half way along a line
5	$c^2 = a^2 + b^2$	Pythagoras' Theorem
6	$\frac{opposite}{hypotenuse}$	$sin\theta$
7	$\frac{adjacent}{hypotenuse}$	$cos\theta$
8	$\frac{opposite}{adjacent}$	$tan\theta$
9	$\frac{a}{sinA} = \frac{b}{sinB} = \frac{c}{sinC}$	The sine rule
10	$a^2 = b^2 + c^2 - 2bc\ cosA$	The cosine rule

Week 3 19/09/22	Piece of Information	Answer
1	½absinC	Area of a triangle when SAS is known
2	½ x base x perpendicular height.	Area of a triangle when two perpendicular sides are known
3	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	Quadratic Formula
4	$A = \pi r^2$	Area of a circle
5	C=2πr	Circumference of a circle when the radius is known
6	2a	a + a
7	a^2	a x a
8	a^3	a x a x a
9	1	$\frac{a}{a}$
10	$12a^{13}$	$3a^5 \times 4a^8$

Week 4 26/09/22	Piece of Information	Answer
1	Acute angle	An angle less than 90^o
2	Obtuse angle	An angle greater than 90^o and less than 180^o
3	Reflex angle	An angle between 180^o and 360^o
4	180^o	Sum of angles on a straight line
5	360^o	Sum of angles in a full turn
6	1	a^0
7	$\frac{2}{x}$	$\frac{1}{x} + \frac{1}{x}$
8	$\frac{1}{x}$	x^{-1}
9	$\frac{1}{x^2}$	x^{-2}
10	Reciprocals	Two numbers that multiply to make 1. e.g. 1/5 and 5

Week 5 03/10/22	Piece of Information	Answer
1	180^o	Sum of angles in a triangle
2	Hypotenuse	The side opposite the right angle for a right angle triangle. It is the longest side in a right-angle triangle
3	Isosceles triangle	A triangle with two sides of equal length, and two angles of equal size
4	Equilateral triangle	A triangle with all the sides the same length, and all angles the same size
5	Scalene triangle	A triangle with all three sides of different length, and all angles of different sizes
6	y = mx + c	Equation of a straight line
7	The gradient, the steepness of a line.	The "m" in y = mx+c
8	The y-intercept, the point at which a line crosses the y-axis.	The "c" in y = mx+c
9	Midpoint	The point half way along a line
10	$c^2 = a^2 + b^2$	Pythagoras' Theorem

Week 6 10/10/22	Piece of Information	Answer
1	1000	Metres (m) in a kilometre (km)
2	10	Millimetres (mm) in a centimetre (cm)
3	100	Centimetres (cm) in a metre (m)
4	52	Weeks in a year
5	Add them up and divide them by 2.	How to find the middle of two numbers
6	$\frac{opposite}{hypotenuse}$	$sin\theta$
7	$\frac{adjacent}{hypotenuse}$	$cos\theta$
8	$\frac{opposite}{adjacent}$	$tan\theta$
9	$\frac{a}{sinA} = \frac{b}{sinB} = \frac{c}{sinC}$	The sine rule
10	$a^2 = b^2 + c^2 - 2bc\ cosA$	The cosine rule

Week 7 17/10/22	Piece of Information	Answer
1	Mean	The sum of all the values, divided by the total number of values in the set
2	Median	The "middle" of a sorted list of numbers
3	Mode	The value that appears most frequently in a data set

4	Range	The difference between the lowest and highest values in a data set
5	IQR = UQ - LQ	Interquartile range formula
6	½absinC	Area of a triangle when SAS is known
7	½ x base x perpendicular height.	Area of a triangle when two perpendicular sides are known
8	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	Quadratic Formula
9	$A = \pi r^2$	Area of a circle
10	C=2πr	Circumference of a circle when the radius is known

Week 8 31/10/22	Piece of Information	Answer
1	Prime number	Has two factors; one and itself
2	2, 3, 5, 7, 11, 13, 17, 19, 23, 29	First ten prime numbers
3	1, 8, 27, 64, 125	First 5 cube numbers
4	1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144	First 12 square numbers
5	1, 3, 6, 10, 15, 21	First 6 triangle numbers
6	Acute angle	An angle less than 90^o
7	Obtuse angle	An angle greater than 90^o and less than 180^o
8	Reflex angle	An angle between 180^o and 360^o
9	180^o	Sum of angles on a straight line
10	360^o	Sum of angles in a full turn

Week 9 07/11/22	Piece of Information	Answer
1	180^o	Sum of angles in a triangle
2	Hypotenuse	The side opposite the right angle for a right angle triangle. It is the longest side in a right-angle triangle
3	Isosceles triangle	A triangle with two sides of equal length, and two angles of equal size
4	Equilateral triangle	A triangle with all the sides the same length, and all angles the same size
5	Scalene triangle	A triangle with all three sides of different length, and all angles of different sizes
6	1000	Metres (m) in a kilometre (km)
7	10	Millimetres (mm) in a centimetre (cm)

8	100	Centimetres (cm) in a metre (m)
9	52	Weeks in a year
10	Add them up and divide them by 2.	How to find the middle of two numbers

Week 10 14/11/22	Piece of Information	Answer
1	Mean	The sum of all the values, divided by the total number of values in the set
2	Median	The "middle" of a sorted list of numbers
3	Mode	The value that appears most frequently in a data set
4	Range	The difference between the lowest and highest values in a data set.
5	IQR = UQ - LQ	Interquartile range formula
6	Prime number	Has two factors; one and itself
7	2, 3, 5, 7, 11, 13, 17, 19, 23, 29	First ten prime numbers
8	1, 8, 27, 64, 125	First 5 cube numbers
9	1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144	First 12 square numbers
10	1, 3, 6, 10, 15, 21	First 6 triangle numbers

English Language Knowledge Organiser - Tuesdays

Week 1 06/09/22	Piece of Information	Answer
1	Language	The literary or figurative devices used. The types of words or sentences that the writer chooses to use.
2	Structure	The ordering of events or ideas in a text. Beginning/shifts and patterns/End. Is the plot chronological, flashback, non-linear? Who is the narrative voice?
3	Inference	Reading between the lines and finding clues in the text.
4	Explicit	Information in the text that is obvious and told to the reader directly.
5	Implicit	Information implied by the text. We need to infer implicit information.
6	Semantic field	A group of words that are about a similar subject. E.G. uniform, textbooks, canteen, whiteboard would be a semantic field related to school.
7	Connotations	An idea or feeling a word invokes for you. E.G. The word 'beach' has connotations for me of sun, sea, sand, ice cream.
8	Anaphora	The repetition of a word or phrase at the beginning of a group of sentences. E.G. We cannot give in, we cannot forgive, we cannot accept this!
9	Asyndeton	Leaving 'and' out of a sentence or a list. E.G. I love sport, I play football, hockey, basketball, badminton.
10	Polysyndeton	This is using 'and' repeatedly in a sentence. E.G. The storm howled and it whipped at trees and it clawed at windows and it tore at the grass.

Week 2 13/09/22	Piece of Information	Answer
1	Exposition	The opening of a story.
2	In media res	Starting in the middle of the action.
3	Narrative	A story.
4	Narrative perspective	The person telling the story (first person/third person/omniscient narrator).
5	Narrative focus	What the text is focusing on in a particular paragraph or point in the story.
6	Setting	Where the narrative is set.
7	Chronological	In time order.
8	Non-chronological	Mixed time order.
9	Shifts in focus	A change from one scene to another. Something different the writer draws the reader's attention to.
10	Foregrounding	To make something the most important feature.

Week 3 20/09/22	Piece of Information	Answer
1	Zoom in	Focusing in on a detail.
2	Zoom out	Zooming out from a detail to a wider view (eg. Panoramic).
3	Tone	Feeling/atmosphere of text. This can change from positive to negative and vice versa.
4	Dialogue	Speech. This can allow us to learn more about the characters who speak.

5	Juxtaposition	Two things being placed next to one another with contrasting effects.
6	Language	The literary or figurative devices used. The types of words or sentences that the writer chooses to use.
7	Structure	The ordering of events or ideas in a text. Beginning/shifts and patterns/End. Is the plot chronological, flashback, non-linear? Who is the narrative voice?
8	Inference	Reading between the lines and finding clues in the text.
9	Explicit	Information in the text that is obvious and told to the reader directly.
10	Implicit	Information implied by the text. We need to infer implicit information.

Week 4 27/09/22	Piece of Information	Answer
1	Analepsis (flashback)	Looking at something which happened in the past.
2	Prolepsis (looking forward)	Looking ahead to something which happens after the time period in the text.
3	Cyclical or circular structure	The text mentions something from the beginning of the text again at the end.
4	Interior to exterior perspective	Moving the view point from inside somewhere to outside, or the other way around.
5	Motif	A recurring or repeated image in a piece of work.
6	Semantic field	A group of words that are about a similar subject. E.G. uniform, textbooks, canteen, whiteboard would be a semantic field related to school.
7	Connotations	An idea or feeling a word invokes for you. E.G. The word ‘beach’ has connotations for me of sun, sea, sand, ice cream.
8	Anaphora	The repetition of a word or phrase at the beginning of a group of sentences. E.G. We cannot give in, we cannot forgive, we cannot accept this!
9	Asyndeton	Leaving ‘and’ out of a sentence or a list. E.G. I love sport, I play football, hockey, basketball, badminton.
10	Polysyndeton	This is using ‘and’ repeatedly in a sentence. E.G. The storm howled and it whipped at trees and it clawed at windows and it tore at the grass.

Week 5 04/10/22	Piece of Information	Answer
1	Stichomythia	A dialogue between two characters, where they speak to one another using only one line sentences.
2	Truncated syntax	A short sentence
3	Polysyndeton	Repeated ‘and’ in a sentence
4	Asyndeton	No use of ‘and’ in a listing sentence
5	Clause	A group of words built around a verb (doing word, such as running, sitting). We put them together to form a sentence.
6	Exposition	The opening of a story.
7	In media res	Starting in the middle of the action.
8	Narrative	A story.
9	Narrative perspective	The person telling the story (first person/third person/omniscient narrator).
10	Narrative focus	What the text is focusing on in a particular paragraph or point in the story.

Week 6 11/10/22	Piece of Information	Answer
1	Independent clause	A clause (group of words), which makes sense on their own in a sentence.
2	Subordinate clause	A clause (group of words), that adds extra information and can't stand alone in a sentence.
3	Complex sentence	Contains more than one idea. It has one independent clause and a subordinate clause.
4	Semicolon	Connects two simple sentences. On either side of the semicolon, the sentence must make sense on its own.
5	Metaphor	A direct comparison of two things without using 'like' or 'as'.
6	Setting	Where the narrative is set.
7	Chronological	In time order.
8	Non-chronological	Mixed time order.
9	Shifts in focus	A change from one scene to another. Something different the writer draws the reader's attention to.
10	Foregrounding	To make something the most important feature.

Week 7 18/10/22	Piece of Information	Answer
1	Simile	Comparing two things using 'like' or 'as'.
2	Personification	Giving of human characteristics to a non-human object.
3	Onomatopoeia	A word (or group of words) that represents a sound and actually resembles or imitates the sound it stands for.
4	Alliteration	The same letter or sound at the start of adjacent words.
5	Oxymoron	A combination of two words that, together, express a contradictory meaning. E.g. "bitter sweet"
6	Zoom in	Focusing in on a detail.
7	Zoom out	Zooming out from a detail to a wider view (eg. Panoramic).
8	Tone	Feeling/atmosphere of text. This can change from positive to negative and vice versa.
9	Dialogue	Speech. This can allow us to learn more about the characters who speak.
10	Juxtaposition	Two things being placed next to one another with contrasting effects.

Week 8 01/11/22	Piece of Information	Answer
1	Sibilance	A figure of speech in which a hissing sound is created within a group of words through the repetition of "s" sounds.
2	Foreshadowing	The use of details, description, and mood that will take on more meaning later in a written work.
3	Juxtaposition	The fact of two things being seen or placed close together with a contrasting effect.
4	Monosyllabic	Words that contain only one syllable.
5	Tricolon	Three words, phrases or sentences that are similar in structure, length and/or rhythm. E.g. 'I will live in the past, the present and the future'.
6	Analepsis (flashback)	Looking at something which happened in the past.
7	Prolepsis (looking forward)	Looking ahead to something which happens after the time period in the text.

8	Cyclical or circular structure	The text mentions something from the beginning of the text again at the end.
9	Interior to exterior perspective	Moving the view point from inside somewhere to outside, or the other way around.
10	Motif	A recurring or repeated image in a piece of work.

Week 9 08/11/22	Piece of Information	Answer
1	Stichomythia	A dialogue between two characters, where they speak to one another using only one line sentences.
2	Truncated syntax	A short sentence
3	Polysyndeton	Repeated ‘and’ in a sentence
4	Asyndeton	No use of ‘and’ in a listing sentence
5	Clause	A group of words built around a verb (doing word, such as running, sitting). We put them together to form a sentence.
6	Independent clause	A clause (group of words), which makes sense on their own in a sentence.
7	Subordinate clause	A clause (group of words), that adds extra information and can’t stand alone in a sentence.
8	Complex sentence	Contains more than one idea. It has one independent clause and a subordinate clause.
9	Semicolon	Connects two simple sentences. On either side of the semicolon, the sentence must make sense on its own.
10	Metaphor	A direct comparison of two things without using ‘like’ or ‘as’.

Week 10 15/11/22	Piece of Information	Answer
1	Simile	Comparing two things using ‘like’ or ‘as’.
2	Personification	Giving of human characteristics to a non-human object.
3	Onomatopoeia	A word (or group of words) that represents a sound and actually resembles or imitates the sound it stands for.
4	Alliteration	The same letter or sound at the start of adjacent words.
5	Oxymoron	A combination of two words that, together, express a contradictory meaning. E.g. “bitter sweet”
6	Sibilance	A figure of speech in which a hissing sound is created within a group of words through the repetition of "s" sounds.
7	Foreshadowing	The use of details, description, and mood that will take on more meaning later in a written work.
8	Juxtaposition	The fact of two things being seen or placed close together with a contrasting effect.
9	Monosyllabic	Words that contain only one syllable.
10	Tricolon	Three words, phrases or sentences that are similar in structure, length and/or rhythm. E.g. ‘I will live in the past, the present and the future’.

English Literature Knowledge Organiser - Tuesdays

Week 1 06/09/22	Piece of Information	Answer
1	Stanza	A group of lines forming the basic recurring metrical unit in a poem; a verse.
2	Enjambment	Continuing a sentence without a pause (such as a comma or full stop) beyond the end of a line, couplet, or stanza.
3	Caesura	A pause using punctuation (such as a full stop, colon, semicolon or comma) in the middle of a line of poetry.
4	Refrain	A phrase, line, or group of lines repeated at intervals throughout a poem, generally at the end of the stanza.
5	Volta	A turn, rhetorical shift or dramatic change in thought and or emotion in a poem.
6	Extract from the Prelude	“One summer evening (led by her)”
7	Extract from the Prelude	“Heaving through the water like a swan”
8	Extract from the Prelude	“Huge and mighty forms...were a trouble to my dreams”
9	Ozymandias	“I met a traveller from an antique land”
10	Ozymandias	“My name is Ozymandias, king of kings: Look on my works, ye Mighty and despair!”

Week 2 13/09/22	Piece of Information	Answer
1	Ozymandias	“The lone and level sands stretch far away.”
2	London	“Marks of weakness, marks of woe.”
3	London	“Every black’ning church appalls”
4	London	“And blights with plagues the marriage hearse.”
5	My Last Duchess	“None puts by The curtain I have drawn for you”
6	My Last Duchess	“She thanked men, - good!”
7	My Last Duchess	“Neptune, though, Taming a sea-horse”
8	The Charge of the Light Brigade	“Someone had blundered:”
9	The Charge of the Light Brigade	“Theirs but to do and die:”
10	The Charge of the Light Brigade	“Into the valley of Death Rode the six hundred”

Week 3 20/09/22	Piece of Information	Answer
1	Exposure	“The merciless iced east winds that knive us”
2	Exposure	“But nothing happens.”
3	Exposure	“Slowly our ghosts drag home:”
4	Storm on the Island	“We are prepared:”

5	Storm on the Island	“Tragic chorus”
6	Stanza	A group of lines forming the basic recurring metrical unit in a poem; a verse.
7	Enjambment	Continuing a sentence without a pause (such as a comma or full stop) beyond the end of a line, couplet, or stanza.
8	Caesura	A pause using punctuation (such as a full stop, colon, semicolon or comma) in the middle of a line of poetry.
9	Refrain	A phrase, line, or group of lines repeated at intervals throughout a poem, generally at the end of the stanza.
10	Volta	A turn, rhetorical shift or dramatic change in thought and or emotion in a poem.

Week 4 27/09/22	Piece of Information	Answer
1	Storm on the Island	“Spits like a tame cat Turned savage.”
2	Bayonet Charge	“Like molten iron”
3	Bayonet Charge	“Cold clockwork of the stars”
4	Bayonet Charge	“King, honour, human, dignity, etcetera”
5	Remains	“Probably armed, possibly not.”
6	Extract from the Prelude	“One summer evening (led by her)”
7	Extract from the Prelude	“Heaving through the water like a swan”
8	Extract from the Prelude	“Huge and mighty forms...were a trouble to my dreams”
9	Ozymandias	“I met a traveller from an antique land”
10	Ozymandias	“My name is Ozymandias, king of kings: Look on my works, ye Mighty and despair!”

Week 5 04/10/22	Piece of Information	Answer
1	Remains	“Dug in behind enemy lines”
2	Remains	“His bloody life in my bloody hands.”
3	Poppies	“Spasms of paper red”
4	Poppies	“The gelled blackthorns of your hair.”
5	Poppies	“All my words flattened, rolled, turned to felt”
6	Ozymandias	“The lone and level sands stretch far away.”
7	London	“Marks of weakness, marks of woe.”
8	London	“Every black’ning church appalls”
9	London	“And blights with plagues the marriage hearse.”
10	My Last Duchess	“None puts by The curtain I have drawn for you”

Week 6 11/10/22	Piece of Information	Answer
1	War Photographer	“Spools of suffering set out in ordered rows.”
2	War Photographer	“Home again to ordinary pain”
3	War Photographer	“A half formed ghost.”
4	Tissue	“What was paid by credit card might fly our lives like paper kites.”
5	Tissue	“Let the daylight break Through capitals and monoliths”
6	My Last Duchess	“She thanked men, - good!”
7	My Last Duchess	“Neptune, though, Taming a sea-horse”
8	The Charge of the Light Brigade	“Someone had blundered:”
9	The Charge of the Light Brigade	“Theirs but to do and die:”
10	The Charge of the Light Brigade	“Into the valley of Death Rode the six hundred”

Week 7 18/10/22	Piece of Information	Answer
1	Tissue	“Raise a structure Never meant to last”
2	The Emigrée	“Time rolls its tanks”
3	The Emigrée	“I can’t get it off my tongue.”
4	The Emigrée	“My shadow falls as evidence of sunlight.”
5	Checking Out Me History	“Blind me to me own identity”
6	Exposure	“The merciless iced east winds that knive us”
7	Exposure	“But nothing happens.”
8	Exposure	“Slowly our ghosts drag home:”
9	Storm on the Island	“We are prepared:”
10	Storm on the Island	“Tragic chorus”

Week 8 01/11/22	Piece of Information	Answer
1	Checking Out Me History	“Mary Seacole…a yellow sunrise to the dying”
2	Checking Out Me History	“Dem tell me / dem tell me / wha dem want to tell me”
3	Kamikaze	“A shaven head full of powerful incantations”
4	Kamikaze	“Fishing boats strung out like bunting”
5	Kamikaze	“He must have wondered which had been the better way to die”
6	Storm on the Island	“Spits like a tame cat Turned savage.”
7	Bayonet Charge	“Like molten iron”
8	Bayonet Charge	“Cold clockwork of the stars”

9	Bayonet Charge	“King, honour, human, dignity, etcetera”
10	Remains	“Probably armed, possibly not.”

Week 9 08/11/22	Piece of Information	Answer
1	Remains	“Dug in behind enemy lines”
2	Remains	“His bloody life in my bloody hands.”
3	Poppies	“Spasms of paper red”
4	Poppies	“The gelled blackthorns of your hair.”
5	Poppies	“All my words flattened, rolled, turned to felt”
6	War Photographer	“Spools of suffering set out in ordered rows.”
7	War Photographer	“Home again to ordinary pain”
8	War Photographer	“A half formed ghost.”
9	Tissue	“What was paid by credit card might fly our lives like paper kites.”
10	Tissue	“Let the daylight break Through capitals and monoliths”

Week 10 15/11/22	Piece of Information	Answer
1	Tissue	“Raise a structure Never meant to last”
2	The Emigrée	“Time rolls its tanks”
3	The Emigrée	“I can’t get it off my tongue.”
4	The Emigrée	“My shadow falls as evidence of sunlight.”
5	Checking Out Me History	“Blind me to me own identity”
6	Checking Out Me History	“Mary Seacole…a yellow sunrise to the dying”
7	Checking Out Me History	“Dem tell me / dem tell me / wha dem want to tell me”
8	Kamikaze	“A shaven head full of powerful incantations”
9	Kamikaze	“Fishing boats strung out like bunting”
10	Kamikaze	“He must have wondered which had been the better way to die”

Character Education

Our vision

Character Education will help you to develop your confidence, compassion, and enable you to contribute effectively to society, be a successful learner and a responsible citizen. By focusing on these character challenges you will also develop self esteem and a better understanding and respect for others, as well as an awareness of wider spiritual and cultural issues. The challenges and experiences listed below will ensure you are able to climb your own personal mountain to the very best universities and professions.

How to earn and record your badges

- For each badge you complete you will need to have them signed off by a member of staff.
- Remember for some of your badges you will need to provide evidence.
- Miss Exton and Miss Blick will then present you with your badge on completion.
- You will update your main Character booklet each week in tutor time.
- You will need to achieve each badge before being awarded the next, for example; you cannot achieve gold if you have not completed the bronze or silver in that badge category.

Ambition - Excellence - Pride

Ambition

Badge	Badge Level	You must…	Achieved?	Staff Signature
Culture *This is a demonstration of ambition because you are working outside of your comfort zone.*	Bronze	Perform your creative talent at school.		
	Silver	Take part in three different events within the following: school drama performance, dance performance, art exhibition, orchestra/ band or a sporting tournament.		
	Gold	Take part in ten or more different events listed above.		
Academia *This is a demonstration of ambition because you are exploring opportunities available to you after Gloucester Academy.*	Bronze	Attend 3 external Higher Academic Events (careers lectures/college/sixth form/university visit).		
	Silver	Visit a Russell Group University.		
	Gold	Successfully secure an offer at a sixth form or college to complete A-Levels / Apprenticeship.		
Futures *This is a demonstration of ambition because you are climbing your own personal mountain to the very best universities and professions.*	Bronze	Take part in a one-to-one interview with a career's advisor.		
	Silver	To produce a high-quality CV checked by SLT/Careers adviser.		
	Gold	To secure a professional work experience placement.		
Literacy *This is a demonstration of ambition because you are expanding your vocabulary.*	Bronze	To read 25 books and complete book reviews.		
	Silver	To read 50 books and complete book reviews.		
	Gold	To read 150 books and complete book reviews.		

Ambition - Excellence - Pride

Excellence

Badge	Badge Level	You must…	Achieved?	Staff Signature
Sport *This is a demonstration of excellence because you are representing your school.*	Bronze	Play in 10 competitive sports matches or competitions for the school team.		
	Silver	Play in 25 competitive sports matches or competitions for the school team.		
	Gold	Play in a competitive sports match or competition regionally or nationally.		
Community *This is a demonstration of excellence because you are helping others.*	Bronze	Be an active member of an in-school community for one unit; GA prep, an enrichment activity or homework support.		
	Silver	Write and propose a new community project to key stakeholders.		
	Gold	Organise and deliver a community project event.		
Leadership *This is a demonstration of excellence because you are being a role model to others.*	Bronze	Be on the student leadership team (sports captain, Character representative, mentor or ambassador).		
	Silver	Have impacted change or improvement as a leader (provide evidence of what you have achieved).		
	Gold	Create and lead your own leadership event.		
Adventure *This is a demonstration of excellence because you have challenged yourself.*	Bronze	Complete a school residential / Outdoor Adventure Activity.		
	Silver	Complete the Duke of Edinburgh BRONZE Award.		
	Gold	Complete the Duke of Edinburgh SILVER Award or Ten Tors challenge.		

Ambition - Excellence - Pride

Pride

Badge	Badge Level	You must…	Achieved?	Staff Signature
Charity *This is a demonstration of pride because you have helped others.*	Bronze	Volunteer 10 hours to the local community or charity.		
	Silver	Organise a charity event and raise more than £100.		
	Gold	Organise a charity event and raise more than £500.		
Commitment *This is a demonstration of pride because you have dedicated time and effort to something you enjoy.*	Bronze	Visit one of the following; art gallery, theatre, museum, concert, ballet, or similar. Or have 100% attendance at an enrichment activity for a unit.		
	Silver	Visit two different places from the above list. Or have 100% attendance at two different enrichment activities for two units.		
	Gold	Visit five of the following; art gallery, theatre, museum, concert, ballet, or similar.Or have 100% attendance at three different enrichment activities for three units.		
Environment *This is a demonstration of pride because you are making the world more eco friendly.*	Bronze	Take part in an event which improves your school environment.		
	Silver	Organise an event which improves your local environment.		
	Gold	Contribute to a national event, or movement which aims to improve the environment.		
Diversity *This is a demonstration of pride because you have celebrated all things that make us unique.*	Bronze	Take part in one event; assembly or festival which celebrates diversity (race, religion, LGBTQI+).		
	Silver	Take part in two events that celebrate two different types of diversity.		
	Gold	Organise an event, festival or assembly which celebrates diversity.		