Gloucester Academy

Unit 1

Class of 2022

Knowledge Organiser

CORE SUBJECTS

Knowledge is power. Information is liberating.

Logins:

School email

Username: _____@gloucesteracademy.co.uk

Password: _____

School computer

Username: _____

Password: _____

hegartymaths.com

Username: _____

Password: _____

Contents:

<h1 style="text-align:center"><u>Homework Guidance:</u></h1>

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 one hour, 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:

<p style="text-align:center">look ☐ repeatedly say aloud ☐ cover ☐ write ☐ check</p>

1**. Identify** the Subject Knowledge Organiser segment for the day you are on. This is on 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 piece of information - we recommend saying it aloud. Repeat this process several times, until you are confident enough to use your practice book 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. There are to be no blank lines in your practice book.

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 (remember to 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 (word for word), tick the attempt and move on to the next piece of information within the weekly segment. You may find that you need to complete a few purple pen attempts before you recall the knowledge point word for word.

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. ✗
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. ✗
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) ✗
10. Dependent variable. The variable that is measured

Homework Timetable:

You are expected to complete at least 30 minutes of homework in your practice book every day as well as three sessions of Hegarty Maths homework per week. Each of these are expected to take up to 30 minutes.

Furthermore you will have 1 hour of structured revision per evening.

We also encourage you to continue to read independently as part of the Reading Challenge.

	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
Knowledge Organiser in your practice book **30 minutes**	Science & Maths	English Language AND English Literature	Choice 1 _____	Choice 2 _____	Choice 3 _____	Choice 4 _____
Hegarty Maths **30 minutes**	✔		✔		✔	
Reading challenge	✔	✔	✔	✔	✔	✔

Self-tracker:

Week	Homework	Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
1 w/c 06/09/21	KO						
	Online						
	Read						
2 w/c 13/09/21	KO						
	Online						
	Read						
3 w/c 20/09//21	KO						
	Online						
	Read						
4 w/c 27/09/21	KO						
	Online						
	Read						
5 w/c 04/10/21	KO						
	Online						
	Read						
6 w/c 11/10/21	KO						
	Online						
	Read						
7 w/c 18/10/21	KO						
	Online						
	Read						
8 w/c 01/11/21	KO						
	Online						
	Read						
9 w/c 08/11/21	KO						
	Online						
	Read						
10 w/c 15/11/21	KO						
	Online						
	Read						

Maths Homework – Hegarty Maths

You will get three hegartymaths.com tasks to complete per week. One on Monday, Wednesday, and Friday. You will have one week to complete each assigned task.

We expect you to complete each task by:
- Watching the video and taking detailed notes in HegartyMaths homework booklet.

- Completing the quiz that follows the video showing full workings in your HegartyMaths booklet.
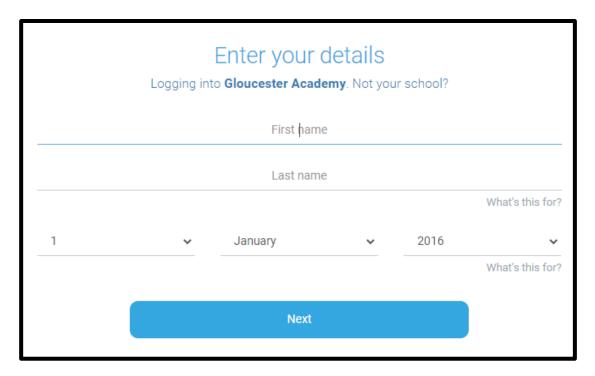
During the quiz if you click the "Get Help" button it takes you to the relevant example in the video. If you want more support there will be lunch time clubs running during the week.

Fix up 5 – If you have completed all your tasks and want to do extra work, click on "Revise" then click "Fix up 5". Here you will get five questions based on what you have got incorrect in the past.

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

How to login
Type in Gloucester Academy, or use the school's postcode GL4 6RN, where it says school name. Enter your name and date of birth. When you log in for the first time you will be asked to create a password, make sure you write this down in the Login Details page at the front of this booklet.

Science Knowledge Organiser - Mondays

Week 1 06/09/21	Piece of Information	Answer
1	Amylase	The enzyme for digesting starch.
2	Atomic number	Number of protons.
3	$E_k = 0.5 \times m \ v^2$	Equation for kinetic Energy

4	Double helix	Structure of a DNA molecule.
5	Positive Test for Hydrogen	Lit splint burns with a pop sound.
6	$W = m\,g$	Equation for weight
7	Independent variable	A factor that we change.
8	Dependent variable	A factor that we measure.
9	Accurate measurement	Close to the true value.
10	Precise measurement	Results cluster closely.

Week 2 13/09/21	Piece of Information	Answer
1	Small Intestine	Where food molecules are absorbed.
2	Mass number.	Number of protons and neutrons.
3	$E_p = m\,g\,h$	Equation for gravitational potential energy.
4	Genome	Entire genetic material
5	Positive Test for Carbon dioxide	Limewater turns cloudy.
6	$W = F \times s$	Equation for work done using force and distance.
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	Reproducible	Similar results are obtained by different investigators with different equipment.

Week 3 20/09/21	Piece of Information	Answer
1	Type 2 Diabetes & CHD	Two diseases related to being overweight.
2	Reduction	The gain of electrons.
3	$E = P\,t$	Equation for energy transferred.
4	Homeostasis	Regulation of internal conditions for optimal enzyme activity.
5	C_nH_{2n+2}	General formula for alkanes.
6	Amylase	The enzyme for digesting starch.
7	Atomic number	Number of protons.
8	$E_k = 0.5 \times m\,v^2$	Equation for kinetic Energy
9	Double helix	Structure of a DNA molecule.
10	Positive Test for Hydrogen	Lit splint burns with a pop sound.

Week 4 27/09/21	Piece of Information	Answer
1	Peer review	Results reviewed by other scientists to help prevent false claims, avoid bias, and make sure that conclusions are valid.

2	Oxidation	The loss of electrons.
3	$W = P\,t$	Equation for Work done using power and time.
4	Variation	Differences in characteristics between individuals of a species.
5	C_nH_{2n}	General formula for alkenes.
6	$W = m\,g$	Equation for weight
7	Independent variable	A factor that we change.
8	Dependent variable	A factor that we measure.
9	Accurate measurement	Close to the true value.
10	Precise measurement	Results cluster closely.

Week 5 04/10/21	Piece of Information	Answer
1	Pulmonary Artery	A vessel that carries deoxygenated blood away from the heart to the lungs.
2	HNO_3	Formula for Nitric acid
3	Useful output energy transfer = efficiency x total input energy transfer	Equation for useful output energy transfer.
4	Biodiversity	The variety of all the different species on Earth.
5	Potable	Water that is safe to drink.
6	Small Intestine	Where food molecules are absorbed.
7	Mass number.	Number of protons and neutrons.
8	$E_p = m\,g\,h$	Equation for gravitational potential energy.
9	Genome	Entire genetic material
10	Positive Test for Carbon dioxide	Limewater turns cloudy.

Week 6 11/10/21	Piece of Information	Answer
1	Right atrium	The chamber in the heart where pacemaker cells are found.
2	Aqueous (Aq)	Dissolved/Forms a solution.
3	Useful power output = efficiency x total power input	Equation for useful power input.
4	Carbon dioxide & Methane	Two greenhouse gases.
5	Test for Pure Water	Boils at 100℃
6	$W = F \times s$	Equation for work done using force and distance.
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	Reproducible	Similar results are obtained by different investigators with different equipment.

Week 7 18/10/21	Piece of Information	Answer
1	Foxgloves	Where the drug digitalis originates from.
2	Atomic weight	The order of the early Periodic Table.
3	$Q = I\,t$	Equation for charge Flow.
4	Charles Darwin	Scientist who proposed the theory of evolution by natural selection.
5	Fractional distillation	Process of separating hydrocarbons in Crude Oil.
6	Type 2 Diabetes & CHD	Two diseases related to being overweight.
7	Reduction	The gain of electrons.
8	$E = P\,t$	Equation for energy transferred.
9	Homeostasis	Regulation of internal conditions for optimal enzyme activity.
10	C_nH_{2n+2}	General formula for alkanes.

Week 8 01/11/21	Piece of Information	Answer
1	Iodine solution	Reagent used to test for Starch.
2	Metal oxide + Carbon dioxide	Two products of thermal decomposition reactions.
3	$V = I\,R$	Equation for voltage.
4	Insulin	Medication used to treat Type 1 Diabetes.
5	Evaporation	Change of state from a liquid to a gas E.g. water to steam.
6	Peer review	Results reviewed by other scientists to help prevent false claims, avoid bias, and make sure that conclusions are valid.
7	Oxidation	The loss of electrons.
8	$W = P\,t$	Equation for Work done using power and time.
9	Variation	Differences in characteristics between individuals of a species.
10	C_nH_{2n}	General formula for alkenes.

Week 9 08/11/21	Piece of Information	Answer
1	Pulmonary Artery	A vessel that carries deoxygenated blood away from the heart to the lungs.
2	HNO_3	Formula for Nitric acid
3	Useful output energy transfer = efficiency x total input energy transfer	Equation for useful output energy transfer.
4	Biodiversity	The variety of all the different species on Earth.
5	Potable	Water that is safe to drink.
6	Right atrium	The chamber in the heart where pacemaker cells are found.
7	Aqueous (Aq)	Dissolved/Forms a solution.
8	Useful power output = efficiency x total power input	Equation for useful power input.
9	Carbon dioxide & Methane	Two greenhouse gases.

	10	Test for Pure Water	Boils at 100°C

Week 10 15/11/21		Piece of Information	Answer
	1	Foxgloves	Where the drug digitalis originates from.
	2	Atomic weight	The order of the early Periodic Table.
	3	$Q = I\,t$	Equation for charge Flow.
	4	Charles Darwin	Scientist who proposed the theory of evolution by natural selection.
	5	Fractional distillation	Process of separating hydrocarbons in Crude Oil.
	6	Iodine solution	Reagent used to test for Starch.
	7	Metal oxide + Carbon dioxide	Two products of thermal decomposition reactions.
	8	$V = I\,R$	Equation for voltage.
	9	Insulin	Medication used to treat Type 1 Diabetes.
	10	Evaporation	Change of state from a liquid to a gas E.g. water to steam.

Maths Knowledge Organiser Foundation - Mondays

Week 1 06/09/21		Piece of Information	Answer
	1	Explain	Write a mathematical statement to show how you got your answer.
	2	Show	All working needs to be shown.
	3	Describe	Write a sentence that explains the features of the situation.
	4	Give a reason	Must be clear and accurate reasons, providing a reason for each stage of working.

5	Calculate	Doesn't mean to use a calculator. Working will be needed.
6	Justify	Shall all working and / or give a written explanation.
7	Simplify	Make the expression easier to understand, e.g. 2a + 3a simplified is 5a.
8	Prove	This is more than *show*. All steps must be present.
9	Prove algebraically	Algebra must be in your answer. All steps need to be present.
10	Geometrical proof	All steps must be present, and reasons must be given.

Week 2 13/09/21	Piece of Information	Answer
1	BIDMAS	Order of operations, Brackets, Indices, Division and Multiplication, Addition and Subtraction.
2	Function	A rule that acts on a number (input) to give an output number.
3	Inverse function	Reverses the effect of the original function.
4	Highest Common Factor (HCF)	Highest factor that is common to two or more numbers.
5	Lowest Common Multiple (LCM)	Lowest multiple that is common to two or more numbers.
6	Term	A number, letter, or a number and a letter multiplied together.
7	Expression	Collection of terms.
8	Collect like terms	Simplifying an expression.
9	Substitution	Replacing letters with numbers.
10	Formula	A general rule that shows the relationship between two variables. Always has an equals sign.

Week 3 20/09/21	Piece of Information	Answer
1	Expand brackets	Multiply each term inside the bracket by each term outside the bracket.
2	Factorise	Write the common factor outside the bracket.
3	Identity	Two expressions are always equal whatever the values.
4	Discrete data	Can only take particular values, E.g. shoe sizes.
5	Continuous data	Measured and can take any value, E.g. length and time.
6	Explain	Write a mathematical statement to show how you got your answer.
7	Show	All working needs to be shown.
8	Describe	Write a sentence that explains the features of the situation.
9	Give a reason	Must be clear and accurate reasons, providing a reason for each stage of working.
10	Calculate	Doesn't mean to use a calculator. Working will be needed.

Week 4 27/09/21	Piece of Information	Answer
1	Outlier	A value in a data set that is much larger or smaller than the other numbers in the set.
2	Correlation	The relationship between sets of data.
3	Variables	Sets of data.
4	Interpolation	Use a line of best fit to predict data values within the range of the data given. It is usually reasonably accurate.
5	Extrapolation	Using a line of best fit to predict data values outside the range of the data given. It may not be accurate.

6	Justify	Shall all working and / or give a written explanation.
7	Simplify	Make the expression easier to understand, e.g. 2a + 3a simplified is 5a.
8	Prove	This is more than *show*. All steps must be present.
9	Prove algebraically	Algebra must be in your answer. All steps need to be present.
10	Geometrical proof	All steps must be present, and reasons must be given.

Week 5 04/10/21	Piece of Information	Answer
1	Numerator	Top of the fraction.
2	Denominator	Bottom of the fraction, how many parts.
3	Improper fraction	Numerator is larger than the denominator.
4	Mixed number	Whole number followed by a fraction.
5	Percentage	Out of 100.
6	BIDMAS	Order of operations, Brackets, Indices, Division and Multiplication, Addition and Subtraction.
7	Function	A rule that acts on a number (input) to give an output number.
8	Inverse function	Reverses the effect of the original function.
9	Highest Common Factor (HCF)	Highest factor that is common to two or more numbers.
10	Lowest Common Multiple (LCM)	Lowest multiple that is common to two or more numbers.

Week 6 11/11/21	Piece of Information	Answer
1	Compound interest	Interest that is calculated on the amount plus previous interest.
2	Simple interest	Interest that is calculated as a percentage of the original amount.
3	Equation	Two things are equal, e.g. 3 x 4 = 12
4	Integer	A positive or negative whole number or zero.
5	Term-to-term rule	How to get from one term to the next.
6	Term	A number, letter, or a number and a letter multiplied together.
7	Expression	Collection of terms.
8	Collect like terms	Simplifying an expression.
9	Substitution	Replacing letters with numbers.
10	Formula	A general rule that shows the relationship between two variables. Always has an equals sign.

Week 7 18/11/21	Piece of Information	Answer
1	Congruent	Two shapes are exactly the same size.
2	Similar	Two shapes are the same shape but may be different sizes.
3	Exterior angle	All exterior angles sum to 360°. Interior angles and exterior angles sum to 180°.
4	Regular polygon	Has all equal sides and all equal interior angles.
5	Irregular polygon	Has unequal sides and unequal interior angles.
6	Expand brackets	Multiply each term inside the bracket by each term outside the bracket.

	7	Factorise	Write the common factor outside the bracket.
	8	Identity	Two expressions are always equal whatever the values.
	9	Discrete data	Can only take particular values, E.g. shoe sizes.
	10	Continuous data	Measured and can take any value, E.g. length and time.

Week 8 01/11/21	Piece of Information	Answer
1	Mean	Total frequency divided by the total number of values.
2	Median	Middle value when the data is written in order.
3	Mode	Most frequent.
4	Range	Largest value - smallest value.
5	Sample	Taken to represent the population.
6	Outlier	A value in a data set that is much larger or smaller than the other numbers in the set.
7	Correlation	The relationship between sets of data.
8	Variables	Sets of data.
9	Interpolation	Use a line of best fit to predict data values within the range of the data given. It is usually reasonably accurate.
10	Extrapolation	Using a line of best fit to predict data values outside the range of the data given. It may not be accurate.

Week 9 08/11/21	Piece of Information	Answer
1	Numerator	Top of the fraction.
2	Denominator	Bottom of the fraction, how many parts.
3	Improper fraction	Numerator is larger than the denominator.
4	Mixed number	Whole number followed by a fraction.
5	Percentage	Out of 100.
6	Compound interest	Interest that is calculated on the amount plus previous interest.
7	Simple interest	Interest that is calculated as a percentage of the original amount.
8	Equation	Two things are equal, e.g. 3 x 4 = 12
9	Integer	A positive or negative whole number or zero.
10	Term-to-term rule	How to get from one term to the next.

Week 10 15/11/21	Piece of Information	Answer
1	Congruent	Two shapes are exactly the same size.
2	Similar	Two shapes are the same shape but may be different sizes.
3	Exterior angle	All exterior angles sum to 360°. Interior angles and exterior angles sum to 180°.
4	Regular polygon	Has all equal sides and all equal interior angles.
5	Irregular polygon	Has unequal sides and unequal interior angles.
6	Mean	Total frequency divided by the total number of values.
7	Median	Middle value when the data is written in order.

8	Mode	Most frequent.
9	Range	Largest value - smallest value.
10	Sample	Taken to represent the population.

Maths Knowledge Organiser Higher - Mondays

Week 1 06/09/21	Piece of Information	Answer
1	Explain	Write a mathematical statement to show how you got your answer.
2	Show	All working needs to be shown.
3	Describe	Write a sentence that explains the features of the situation.
4	Give a reason	Must be clear and accurate reasons, providing a reason for each stage of working.
5	Calculate	Doesn't mean to use a calculator. Working will be needed.

	6	Justify	Shall all working and / or give a written explanation.
	7	Simplify	Make the expression easier to understand, e.g. 2a + 3a simplified is 5a.
	8	Prove	This is more than *show*. All steps must be present.
	9	Prove algebraically	Algebra must be in your answer. All steps need to be present.
	10	Geometrical proof	All steps must be present, and reasons must be given.

Week 2 13/09/21		Piece of Information	Answer
	1	Explain	Write a mathematical statement to show how you got your answer.
	2	Show	All working needed to
	3	Describe	Write a sentence that explains the features of the situation.
	4	Give a reason	Must be clear and accurate reasons, providing a reason for each stage of working.
	5	Calculate	Doesn't mean to use a calculator. Working will be needed.
	6	Justify	Shall all working and / or give a written explanation.
	7	Simplify	Make the expression easier to understand, e.g. 2a + 3a simplified is 5a.
	8	Prove	This is more than *show*. All steps must be present.
	9	Prove algebraically	Algebra must be in your answer. All steps need to be present.
	10	Geometrical proof	All steps must be present, and reasons must be given.

Week 3 20/09/21		Piece of Information	Answer
	1	Expression	Collection of terms.
	2	Subject	A letter on its own on one side of an equation.
	3	Fibonacci	Each number equals the sum of the two previous numbers.
	4	Geometric sequence	Made by multiplying by the same value each time.
	5	Arithmetic sequence	Terms increase (or decrease) by a fixed number called the common difference.
	6	Explain	Write a mathematical statement to show how you got your answer.
	7	Show	All working needs to be shown.
	8	Describe	Write a sentence that explains the features of the situation.
	9	Give a reason	Must be clear and accurate reasons, providing a reason for each stage of working.
	10	Calculate	Doesn't mean to use a calculator. Working will be needed.

Week 4 27/09/21		Piece of Information	Answer
	1	Back-to-back stem and leaf diagram	Compares two data sets of results. On the left hand side the numbers are read backwards.
	2	Frequency polygon	A graph made by plotting the midpoints against the frequency and joining those coordinates.
	3	Modal class	The group with the highest frequency.
	4	Outlier	A value in a data set that is much larger or smaller than the other numbers in the set.
	5	Correlation	The relationship between sets of data.
	6	Justify	Shall all working and / or give a written explanation.

7	Simplify	Make the expression easier to understand, e.g. 2a + 3a simplified is 5a.
8	Prove	This is more than *show*. All steps must be present.
9	Prove algebraically	Algebra must be in your answer. All steps need to be present.
10	Geometrical proof	All steps must be present, and reasons must be given.

Week 5 04/10/21	Piece of Information	Answer
1	Interpolation	Use a line of best fit to predict data values within the range of the data given. It is usually reasonably accurate.
2	Extrapolation	Using a line of best fit to predict data values outside the range of the data given. It may not be accurate.
3	Direct proportion	With two quantities, as one is multiplied by a number, *n*, so is the other. The ratio stays the same as they increase or decrease.
4	Compound interest	Interest that is calculated on the amount plus previous interest.
5	Simple interest	Interest that is calculated as a percentage of the original amount.
6	Explain	Write a mathematical statement to show how you got your answer.
7	Show	All working needed to
8	Describe	Write a sentence that explains the features of the situation.
9	Give a reason	Must be clear and accurate reasons, providing a reason for each stage of working.
10	Calculate	Doesn't mean to use a calculator. Working will be needed.

Week 6 11/10/21	Piece of Information	Answer
1	Percentage change	$\frac{actual\ change}{original\ value}$ x 100
2	Percentage loss (or profit)	$\frac{actual\ loss\ (or\ profit)}{original\ value}$ x 100
3	Depreciates	Loses value.
4	p.a.	Per annum, means each year.
5	VAT	Value Added Tax charged at 20% for most goods and services.
6	Justify	Shall all working and / or give a written explanation.
7	Simplify	Make the expression easier to understand, e.g. 2a + 3a simplified is 5a.
8	Prove	This is more than *show*. All steps must be present.
9	Prove algebraically	Algebra must be in your answer. All steps need to be present.
10	Geometrical proof	All steps must be present, and reasons must be given.

Week 7 18/10/21	Piece of Information	Answer
1	$c^2 = a^2 + b^2$	Pythagoras' Theorem. To find a missing side in a right angle triangle.
2	Hypotenuse	The side in a triangle opposite the right angle, it will also be the longest side. Known as c in Pythagoras' Theorem.
3	Adjacent	The side that is next to the angle, θ.
4	Opposite	The side in a right angle triangle opposite the known angle.
5	$sin\theta = \frac{opposite}{hypotenuse}$	Used in a right angle triangle when either two of the angle and sides opposite & hypotenuse are known, and the other is to be calculated.
6	Expression	Collection of terms.

7	Subject	A letter on its own on one side of an equation.
8	Fibonacci	Each number equals the sum of the two previous numbers.
9	Geometric sequence	Made by multiplying by the same value each time.
10	Arithmetic sequence	Terms increase (or decrease) by a fixed number called the common difference.

Week 8 01/11/21	Piece of Information	Answer
1	$cos\theta = \dfrac{adjacent}{hypotenuse}$	Used in a right angle triangle when either two of the angle and sides adjacent & hypotenuse are known, and the other is to be calculated.
2	$tan\theta = \dfrac{opposite}{adjacent}$	Used in a right angle triangle when either two of the angles and sides opposite & adjacent are known, and the other is to be calculated.
3	Angle of elevation	The angle measured upwards from the horizontal.
4	Angle of depression	The angle measured downwards from the horizontal.
5	Notation	Symbols, e.g. º, θ, =
6	Back-to-back stem and leaf diagram	Compares two data sets of results. On the left hand side the numbers are read backwards.
7	Frequency polygon	A graph made by plotting the midpoints against the frequency and joining those coordinates.
8	Modal class	The group with the highest frequency.
9	Outlier	A value in a data set that is much larger or smaller than the other numbers in the set.
10	Correlation	The relationship between sets of data.

Week 9 08/11/21	Piece of Information	Answer
1	Interpolation	Use a line of best fit to predict data values within the range of the data given. It is usually reasonably accurate.
2	Extrapolation	Using a line of best fit to predict data values outside the range of the data given. It may not be accurate.
3	Direct proportion	With two quantities, as one is multiplied by a number, n, so is the other. The ratio stays the same as they increase or decrease.
4	Compound interest	Interest that is calculated on the amount plus previous interest.
5	Simple interest	Interest that is calculated as a percentage of the original amount.
6	Percentage change	$\dfrac{actual\ change}{original\ value}$x 100
7	Percentage loss (or profit)	$\dfrac{actual\ loss\ (or\ profit)}{original\ value}$x 100
8	Depreciates	Loses value.
9	p.a.	Per annum, means each year.
10	VAT	Value Added Tax charged at 20% for most goods and services.

Week 10 15/11/21	Piece of Information	Answer
1	$c^2 = a^2 + b^2$	Pythagoras' Theorem. To find a missing side in a right angle triangle.
2	Hypotenuse	The side in a triangle opposite the right angle, it will also be the longest side. Known as c in Pythagoras' Theorem.
3	Adjacent	The side that is next to the angle, θ.
4	Opposite	The side in a right angle triangle opposite the known angle.
5	$sin\theta = \dfrac{opposite}{hypotenuse}$	Used in a right angle triangle when either two of the angle and sides opposite & hypotenuse are known, and the other is to be calculated.

6	$cos\theta = \dfrac{adjacent}{hypotenuse}$		Used in a right angle triangle when either two of the angle and sides adjacent & hypotenuse are known, and the other is to be calculated.
7	$tan\theta = \dfrac{opposite}{adjacent}$		Used in a right angle triangle when either two of the angles and sides opposite & adjacent are known, and the other is to be calculated.
8	Angle of elevation		The angle measured upwards from the horizontal.
9	Angle of depression		The angle measured downwards from the horizontal.
10	Notation		Symbols, e.g. º, θ, =

English Language Knowledge Organiser - Tuesdays

Week 1 07/09/21		Piece of Information	Answer
	1	Simile	Comparing two things using 'like' or 'as'.
	2	Metaphor	A direct comparison of two things without using 'like' or 'as'.
	3	Alliteration	The same letter or sound at the start of adjacent words.

4	Personification	Giving of human characteristics to a non-human object.
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	Onomatopoeia	A word (or group of words) that represents a sound and actually resembles or imitates the sound it stands for.
8	Pathetic fallacy	A type of personification where emotions are given to a setting, an object or the weather.
9	Plosives	A speech sound where words begin with the following letters: *t*, *k*, *p*, *d*, *g*, and *b*.
10	Irony	This is where words or ideas are used humorously or sarcastically, to imply the opposite of what they mean.

Week 2 14/09/21	Piece of Information	Answer
1	Stanza	A group of lines forming the basic recurring metrical unit in a poem.
2	Volta	A rhetorical shift or dramatic change in thought and/or emotion in a poem.
3	Enjambment	Where a sentence continues beyond the end of the line or verse.
4	Caesura	A break or pause in the middle of a line of verse.
5	Iambic pentameter	The construction of a line of poetry with five sets of unstressed syllables followed by stressed syllables.
6	Couplet	1. A pair of successive lines of verse, typically rhyming and of the same length. Successive means following one another.
7	Elegy	A song or poem expressing sorrow or lamentation especially for one who is dead.
8	Refrain	A word, line or phrase that is repeated within the lines or stanzas of the poem itself.
9	Ellipsis	The omission of words whose absence does not impede the reader's ability to understand the expression.
10	Imperative command	A sentence is used to issue a command, instruction or request.

Week 3 21/09/21	Piece of Information	Answer
1	Assonance	The repetition of internal vowel sounds in words that do not end the same. E.g. "He fell asleep under the cherry tree".
2	Asyndeton	The omission or absence of a conjunction between parts of a sentence, as in: *I came, I saw, I conquered*.
3	Polysyndeton	The use of several conjunctions such as and, or, for, and but to join together clauses in a sentence.
4	Colloquial language	Words and sentences that are written in a casual and conversational manner.
5	Hyperbole	Exaggerated statements.
6	Simile	Comparing two things using 'like' or 'as'.
7	Metaphor	A direct comparison of two things without using 'like' or 'as'.
8	Alliteration	The same letter or sound at the start of adjacent words.
9	Personification	Giving of human characteristics to a non-human object.
10	Oxymoron	A combination of two words that, together, express a contradictory meaning. E.g. "bitter sweet"

Week 4 28/09/21	Piece of Information	Answer
1	Allusion	When an author or poet makes an indirect reference to some idea, figure, other text, place or event that originates from outside the text.
2	Euphemism	A word or phrase used to avoid saying an unpleasant or offensive word.
3	Foreshadowing	The use of details, description, and mood that will take on more meaning later in a written work.
4	Semantic field	A group of words that all link to the same topic.
5	Blank verse	Poetry written with a precise meter—almost always iambic pentameter—but that does not rhyme.
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	Onomatopoeia	A word (or group of words) that represents a sound and actually resembles or imitates the sound it stands for.
8	Pathetic fallacy	A type of personification where emotions are given to a setting, an object or the weather.
9	Plosives	A speech sound where words begin with the following letters: *t, k, p, d, g,* and *b.*
10	Irony	This is where words or ideas are used humorously or sarcastically, to imply the opposite of what they mean.

Week 5 05/10/21	Piece of Information	Answer
1	Anecdote	A short story used to make a larger point. It adds a storytelling touch to your explanatory or persuasive writing—connecting your ideas to real life.
2	Personal pronouns	A short word we use as a simple substitute for the proper name of a person. E.g. you, he, she, it, we they, me, him, her, us.
3	Direct address	When a speaker is talking personally to an individual or group.
4	Anaphora	Repetition of a word or expression at the beginning of a group of sentences.
5	Analogy	A comparison between one thing and another, typically for the purpose of explanation or clarification.
6	Stanza	A group of lines forming the basic recurring metrical unit in a poem.
7	Volta	A rhetorical shift or dramatic change in thought and/or emotion in a poem.
8	Enjambment	Where a sentence continues beyond the end of the line or verse.
9	Caesura	A break or pause in the middle of a line of verse.
10	Iambic pentameter	The construction of a line of poetry with five sets of unstressed syllables followed by stressed syllables.

Week 6 12/10/21	Piece of Information	Answer
1	Dramatic monologue	1. A poem in the form of a speech or narrative by an imagined person, where the speaker reveals aspects of their character.
2	Biblical allusion	A reference within a literary work to a story, idea, or event that is related in the Bible.
3	Consonance	A resemblance in sound between two words.
4	In media res	A Latin expression that refers to a story, or the action of a play that starts without any introduction.
5	Realism	Paintings, films, books, etc. that try to represent life as it really is.

6	Couplet	2. A pair of successive lines of verse, typically rhyming and of the same length. Successive means following one another.
7	Elegy	A song or poem expressing sorrow or lamentation especially for one who is dead.
8	Refrain	A word, line or phrase that is repeated within the lines or stanzas of the poem itself.
9	Ellipsis	The omission of words whose absence does not impede the reader's ability to understand the expression.
10	Imperative command	A sentence is used to issue a command, instruction or request.

Week 7 19/10/21	Piece of Information	Answer
1	End stopped line	A line of poetry ending in a full pause, usually indicated with a full stop or semicolon.
2	Aside	A remark or passage in a play that is intended to be heard by the audience but unheard by the other characters in the play.
3	Dialect	This is a version of a language spoken by people in a particular geographical area.
4	Juxtaposition	The fact of two things being seen or placed close together with a contrasting effect.
5	Monosyllabic	Words that contain only one syllable.
6	Assonance	The repetition of internal vowel sounds in words that do not end the same. E.g. "He fell asleep under the cherry tree".
7	Asyndeton	The omission or absence of a conjunction between parts of a sentence, as in: *I came, I saw, I conquered.*
8	Polysyndeton	The use of several conjunctions such as and, or, for, and but to join together clauses in a sentence.
9	Colloquial language	Words and sentences that are written in a casual and conversational manner.
10	Hyperbole	Exaggerated statements.

Week 8 02/11/21	Piece of Information	Answer
1	Hypophora	When a speaker poses a question and then answers the question.
2	Diacope	When a writer repeats a word or phrase with one or more words in between. E.g. 'To be, or not to be.'
3	Antithesis	A person or thing that is the direct opposite of someone or something else.
4	Epizeuxis	The immediate repetition of words or phrases without any intervening words. E.g. 'The horror, the horror'.
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	Allusion	When an author or poet makes an indirect reference to some idea, figure, other text, place or event that originates from outside the text.
7	Euphemism	A word or phrase used to avoid saying an unpleasant or offensive word.
8	Foreshadowing	The use of details, description, and mood that will take on more meaning later in a written work.
9	Semantic field	A group of words that all link to the same topic.
10	Blank verse	Poetry written with a precise meter—almost always iambic pentameter—but that does not rhyme.

Week 9	Piece of Information	Answer

09/11/21		
1	Anecdote	A short story used to make a larger point. It adds a storytelling touch to your explanatory or persuasive writing—connecting your ideas to real life.
2	Personal pronouns	A short word we use as a simple substitute for the proper name of a person. E.g.: you, he, she, it, we they, me, him, her, us.
3	Direct address	When a speaker is talking personally to an individual or group.
4	Anaphora	Repetition of a word or expression at the beginning of a group of sentences.
5	Analogy	A comparison between one thing and another, typically for the purpose of explanation or clarification.
6	Dramatic monologue	2. A poem in the form of a speech or narrative by an imagined person, where the speaker reveals aspects of their character.
7	Biblical allusion	A reference within a literary work to a story, idea, or event that is related in the Bible.
8	Consonance	A resemblance in sound between two words.
9	In media res	A Latin expression that refers to a story, or the action of a play that starts without any introduction.
10	Realism	Paintings, films, books, etc. that try to represent life as it really is.

Week 10 16/11/21	Piece of Information	Answer
1	End stopped line	A line of poetry ending in a full pause, usually indicated with a full stop or semicolon.
2	Aside	A remark or passage in a play that is intended to be heard by the audience but unheard by the other characters in the play.
3	Dialect	This is a version of a language spoken by people in a particular geographical area.
4	Juxtaposition	The fact of two things being seen or placed close together with a contrasting effect.
5	Monosyllabic	Words that contain only one syllable.
6	Hypophora	When a speaker poses a question and then answers the question.
7	Diacope	When a writer repeats a word or phrase with one or more words in between. E.g.: 'To be, or not to be.'
8	Antithesis	A person or thing that is the direct opposite of someone or something else.
9	Epizeuxis	The immediate repetition of words or phrases without any intervening words. E.g.: 'The horror, the horror'.
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 07/09/21	Piece of Information	Answer
1	Mr Birling	He does not show any consideration for working class people. He sees them as a means to increase profits, whilst offering them low wages.
2	Mrs Birling	She represents the wealthier, privileged classes and their ignorant and selfish attitudes. She sees the working class as morally inferior.

3	Sheila	She contrasts her parents: she shows genuine concern for Eva. She offers the audience hope that society can improve if people show social responsibility.
4	Eric	At the start of the play, he abuses his power over a working class girl. As the play progresses he accepts responsibility and is ashamed of his behaviour.
5	Eva	Symbolic of the working class who are exploited by capitalists. Priestley emphasises her morality to challenge upper class prejudices.
6	The Inspector	He conveys Priestley's strong socialist views. He challenges the characters, and the audience, about their negative treatment of the working class.
7	Gerald	He represents the selfish attitudes of the upper classes. His attitude doesn't change, conveying how ingrained this attitude was in the aristocracy.
8	Bourgeoisie	The part of society, including employers and people who run large companies, that has most of the money and takes advantage of ordinary workers.
9	Proletariat	The class of people who do unskilled jobs in industry and own little or no property.
10	Capitalism	A system in which property, business, and industry are privately owned, so great profits go only to their organisations and people

Week 2 14/09/21	Piece of Information	Answer
1	Socialism	The set of beliefs that states that all people are equal and should share equally in a country's money.
2	Individualistic	Placing your attention on one particular person (E.g.: yourself) rather than a group or society.
3	Materialistic	Believing that having money and possessions is the most important thing in life.
4	Microcosm	A small society, place, or activity which has all the typical features of a much larger one and so seems like a smaller version of it.
5	Patriarchy	A male dominated hierarchy
6	Portent	A sign that something bad is likely to happen in the future.
7	Conscience	A sense of right or wrong
8	Hierarchy	A system in which people or things are put at various levels or ranks according to their importance.
9	Omniscient	Having or seeming to have unlimited knowledge, knowing everything.
10	Didactic	Something (such as a novel or poem) that is intended to teach a moral lesson as well as provide pleasure and entertainment.

Week 3 21/09/21	Piece of Information	Answer
1	Hypocrite	Someone who says they have particular moral beliefs but behaves in a way that shows these are not sincere.
2	Mouth piece	Someone or something that conveys the opinions and sentiments of someone else.
3	Bigoted	A person who has strong, unreasonable beliefs and who does not like other people who have different beliefs or a different way of life.
4	Assertive	Having or showing a confident and forceful personality.
5	Altruistic	Showing a selfless concern for the well-being of others, to be unselfish.
6	Mr Birling	He does not show any consideration for working class people. He sees them as a means to increase profits, whilst offering them low wages.
7	Mrs Birling	She represents the wealthier, privileged classes and their ignorant and selfish attitudes. She sees the working class as morally inferior.
8	Sheila	She contrasts her parents: she shows genuine concern for Eva. She offers the audience hope that society can improve if people show social responsibility.
9	Eric	At the start of the play, he abuses his power over a working class girl. As the play progresses he accepts responsibility and is ashamed of his behaviour.

10	Eva	Symbolic of the working class who are exploited by capitalists. Priestley emphasises her morality to challenge upper class prejudices.

Week 4 28/09/21	Piece of Information	Answer
1	Exploitation	The action or fact of treating someone unfairly in order to benefit from their work.
2	Rose tinted glasses (idiom)	A happy or positive attitude that fails to notice negative things, leading to a view of life that is not realistic.
3	Superior	Having or showing an overly high opinion of oneself, also known as being conceited.
4	Condescending	Treating someone as if you are more important or more intelligent than them.
5	Culpable	Deserving to be blamed or considered responsible for something bad.
6	The Inspector	He conveys Priestley's strong socialist views. He challenges the characters, and the audience, about their negative treatment of the working class.
7	Gerald	He represents the selfish attitudes of the upper classes. His attitude doesn't change, conveying how ingrained this attitude was in the aristocracy.
8	Bourgeoisie	The part of society, including employers and people who run large companies, that has most of the money and takes advantage of ordinary workers.
9	Proletariat	The class of people who do unskilled jobs in industry and own little or no property.
10	Capitalism	A system in which property, business, and industry are privately owned, so great profits go only to their organisations and people

Week 5 05/10/21	Piece of Information	Answer
1	Suffragette movement	A women's organization in the early 20th century who, under the banner "Votes for Women", fought for the right to vote.
2	Welfare State	Where the Government protects the health and well-being of its citizens, especially those in financial or social need, with grants and other benefits.
3	Edwardian era	When King Edward VII was King. It was known for elegance and luxury among the rich and powerful in Britain, but also for moral looseness.
4	The Titanic	The largest, luxury ship afloat at the time she entered service. She was sunk by an iceberg on her first voyage from England to New York.
5	Class system	Different groups of people who share similar status with regard to factors like wealth, income, education, and occupation.
6	Socialism	The set of beliefs that states that all people are equal and should share equally in a country's money.
7	Individualistic	Placing your attention on one particular person E.g. yourself rather than a group or society.
8	Materialistic	Believing that having money and possessions is the most important thing in life.
9	Microcosm	A small society, place, or activity which has all the typical features of a much larger one and so seems like a smaller version of it.
10	Patriarchy	A male dominated hierarchy

Week 6 12/10/21	Piece of Information	Answer
1	Euphemism	A way of avoiding saying something unpleasant by using other, often more vague, words.
2	Objectify	To treat a person like a tool or toy, as if they had no feelings, opinions, or rights of their own.
3	Remorseful	Feeling sad and guilty
4	Dogmatic	When you are certain that you are right and that everyone else is wrong.

	5	Impetuous	Likely to do something suddenly, without considering the results of your actions.
	6	Portent	A sign that something bad is likely to happen in the future.
	7	Conscience	A sense of right or wrong
	8	Hierarchy	A system in which people or things are put at various levels or ranks according to their importance.
	9	Omniscient	Having or seeming to have unlimited knowledge, knowing everything.
	10	Didactic	Something (such as a novel or poem) that is intended to teach a moral lesson as well as provide pleasure and entertainment.

Week 7 19/10/21		Piece of Information	Answer
	1	Infantile	A characteristic shown by babies and young children.
	2	Omnipotent	Having unlimited power and able to do anything.
	3	Dogged	Being determined to do something even if it is very difficult, showing grim persistence.
	4	Authoritative	Showing that you are confident, in control, and expect to be respected and obeyed.
	5	Façade	A false appearance that makes someone or something seem more pleasant or better than they really are.
	6	Hypocrite	Someone who says they have particular moral beliefs but behaves in a way that shows these are not sincere.
	7	Mouth piece	Someone or something that conveys the opinions and sentiments of someone else.
	8	Bigoted	A person who has strong, unreasonable beliefs and who does not like other people who have different beliefs or a different way of life.
	9	Assertive	Having or showing a confident and forceful personality.
	10	Altruistic	Showing a selfless concern for the well-being of others, to be unselfish.

Week 8 02/11/21		Piece of Information	Answer
	1	The fourth wall	An imaginary barrier that separates the actors from the audience. If you break it, an actor will speak directly to the audience or be aware of their presence.
	2	Cliff hanger	A dramatic and exciting ending to a chapter, episode or act of a play, leaving the audience in suspense and anxious to know what will happen next.
	3	Morality play	An allegorical drama, in which the characters personify moral qualities (such as compassion and honesty) or vices (such as greed and arrogance).
	4	Seven deadly sins	(In Christianity) the evils of pride, covetousness (desire for material possessions), lust, anger, gluttony (greed), envy, and sloth (laziness).
	5	Symbolism	An image, icon or object used to represent ideas, feelings or concepts E.g. a snake represents evil due to the story of Adam and Eve in the bible.
	6	Exploitation	The action or fact of treating someone unfairly in order to benefit from their work.
	7	Rose tinted glasses (idiom)	A happy or positive attitude that fails to notice negative things, leading to a view of life that is not realistic.
	8	Superior	Having or showing an overly high opinion of oneself, also known as being conceited.
	9	Condescending	Treating someone as if you are more important or more intelligent than them.
	10	Culpable	Deserving to be blamed or considered responsible for something bad.

Week 9 09/11/21	Piece of Information	Answer
1	Suffragette movement	A women's organization in the early 20th century who, under the banner "Votes for Women", fought for the right to vote.
2	Welfare State	Where the Government protects the health and well-being of its citizens, especially those in financial or social need, with grants and other benefits.
3	Edwardian era	When King Edward VII was King. It was known for elegance and luxury among the rich and powerful in Britain, but also for moral looseness.
4	The Titanic	The largest, luxury ship afloat at the time she entered service. She was sunk by an iceberg on her first voyage from England to New York.
5	Class system	Different groups of people who share similar status with regard to factors like wealth, income, education, and occupation.
6	Euphemism	A way of avoiding saying something unpleasant by using other, often more vague, words.
7	Objectify	To treat a person like a tool or toy, as if they had no feelings, opinions, or rights of their own.
8	Remorseful	Feeling sad and guilty
9	Dogmatic	When you are certain that you are right and that everyone else is wrong.
10	Impetuous	Likely to do something suddenly, without considering the results of your actions.

Week 10 16/11/21	Piece of Information	Answer
1	Infantile	A characteristic shown by babies and young children.
2	Omnipotent	Having unlimited power and able to do anything.
3	Dogged	Being determined to do something even if it is very difficult, showing grim persistence.
4	Authoritative	Showing that you are confident, in control, and expect to be respected and obeyed.
5	Façade	A false appearance that makes someone or something seem more pleasant or better than they really are.
6	The fourth wall	An imaginary barrier that separates the actors from the audience. If you break it, an actor will speak directly to the audience or be aware of their presence.
7	Cliff hanger	A dramatic and exciting ending to a chapter, episode or act of a play, leaving the audience in suspense and anxious to know what will happen next.
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10	Symbolism	An image, icon or object used to represent ideas, feelings or concepts E.g. a snake represents evil due to the story of Adam and Eve in the bible.