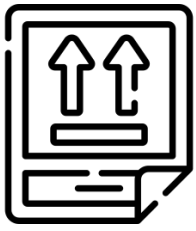
The Rudheath Senior Academy

Powerful Knowledge Booklet

Year 10
Spring Term 2- HT2

Look, Cover, Write, Check: How to Effectively Learn and Recall Powerful Knowledge

	Pick a **section** of your powerful knowledge sheet and **read it aloud or write it down** several times. Try to pick a section you're least confident with.
	**Cover up the section** you want to test yourself on, either with a piece of paper or turn the page over so you can't read the content beneath.
	**Write out the powerful knowledge** you can recall on a separate piece of paper. Trying to recall the knowledge out loud can also be effective.
	**Check the knowledge** you have recalled against your powerful knowledge sheet and repeat until you are confident recalling the section. Aim to spend **10 minutes** on this at a time

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English Powerful Knowledge- An Inspector Calls

Vocabulary	Definition
Capitalism	Economic and political system, in which a country's trade and industry are controlled by private owners for profit.
Socialism	Economic and political theory which supports production, distribution and exchange should be owned by a community as a whole (shared resources).
Omniscient	All knowing
Prejudice	A preconceived opinion which is not based on reason or actual experience
Moralistic	Making moral judgements about the behaviour of others
Narcissistic	Having or showing an excessive interest in oneself and one's physical appearance
Misogynistic	Strongly prejudiced against women
Bourgeoisie	Middle-class, typically with reference to perceived materialistic values/attitudes
Hubris	Excessive pride
Hypocrisy	Claiming to have higher standards or beliefs than you actually do
Humanitarian	A person who seeks to promote human welfare

Technique	Definition
Dramatic Irony	When the audience know more than the characters
Foreshadowing	A warning or indication of a future event
Euphemism	A mild or indirect word/phrase which is substituted for one which is considered too harsh
Colloquial Language	Informal language
Symbolism	The use of objects/characters to represent ideas or qualities
Fragmented Speech	Broken up speech
The Three Unities	A set of principles for dramatic structure that govern the action, time and place of a play

Context

Post-War Britain: Written in 1945 but set in 1912, the play contrasts the pre-WWI optimism and rigid class system with the realities of two world wars and societal change, highlighting the need for collective responsibility.

Socialism vs. Capitalism: Priestley, a socialist, critiques capitalist greed and individualism, advocating for social equality and collective welfare. This reflects the growing call for change in post-war Britain, including the establishment of the welfare state.

Class and Inequality: The play exposes the exploitation of the working class by the upper classes, using Eva Smith as a symbol of the oppressed and the Birlings as representatives of privilege and moral failure.

Generational Divide: Priestley emphasizes the hope for change through the younger generation (Sheila and Eric), contrasting their growing sense of responsibility with the stubbornness of their parents.

"Opening Children's Eyes to the Wonderful World of Possibility"

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Maths Powerful Knowledge

Key Terms

Ratio: a statement of how two numbers compare
Equivalent: of equal value
Proportion: a statement that links two ratios
Integer: whole number, can be positive, negative or zero
Fraction: represents how many parts of a whole
Denominator: the number below the line on a fraction. The number represent the total number of parts.
Numerator: the number above the line on a fraction. The top number. Represents how many parts are taken
Origin: (0,0) on a graph. The point the two axes cross
Gradient: The steepness of a line

Compare with ratio (R)

"For every dog there are 2 cats"

Dogs: Cats

1:2

The ratio has to be written in the same order as the information is given.
e.g. 2:1 would represent 2 dogs for every 1 cat.

Units have the be of the same value to compare ratios

Ratios and fraction (R)

Trees: Flowers

3 : 7

Trees

Flowers

Ratio

Fraction of trees

Number of parts of in group / Total number of parts

3/10

Fraction

Sharing a whole into a given ratio (R)

James and Lucy share £350 in the ratio 3:4
Work out how much each person earns

Model the Question

James: Lucy

3 : 4

James

Lucy

£350

Find the value of one part

Whole: £350
7 parts to share between
(3 James, 4 Lucy)

£350 ÷ 7 = £50

□ - one part
= £50

Put back into the question

James: Lucy

x50 3 : 4 x50

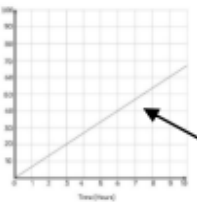
£150:£200

James = 3 x £50 = £150

Lucy = 4 x £50 = £200

£350

Ratio and graphs (R)



Graphs with a constant ratio are directly proportional
- Form a straight line
- Pass through (0,0)

The gradient is the constant ratio

Ratio and scale (R)

A picture of a car is drawn with a scale of 1:30

The car image is 10cm

Image : Real life
1cm : 30cm
10cm : 300cm
(x10, x30)

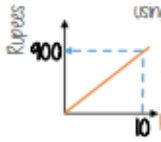
Conversion between currencies (R)

£1 = 90 Rupees ← Currency is directly proportional

For every £1 I have 90 Rupees

£1 = 90 Rupees
£10 = 900 Rupees
(x10, x10)

Currency can be converted using a conversion graph



Convert 630 Rupees into Pounds

£1 = 90 Rupees
£7 = 630 Rupees
(x7, x7)
630 ÷ 90 = 7

Ratios in 1n and n:1

This is asking you to cancel down until the part indicated represents 1

Show the ratio 4:20 in the ratio of 1n

The question states that **this part has to be 1** unit. Therefore **Divide by 4**

4 : 20
1 : 5

This side has to be divided by 4 too – to keep in **proportion**

the n part does not have to be an integer for this type of question

Best buys

4 pens costs £2.60

10 pens costs £6.00

"1 pen costs..." £2.60 ÷ 4 = **£0.65** | £6.00 ÷ 10 = **£0.60**

"1 pound buys..." 4 ÷ 2.60 = **1.54 pens** | 10 ÷ 6 = **1.67 pens**

You could work out how much 40 pens are and then compare

Compare the solution in the context of the question

The best value has the lowest cost "per pen"

The best value means £1 buys you more pens

Combining ratios

B R G

The ratio of Blue counters to Red counters is 5:3

The ratio of Red counters to Green counters is 2:1

Ratio of Blue to Red to Green

10 : 6 : 3

Use equivalent ratios to allow comparison of the group that is common to both statements

Lowest common multiple of the ratio both statements share

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Maths Powerful Knowledge

Key Terms

Exponent: how many times we use a number in multiplication It is written as a power
Compound interest: calculating interest on both the amount plus previous interest
Depreciation: a decrease in the value of something over time.
Growth: where a value increases in proportion to its current value such as doubling
Decay: the process of reducing an amount by a consistent percentage rate over time.
Multiplier: the number you are multiplying by
Equivalent: of equal value

Compare FDP

Comparisons are easier in the same format

$\frac{70}{100}$ → This also means 70 ÷ 100 → 70 out of 100 squares → 70 "hundredths" = 7 "tenths" = 0.7 → 70 hundredths = 70%

Using a calculator: S⇌D Convert to a decimal

This will give you the answer in the simplest form

× 100 converts to a percentage

Be careful of recurring decimals
e.g. $\frac{1}{3}$ = 0.3333333 = $0.\dot{3}$
The dot above the 3

Fraction/ Percentage of amount

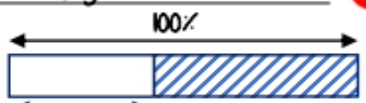
Find $\frac{3}{5}$ of £60

Remember $\frac{3}{5}$ = 60%

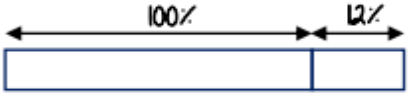
10% of £60 = £6
50% of £60 = £30
60% of £60 = £36

Remember
$\frac{3}{5}$ = 60% = 0.6
60% of £60
= 0.6 × 60
= £36

Percentage increase/decrease



100% − 58% = 42%
100 − 0.58 = 0.42
Multiplier: Less than 1



100% + 12% = 112%
100 + 0.12 = 1.12
Multiplier: More than 1

Express as a percentage

27 per every 50 shaded → $\frac{27}{50}$
54 per every 100 shaded → $\frac{54}{100}$
54%

$\frac{13}{30}$ → ⇌ → $\frac{13}{30}$ × 100 → 43.3333...%
43%

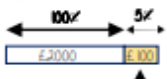
Can't use equivalence easily to find 'per hundred'

Decimal percentages are still a percentage

Simple and compound interest

Simple Interest

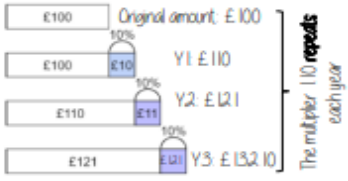
James invests £2000 at 5% simple interest



The original value increases by this amount every year

Compound Interest

Tess invests £100 at 10% compound interest for 3 years



Repeated percentage change

Compound Interest

Tess invests £100 at 10% compound interest for 3 years

£100 × 1.10 × 1.10 × 1.10
= £100 × 1.10 (3)

Original amount | Repeated multiplier | Number of occurrences

Depreciation

Depreciation calculations use multipliers **less than** 1

Multipliers are commutative – an overall multiplier effect can be calculated by combining the multipliers separately

e.g. Increase of 10% then a reduction of 10%
1.10 × 0.9 = 0.99 The multiplier

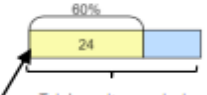
Find the original value

Percentage calculations

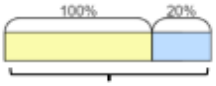
Original amount × Multiplier = Final Value

In a test Lucy scored 60% of her questions correctly Her score was 24. How many questions were on the test.

Original × 0.6 = 24
24 ÷ 0.6 = 40 marks
10% = 6
100% = 40



A car sold for a profit £3000 with a profit of 20%. How much was the car originally?



Original × 1.2 = 3000
120% = £3000
10% = £250
100% = £2500

Growth and decay

Compound growth | Compound decay

Compound growth and compound decay are exponential graphs

Decay – the values get closer to 0
The constant multiplier is less than one

Growth – the values increase exponentially
The constant multiplier is more than one

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Maths Powerful Knowledge

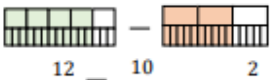
Key Terms

Event: one or more outcomes from an experiment
Outcome: the result of an experiment
Intersection: elements (parts) that are common to both sets
Union: the combination of elements in two sets
Expected Value: the value/ outcome that a prediction would suggest you will get
Universal Set: the set that has all the elements
Systematic: ordering values or outcomes with a strategy and sequence
Product: the answer when two or more values are multiplied together

Odd, Subtract and multiply fractions

Addition and Subtraction

$\frac{4}{5} - \frac{2}{3}$



$\frac{12}{15} - \frac{10}{15} = \frac{2}{15}$

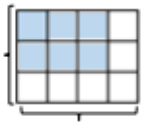
Use equivalent fractions to find a common multiple for both denominators

Multiplication

$\frac{3}{4} \times \frac{2}{3}$

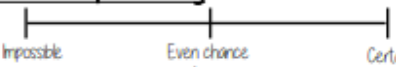
$\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$ ← Parts shaded

Modelled:



Total number of parts in the diagram

Likeliness of a probability



The more likely an event the further up the probability it will be in comparison to another event. (It will have a probability closer to 1)

Sum to 1

Probability is always a value between 0 and 1

The probability of getting a blue ball is $\frac{1}{5}$

∴ The probability of **NOT** getting a blue ball is $\frac{4}{5}$

The sum of the probabilities is 1

Experimental data

Theoretical probability — What we expect to happen

Experimental probability — What actually happens when we try it out

The more trials that are completed the closer experimental probability and theoretical probability become

The probability becomes more accurate with more trials.
Theoretical probability is proportional

Sample space

The possible outcomes from rolling a dice

The possible outcomes from tossing a coin

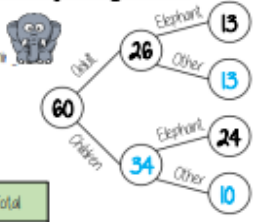
	1	2	3	4	5	6
H	1,H	2,H	3,H	4,H	5,H	6,H
T	1,T	2,T	3,T	4,T	5,T	6,T

P (Even number and tales) = $\frac{3}{12}$

Tables, Venn diagrams, Frequency trees

Frequency trees

60 people visited the zoo one Saturday morning. 26 of them were adults. 13 of the adult's favourite animal was an elephant. 24 of the children's favourite animal was an elephant.



Frequency trees and two-way tables can show the same information

The total columns on two-way tables show the possible denominators

P(adult) = $\frac{26}{60}$

P(Child with favourite animal as elephant) = $\frac{13}{37}$

Two-way table

	Adult	Child	Total
Elephant	13	24	37
Other	13	10	23
Total	26	34	60

Venn diagram

in set A AND set B	in set A OR set B	in set A	NOT in set A
$P(A \cap B)$	$P(A \cup B)$	$P(A)$	$P(A')$

Independent events

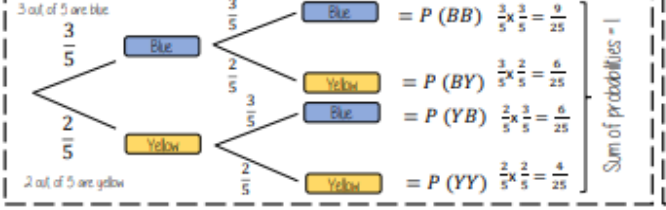
The outcome of two events happening. The outcome of the first event has no bearing on the outcome of the other

$P(A \text{ and } B) = P(A) \times P(B)$

Tree diagram for independent event

Isabel has a bag with 3 blue counters and 2 yellow. She picks a counter and replaces it before the second pick.

Because they are replaced the second pick has the same probability

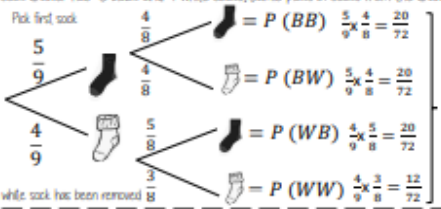


Dependent events

The outcome of the first event has an impact on the second event

Tree diagram for dependent event

A sock drawer has: 5 black and 4 white socks. Jamie picks 2 socks from the drawer



NOTE: as "socks" are removed from the drawer the number of items in that drawer is also reduced ∴ the denominator is also reduced for the second pick.

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Our values: Excellence & Kindness

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Reactions of metals

The **reactivity** of a metal is how chemically reactive it is. When added to water, some metals react very vigorously – these metals have *high* reactivity. Other metals will barely react with water or acid, or won't react at all – these metals have *low* reactivity.

Reactivity series

The reactivity series places metals in order of their reactivity.

Sometimes, for example in the table below, hydrogen and carbon are included in the series, even though they are non-metals.

Reaction with water	Reaction with acid	Reactivity series: Metal	Reactivity series: Reactivity	Extraction method
fizzes, gives off hydrogen gas	explodes	potassium	high reactivity	electrolysis
		sodium		
		lithium		
	fizzes, gives off hydrogen gas	calcium		
reacts very slowly		magnesium		
		aluminium		
		(carbon)		
		zinc		
		iron		reduction with carbon
no reaction	reacts slowly with warm acid	tin		
		lead		
		(hydrogen)		
	no reaction	copper		
		silver		mined from the Earth's crust
		gold	low reactivity	

Decreasing reactivity

Metal extraction

Some metals, like gold, are so unreactive that they are found as pure metals in the Earth's crust and can be mined.

Most metals exist as compounds in rock and have to be extracted from the rock. If there is enough metal compound in the rock to be worth extracting it is called an **ore**.

Metals that are less reactive than carbon can be extracted by reduction with carbon. For example:

iron oxide + carbon → iron + carbon dioxide

Metals that are more reactive than carbon can be extracted using a process called **electrolysis**.

Reduction and oxidation

If a substance gains oxygen in a reaction, it has been **oxidised**.

If a substance loses oxygen in a reaction, it has been **reduced**.

For example:

iron + oxygen → iron oxide

iron has been oxidised

iron oxide + carbon → iron + carbon dioxide

iron oxide has been reduced

Salts

When acids react with metals or metal compounds, they form salts. A salt is a compound where the hydrogen from an acid has been replaced by a metal. For example nitric acid, HNO_3, reacts with sodium to form $NaNO_3$. The H in nitric acid is replaced with Na.

The table shows how to name salts.

Acid	hydrochloric acid	sulfuric acid	nitric acid
Formula	HCl	H_2SO_4	HNO_3
Ions formed in solution	H^+ and Cl^-	$2H^+$ and SO_4^{2-}	H^+ and NO_3^-
Type of salt formed	metal chloride	metal sulfate	metal nitrate
Sodium salt example	sodium chloride, NaCl	sodium sulfate, Na_2SO_4	sodium nitrate, $NaNO_3$

Displacement reactions

In a **displacement** reaction a *more* reactive element takes the place of a *less* reactive element in a compound.

For example:

copper sulfate + iron → iron sulfate + copper

$CuSO_4(aq) + Fe(s) \rightarrow FeSO_4(aq) + Cu(s)$

Iron is more reactive than copper, so iron displaces the copper in copper sulfate.

Reactivity and ions

A metal's reactivity depends on how readily it forms an **ion** by losing electrons.

In the displacement reaction of copper sulfate and iron, iron forms an ion more easily than copper.

At the end of the reaction you are left with iron ions, not copper ions.

Ionic equations (HT only)

When an ionic compound is dissolved in a solution, we can write the compound as its separate ions. For example, $CuSO_4(aq)$ can be written as $Cu^{2+}(aq)$ and $SO_4^{2-}(aq)$.

The displacement reaction of copper sulfate and iron can be written as:

$Fe(s) + Cu^{2+}(aq) + SO_4^{2-}(aq) \rightarrow Fe^{2+}(aq) + SO_4^{2-}(aq) + Cu(s)$

The SO_4^{2-} is unchanged in the reaction – it is a **spectator ion**. Spectator ions are removed from the equation to give an **ionic equation**:

$Fe(s) + Cu^{2+}(aq) \rightarrow Fe^{2+}(aq) + Cu(s)$

Metals, covalent substances, and solid ionic substances do not split into ions in the ionic equation.

Steps for writing an ionic equation (HT only)

1. check symbol equation is balanced
2. identify all aqueous ionic compounds
3. write those compounds out as ions
4. remove spectator ions.

Half equations (HT only)

In the displacement reaction, an iron atom loses two electrons to form a iron ion:

$Fe(s) \rightarrow Fe^{2+}(aq) + 2e^-$

A copper ion gains two electrons to form a copper atom:

$Cu^{2+}(aq) + 2e^- \rightarrow Cu(s)$

These two equations are called **half equations** – they each show half of the ionic equation.

Reduction and oxidation: electrons (HT only)

Oxidation and reduction (**redox** reactions) can be defined in terms of oxygen, but can also be defined as the loss or gain of electrons.

Oxidation is the *loss* of electrons, and reduction is the *gain* of electrons.

In the example displacement reaction:

- iron atoms have been oxidised
- copper ions have been reduced.

Acids and alkalis

Acids are compounds that, when dissolved in water, release H^+ ions. There are three main acids: sulfuric acid H_2SO_4, nitric acid HNO_3, and hydrochloric acid HCl.

Alkalis are compounds that, when dissolved in water, release OH^- ions.

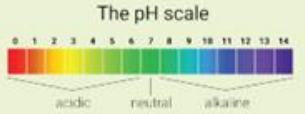
The **pH** scale is a measure of acidity and alkalinity. It runs from 1 to 14.

- Aqueous solutions with pH < 7 are acidic.
- Aqueous solutions with pH > 7 are alkaline.
- Aqueous solutions with pH = 7 are neutral.

Indicators

Indicators can show if something is an acid or an alkali.

- **Universal indicator** can also tell us the approximate pH of a solution.
- Electronic pH probes can give us the exact pH of a solution.



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Systems

A **system** is an object or group of objects.

Whenever anything changes in a system, energy is transferred between its stores or to the surroundings.

A **closed system** is one where no energy can escape to or enter from the surroundings. The total energy in a closed system never changes.

Energy stores

kinetic	energy an object has because it is moving
gravitational potential	energy an object has because of its height above the ground
elastic potential	energy an elastic object has when it is stretched or compressed
thermal (or internal)	energy an object has because of its temperature (the total kinetic and potential energy of the particles in the object)
chemical	energy that can be transferred by chemical reactions involving foods, fuels, and the chemicals in batteries
nuclear	energy stored in the nucleus of an atom
magnetic	energy a magnetic object has when it is near a magnet or in a magnetic field
electrostatic	energy a charged object has when near another charged object

Energy transfers

Energy can be transferred to and from different stores by:

Heating
Energy is transferred from one object to another object with a lower temperature.

Waves
Waves (e.g., light and sound) can transfer energy.

Electricity
An electric current transfers energy.

Forces (mechanical work)
Energy is transferred when a force moves or changes the shape of an object.

Examples of energy transfers

When you stretch a rubber band, energy from your chemical store is mechanically transferred to the rubber band's elastic potential store.

When a block is dropped from a height, energy is mechanically transferred (by the force of gravity) from the block's gravitational potential store to its kinetic store.

When this block hits the ground, energy from its kinetic energy store is transferred mechanically and by sound waves to the thermal energy store of the surroundings.

The electric current in a kettle transfers energy to the heating element's thermal energy store. Energy is then transferred by heating from the heating element's thermal energy store to the thermal energy store of the water.

When an object slows down due to friction, energy is mechanically transferred from the object's kinetic store to its thermal store, the thermal store of the object it is rubbing against, and to the surroundings.

Work done

When an object is moved by a force **work** is done on the object. The force transfers energy to the object. The amount of energy transferred is equal to the work done. You can calculate the work done (and the energy transferred) using the equation:

(L) work done (J) = force (N) x distance moved along the line of action of the force (m)

Calculating the energy in an energy store

An object's gravitational potential energy store depends on its height above the ground, the gravitational field strength, and its mass.

gravitational potential energy (J) = mass (kg) × gravitational field strength (N/kg) × height (m)

(L) $E_p = m\,g\,h$

An object's kinetic energy store depends only on its mass and speed.

kinetic energy (J) = 0.5 × mass (kg) × (speed)^2 (m/s)

(L) $E_k = \frac{1}{2} m\,v^2$

The elastic potential energy store of a stretched spring can be calculated using:

elastic potential energy (J) = 0.5 × spring constant (N/m) × (extension)^2 (m)

$E_e = \frac{1}{2} k\,e^2$ (assuming the limit of proportionality has not been exceeded)

Power is how much work is done (or how much energy is transferred) per second. The unit of power is the watt (W).

1 watt = 1 joule of energy transferred per second

power (W) = $\frac{\text{energy transferred (J)}}{\text{time (s)}}$

(L) $P = \frac{E}{t}$

or

power (W) = $\frac{\text{work done (J)}}{\text{time (s)}}$

$P = \frac{W}{t}$

Useful and dissipated energy

Energy cannot be created or destroyed – it can only be transferred usefully, stored, or dissipated (wasted).

Energy is never entirely transferred usefully – some energy is always dissipated, meaning it is transferred to less useful stores.

All energy eventually ends up transferred to the thermal energy store of the surroundings.

In machines, work done against the force of friction usually causes energy to be wasted because energy is transferred to the thermal store of the machine and its surroundings.

Lubrication is a way of reducing unwanted energy transfer due to friction.

Streamlining is a way of reducing energy wasted due to air resistance or drag in water.

Use of thermal insulation is a way of reducing energy wasted due to heat dissipated to the surroundings.

Efficiency is a measure of how much energy is transferred usefully. You must know the equation to calculate efficiency as a *decimal*:

(L) efficiency = $\frac{\text{useful output energy transfer (J)}}{\text{total input energy transfer (J)}}$

or

efficiency = $\frac{\text{useful power output (W)}}{\text{total power input (W)}}$

To give efficiency as a *percentage*, just multiply the result from the above calculation by 100 and add the % sign to the answer.

Key terms

Make sure you can write a definition for these key terms.

chemical, closed system, dissipated, efficiency, elastic potential, electrostatic, gravitational potential, kinetic, lubrication, magnetic, nuclear, power, streamlining, system, thermal, work done

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GCSE History Paper 2: Early Elizabethan England KT2: Challenges at Home and Abroad

Key Terms

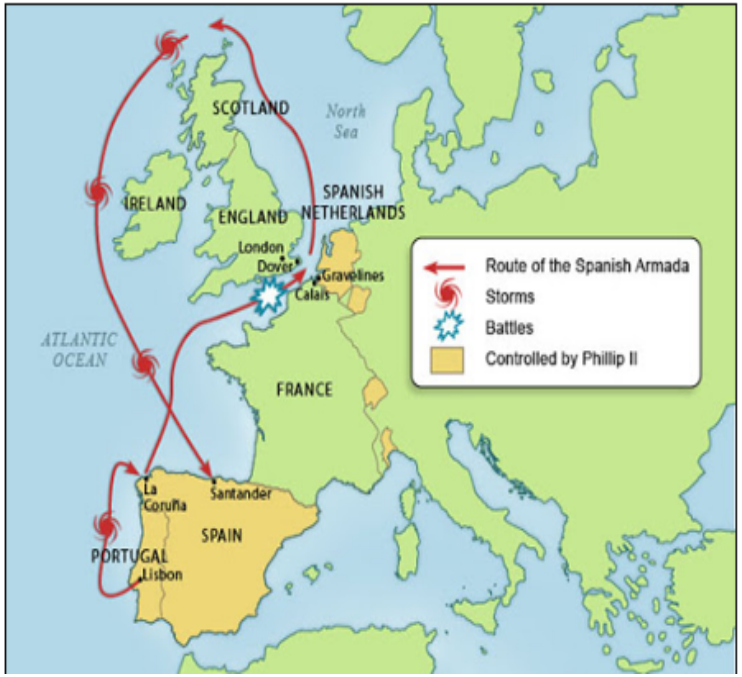
Revolt of the Northern Earls		Privateers	Pirates whose activities are legal and in service of the Crown
Revolt	An uprising or rebellion against the monarch	**The Spanish Armada**	
Earl	A senior noble who played an important role in governing England	Gravelines	A town on the border of France and the Spanish Netherlands
Mass	A Catholic church service	Galleon	Large but slow fighting ships used by the Spanish
The Catholic Plots		Fleet	The group of ships
Plot	A planned rebellion or attack – normally one which is not carried out	Fire Ships	Unmanned ships loaded with explosives and sent into the Spanish fleet
Double Agent	Someone who pretends to be on one side but is actually on the other	**Reasons for the Failure of the Armada**	
Spymaster	Francis Walsingham, Elizabeth's chief spy responsible for her security	Cadiz	Spain's main western port – the site of much of the Armada preparations
Jesuits	Extreme Catholics carrying out the wishes of the Pope	Tilbury	The south-eastern port from where Elizabeth spoke and inspired her fleet
Incriminate	To find evidence of someone's involvement in a crime	Admiral	The most senior commander of a fleet
Reasons for the Spanish Armada		Comptroller	Someone who supervises the financing and organisation of a project
New World	The continents of North and South America – dominated by Spain	Gloriana	The image of Elizabeth as divine, powerful and in control

Question types

'Describe two features of…' [4]
(2 x 2 = 4 marks total)
Identify 2 features and support with evidence.
Useful phrases: "One feature was…"
"For example …."

'Explain why…' [12]
3 PEE paragraphs about the reasons for an event/change/threat. The paragraphs must show a link to the question.
Useful phrases: "This shows that…because…"
"Another reason is…this is because…"

'How far do you agree..' [16]
A balanced answer discussing both sides of the argument with an overall conclusion.
Useful phrases: "It is debatable whether…"
"Some might agree that…"
"This is shown by…"



Sample exam questions

'Describe two features of the Revolt of the Northern Earls in 1569'. [4]
'Describe two features of the Ridolfi Plot of 1571'. [4]
'Describe two features of the Throckmorton Plot of 1583'. [4]
'Describe two features of the Babington Plot of 1586'. [4]
'Describe two features of the Walsingham's methods of catching Catholic plotters'. [4]
'Describe two features of the execution of Mary, Queen of Scots in 1587'. [4]
'Describe two features of English involvement in the Spanish Netherlands'. [4]
'Describe two features of Spanish preparations for the Armada'. [4]
'Describe two features of Drake's raid on Cadiz'. [4]
'Describe two features of the Spanish plan to invade England in 1588'. [4]
'Describe two features of the English defence against the Armada in 1588'. [4]
'Describe two features of the leadership of the English fleet in 1588'. [4]
'Describe two features of the Spanish fleet in 1588'. [4]

'Explain why the Revolt of the Northern Earls took place in 1569'. [12]
'Explain why the Ridolfi Plot of 1571 increased tension between Protestants and Catholics.' [12]
'Explain why the Throckmorton Plot of 1583 was a threat to Elizabeth'. [12]
'Explain why Sir Francis Walsingham was effective at dealing with Catholic plots between 1573 and 1586'. [12]
'Explain why Philip II ordered the invasion of England in 1588'. [12]
'Explain why Elizabeth authorised intervention in the Netherlands between 1578 and 1588'. [12]
'Explain why the Spanish Armada was defeated in 1588'. [12]

"'Political grievances were the main cause of the Revolt of the Northern Earls in 1569". How far do you agree? [16]
"The Babington Plot was the greatest threat to Elizabeth's rule in the period 1569-86". How far do you agree? [16]
"The execution of Mary, Queen of Scots was the main reason for the Spanish Armada in 1588". How far do you agree? [16]
"Effective leadership was the main reason for English victory over the Spanish Armada in 1588". How far you do you agree? [16]

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GCSE History Paper 2: Early Elizabethan England KT2: Challenges at Home and Abroad

Lord Charles Howard

Lord Howard was a cousin of Queen Elizabeth and Earl of Nottingham. Through his family connections he achieved the rank of Lord High Admiral of the English fleet. However, he was a natural born leader with an excellent tactical mind, and was a deserving leader of the English defence. His most notable contribution to the defeat of the Armada was the decision to send fire ships towards the Spanish fleet. He was responsible for the larger part of England's fleet.

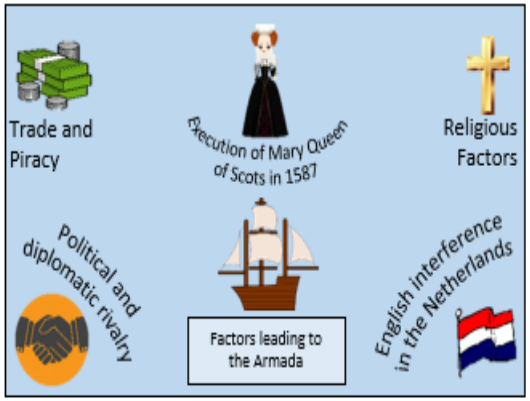
Sir Francis Drake

Sir Francis Drake was the greatest sailor alive. He was the first captain to successfully circumnavigate the globe in 1580, and inspired such terror in the Spanish that they nicknamed him 'El Draque' – the Dragon. He had been very successful in stealing Spanish treasure and had made Elizabeth lots of money – one notable capture paid off England's entire national debt. He was born to humble origins but rose up the ranks through his talent. His men adored him. He was second in command of England's forces.

Duke of Medina Sidonia

Medina Sidonia was not a natural choice to lead an invasion fleet. He had never fought at sea before and complained of seasickness and colds. His own mother wrote a letter to the king complaining of the appointment. However, he was very wealthy and powerful, and proved to be an excellent planner – his preparations for the Armada were superb. Ultimately, his inexperience in battle proved to be costly as a number of mistakes and missed opportunities helped contribute to the Spanish defeat.

Factors leading to the Armada



Reasons for defeat of the Spanish Armada

English

- Excellent leadership
- Drake's actions in Cadiz causing disruption and delay
- Innovative English tactics such as fire ships
- Home advantage – knowledge of the local area
- More effective weapons

Spanish

- Poor leadership – lack of experience and lack of flexibility
- Complicated plan
- Lack of communication
- Impractical tactics and weapons

Neither

- The wind and stormy seas

Reasons for the Revolt of the Northern Earls

Political

Elizabeth had weakened many northern nobles by removing land and power. The Council of the North, not traditional nobility, had taken over government of the north. They also demanded Elizabeth remove her 'evil councillors'.

Religious

The Catholic Northern Earls began the rebellion with a mass. They wore Catholic emblems and demanded a return to Catholicism and an end to Mary, Queen of Scots' imprisonment, planning to marry her to the Catholic Duke of Norfolk.

Personal

Many nobles were facing financial hardship as a result of their loss of land. They also feared punishment for planning the Norfolk wedding so rebelled out of desperation. Many of the rebels acted rashly and without thinking.

Reasons for the failure of the Revolt of the Northern Earls

Lack of strong leadership	The Earls of Northumberland and Westmorland were not capable leaders, and panicked.
Lack of clear plan	The earls couldn't decide if they wanted Mary to immediately replace Elizabeth, or just be named as her heir.
Lack of domestic support	The leaders' appeal to other Catholic nobles was ineffective.
Lack of foreign support	The three key Catholic powers – Spain, France, and the Pope, failed to offer their support for the revolt.
Decisive response	Elizabeth raised a large army commanded by Sussex.

The Catholic Plots against Elizabeth 1571-1586

The Ridolfi Plot 1571

Plan:
Mary, Queen of Scots used an Italian banker called Roberto Ridolfi to attempt to coordinate an invasion of England by the Pope and Philip II of Spain. An invasion from the Netherlands led by the Spanish Duke of Alva would restore Catholicism, and the Catholic Duke of Norfolk would marry Mary, who would become queen.

What happened?
Ridolfi met with Alva but Spain wouldn't commit to supporting the plan until Elizabeth had already been overthrown. Elizabeth's spies found details of the plot and arrested the Duke of Norfolk. The plot fell apart.

Outcome:
The Duke of Norfolk was executed. The plot increased fears of Catholic interference in Elizabeth's reign and she came under pressure to take a tougher stance.

The Throckmorton Plot 1583

Plan:
The plan, probably concocted by an English Catholic called Francis Throckmorton, was for a simultaneous Catholic uprising in England and an invasion by the French Duke of Guise, all financed with Spanish money. The plot would put Mary on the throne, restore Catholicism and potentially kill Elizabeth.

What happened?
Throckmorton's house was searched by Elizabeth's spies. A list of English Catholic sympathisers was found, including some in Elizabeth's court. The plot never got anywhere as expected Spanish funding never arrived.

Outcome:
Elizabeth's advisors began to actively search for Mary's involvement in plots, as they felt that they would never stop while she lived. Spanish ambassador was expelled.

The Babington Plot 1586

Plot:
Sir Anthony Babington wrote to Mary, who was unaware she was under surveillance, with a plan for a foreign Catholic invasion of England, the installation of Mary on the throne, and crucially, the murder of Elizabeth.

What happened?
Mary responded to the letters, and Elizabeth's spies allowed the correspondence to continue. Eventually, Mary wrote in a letter details of Elizabeth's assassination. Satisfied she could no longer deny her guilt, Elizabeth's spies arrested Mary for treason.

Outcome:
Most of the plotters were rounded up and immediately executed. After months of delay, Elizabeth signed Mary's death warrant and she too was executed.

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Geography Powerful Knowledge

Unit 2a

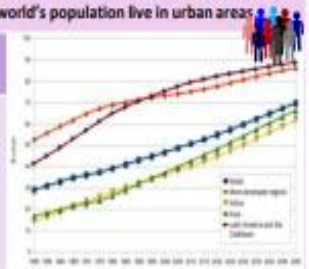
Urban Issues & Challenges

What is Urbanisation?

This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than 50 % of the world's population live in urban areas.

Where is Urbanisation happening?

Urbanisation is happening all over the word but in LICs and NEEs rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.



Causes of Urbanisation

Rural - urban migration (1) — The movement of people from rural to urban areas.

Push

- Natural disasters
- War and Conflict
- Mechanisation
- Drought
- Lack of employment

Pull

- More Jobs
- Better education & healthcare
- Increased quality of life.
- Following family members.

Natural Increase (2) — When the birth rate exceeds the death rate.

Increase in birth rate (BR)

- High percentage of population are child-bearing age which leads to high fertility rate.
- Lack of contraception or education about family planning.

Lower death rate (DR)

- Higher life expectancy due to better living conditions and diet.
- Improved medical facilities helps lower infant mortality rate.

Types of Cities

Megacity — An urban area with over **10 million people** living there.

More than two thirds of current megacities are located in either NEEs (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.

Sustainable Urban Living

Sustainable urban living means being able to live in cities in ways that do not pollute the environment and using resources in ways that ensure future generations also can use then.

Water Conservation

This is about reducing the amount of water used.

- Collecting rainwater for gardens and flushing toilets.
- Installing water meters and toilets that flush less water.
- Educating people on using less water.

Energy Conservation

Using less fossil fuels can reduce the rate of climate change.

- Promoting renewable energy sources.
- Making homes more energy efficient.
- Encouraging people to use energy.

Creating Green Space

Creating green spaces in urban areas can improve places for people who want to live there.

- Provide natural cooler areas for people to relax in.
- Encourages people to exercise.
- Reduces the risk of flooding from surface runoff.

Waste Recycling

More recycling means fewer resources are used. Less waste reduces the amount that eventually goes to landfill.

- Collection of household waste.
- More local recycling facilities.
- Greater awareness of the benefits in recycling.

Sustainable Urban Living Example: Curitiba

Background & Location

Capital of Parana State in south east Brazil. Suffered expected problems from rapid urban growth: unemployment, congestion, lack of services, favelas.

Sustainable Strategies

- Transport – speedy eco-buses (4000 passengers per bus per day)
- Parks – 28 parks/open spaces
- Housing – site & service (like Rio)
- Waste – 2/3 recycled
- Economy – CIC built – 50,000 jobs, 150,000 indirect jobs

Greenbelt

This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.

Brownfield Site

Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

Traffic Management

Urban areas are busy places with many people travelling by different modes of transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.

Environmental problems

- Traffic increases air pollution which releases greenhouse gases that is leading to climate change.

Economic problems

- Congestion can make people late for work and business deliveries take longer. This can cause companies to loose money.

Social Problems

- There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.

Congestion Solutions

- Widen roads
- Build ring roads and bypasses to keep through traffic out of city centres.
- Introduce park and ride
- Encourage car-sharing schemes
- Have public transport, cycle lanes & cycle hire schemes.
- Having congestion charges discourages drivers from entering the busy city centres.

Traffic Management Example: Leeds

- Guided bus routes on A64 Crossgates to city centre
- Modern, cleaner bendy buses in city centre
- New Park & Ride at Elland Road (1 of 7 around Ring Road)
- Car Share Priority Lanes on Ring Road in East Leeds
- Free bus pass for people in Harehills (poverty)
- Priority parking for electric cars
- Congestion Charge proposed for city
- Pedestrian zones in centre
- 20mph zones around schools/residential areas
- Urban Traffic Control (UTC) – up-to-date traffic info
- Bus only lanes through Headingley (student area) into city and Universities
- Clean Air Zone for Leeds approved

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Connectives/Conjunctions

- **y** – and
- **también** – also
- **o** – or
- **con** – with
- **porque** – because
- **ya que** – because
- **si** – if
- **pero** – but
- **sin embargo** – however
- **al otro lado**– on the other hand
- **aunque** – yet/however
- **mientras que** – whilst
- **además** – furthermore
- **como** – like, as
- **por ejemplo** – for example
- **entonces** – so/therefore
- **así que** – so/therefore
- **afortunadamente** – fortunately
- **desafortunadamente** – unfortunately
- **debido a** – because of
- **gracias a** – thanks to

Sequencing words

- **primero** - firstly
- **entonces** – then
- **luego** – next
- **después**– after
- **más tarde** – later
- **finalmente** - finally

Positive opinions

- **Me encanta** – I love
- **Me gusta** – I like
- **Me gusta mucho** – I really like
- **Prefiero** – I prefer
- **Me mola** – I love
- **Me chifla** – I love
- **Me interesa** – I'm interested in
- **Lo que me gusta es** – What I like is
- **Lo mejor es** – The best thing is
- **Me encantaba** – I loved
- **Me gustaba** – I liked

Negative opinions

- **Odio** – I hate
- **No me gusta** – I don't like
- **No me gusta nada** – I don't like at all
- **Detesto** – I loathe
- **No aguanto** – I can't stand
- **¡No es para mí** – It's not my thing/cup of tea!
- **Estoy en contra** – I am against
- **Odiaba** – I hated

Adverbs / Qualifiers

- **muy** – very
- **bastante** – quite
- **sumamente** – really
- **un poco** – a bit
- **mucho** – lots
- **demasiado** – too much
- **así** - rather
- **siempre** - always
- **tan** – so
- **muchísimo** – extremely

Giving an opinion

- **En mi opinión** – In my opinion
- **Pienso que** – I think that
- **Encuentro que** – I find that
- **Creo que** – I believe that
- **Desde mi punto de vista** – According to me
- **Para mí** – For me

Positive adjectives

- **fantástico/a** - fantastic
- **genial** - great
- **fenomenal** – great
- **bueno/a** - good
- **interesante** – interesting
- **importante** - important
- **entretenido/a** – fun
- **asombroso/a** – brilliant/amazing
- **increíble** – incredible
- **emocionante** – exciting
- **impresionante** – impressive
- **agradable** - nice
- **útil** – useful
- **práctico/a** – practical
- **fácil** - easy
- **delicioso/a** – delicious
- **guapo/a** – beautiful/attractive

Negative adjectives

- **malo/a**- rubbish
- **monótono/a** – boring
- **tedioso/a** - boring
- **soso/a** - stupid
- **fatigante**- tiring
- **horroso/a** – awful
- **molesto** – annoying
- **un rollo** – annoying / a pain
- **desagradable** – unpleasant
- **espantoso/a** -scary/frightening
- **inútil** – useless/pointless
- **difícil** - difficult
- **asqueroso/a** – disgusting
- **feo/a** - ugly

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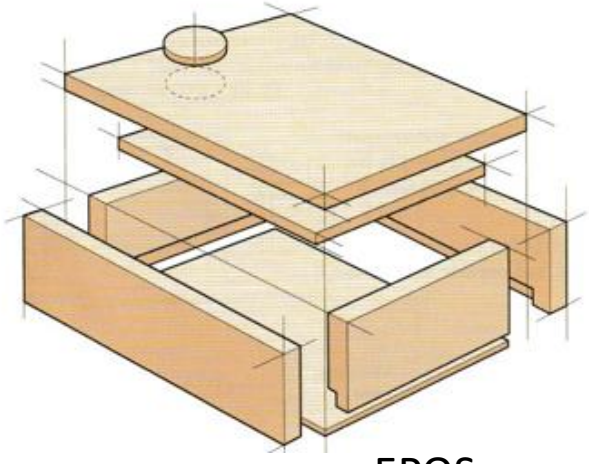
Design & Technology Powerful Knowledge

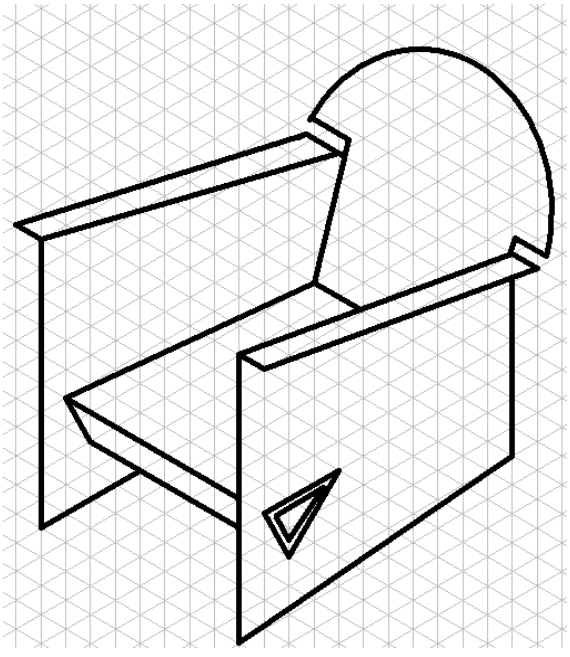
Designing for a purpose.

During this term students will be looking designing a piece of 'Flatpack Self Assembly Furniture'. They will be looking at and developing models and a prototype from various materials,

Looking at :

- Product Safety
- Standards that have to be met When designing a product.
- The kite mark
- Quality Control
- Quality Assurance
- How to draw an Exploded view.
- How to draw and construct a prototype
  Card model of your chair.
- How to draw an Isometric CAD drawing.





EPOS

Electronic point of sale

The CE mark

The BSI kitemark

Music Powerful Knowledge

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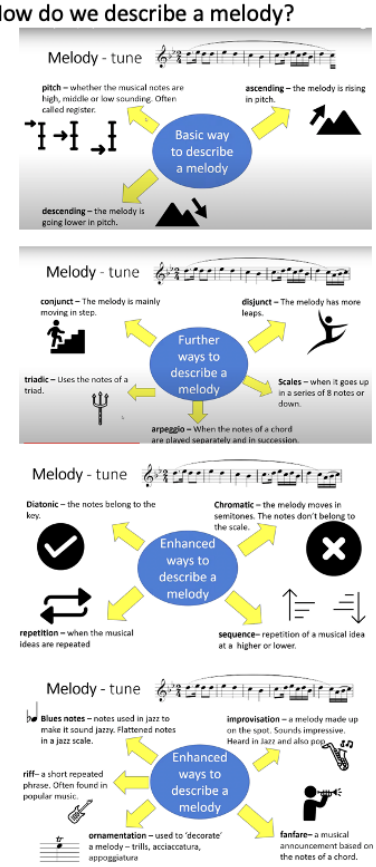
What are we learning about?

A. How do we describe a melody?
B. Keywords
C. How do I practice Score analysis?
D. How do you identify a Chord within a Score for multiple instruments?
E. Where do we find Cadences?
F. Self-Assessment

Keywords for this Half Term

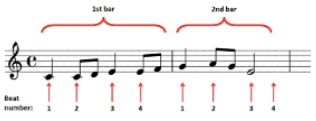
Ascending / Descending
Oboe
Bassoon
Anacrusis
Flute
Inversion
Stab Chords
French Horn
Cadence

A:
How do we describe a melody?



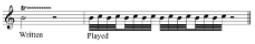
B:	Keywords
Ascending / Descending	Movement up and down
Oboe	High pitched woodwind instrument with a Reed
Bassoon	Low pitched woodwind instrument with a Reed
Anacrusis	Upbeat to a piece of Music
Flute	High pitched woodwind instrument
Inversion	Type of change related to a Chord or difference in Pitch
Stab Chords	Very sudden quick Chord
French Horn	Circular Brass instrument
Cadence	Ending of a Phrase

C:
How do I practice Score analysis?



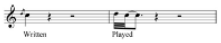
Ornaments

Trill Rapid alternation between two notes.

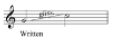


Appoggiatura the grace note takes half the value of the main note and often the note above or below

Acciaccatura a very quick note before the main note



Glissando a slide between two notes

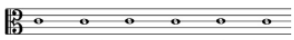


Key

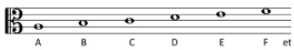
Order of Flats and Sharps

D:
How do you identify a Chord within a Score for multiple instruments?

Alto clef A middle register. Used for viola mainly.

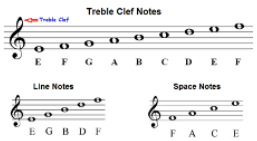


When the C Clef is around the center line of the staff, it is called the alto clef. All notes on the 3rd line will be middle C.



All the other notes on the staff will count up and down alphabetically from middle C.

Treble clef A high register overall. Used for instruments such as flute, violin



Bass clef A low register overall. Used for instruments such as cello, bass.

Dominant 7th chord Chord V in a key, with the added seventh on top.

Chords: Write out a chord chart for the key (with all 7 chords and also add sevenths onto chords II,V, VII) e.g.

Chord	Root (a)	Third (b)	Fifth (c)	Seventh (d)
I	C	E	G	
ii	D	F	A	C
iii	E	G	B	
IV	F	A	C	
V	G	B	D	F
vi	A	C	E	
vii	B	D	F	A

	Semibreve	4 beats
	Minim	2 beats
	Crotchet	1 beat
	Quaver	½ beat
	Semi-quaver	¼ beat

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Drama Powerful Knowledge

Stimulus

- A stimulus is a starting point to generate ideas. It may be a picture, song, poem, short story, object, or even just a word!
- It is meant to be explored, discussed and used to create an original piece of drama.
- The final piece of drama does **NOT** need to resemble any starting stimulus – the stimulus is simply the starting point in order to generate ideas to explore.
- For your project, EDUQAS provides you with a range of stimuli to choose from.

Practitioner

Remember: Your piece needs to be influenced by one practitioner. Ensure that this is explicit with the most amount of skills used and focuses on the same aim as they do. If not, you can not reach the higher bands.

Vocal Skills	Definition	Example
P - Pitch	How high or low you voice sounds.	High squeaky voice or low deep voice.
I – Intonation	How clearly you speak	Mumbling or saying every word clearly
P - Pace	The speed in which you speak	Fast or slow
E – Emphasis	The importance you put on certain words	Using volume or pause to highlight a word. I *(pause)* **AM** right
D - Dynamics	The volume that you are speaking at.	Loudly or quietly
B – Breath Control	How many breaths you take in a sentence.	Do you take lots of breaths or none at all
A - Accent	The way you pronounce words	America, Australian, Jamaican, British
P - Pause	How many breaks you take	I am *(pause)* NOT going to see you again

Physical Skills	Definition	Example
P - Posture	The way you	Hunched back, straight back
E – Eye Contact	Where you are looking	Staring, looking at the floor, quickly looking
T - Tension	How tight or relaxed your body is	Clenched fists, locked knees
F – Facial Expression	How you are modifying your face	Closed Eyes, Wide open mouth
L - Levels	The heights used within the performance.	Standing on toes, crawled up in a ball
A - Action	Movements that have specific meanings	Thumbs up, waving, peace sign
G - Gait	The way you are walking	Skipping, stomping, floating
S - Space	The area that you are using	Are you standing close or far away

HT2

Y10

BTEC Sport

FLEXIBILITY TEST

The Sit and Reach Test Measures Leg and Back Flexibility

Sit and Reach Test — Standard procedure

Equipment: tape measure, box.

1) The sports performer sits on the floor with their legs straight out.
2) A box is placed flat against the sports performer's bare feet.
3) The sports performer reaches forward as far as they can.
4) Another person measures the distance from their feet to where they reach with a tape measure.
5) The sports performer gets three turns. Their best score is recorded.
6) The results of this test are usually given in centimetres (cm) or inches.

SPEED TEST

The 30 Metre Sprint Test has a Standing Start

30 Metre Sprint Test — Standard procedure

Equipment: tape measure, cones, stopwatch.

1) 30 metres is marked out on a flat running surface using a tape measure.
2) On the word 'GO', the sports performer runs the 30 metres as fast as they can.
3) Another person uses a stopwatch to time how long it takes.
4) The sports performer gets three turns (with a few minutes to recover in between).
5) Their best score is recorded.
6) The results of this test are usually given in seconds.

I.T. Powerful Knowledge

R093 Creative iMedia in the media industry

Unit: R093 Creative iMedia in the media industry	
Purpose of Unit: • To gain an overview of the media industry, covering both traditional and new media sectors • To understand the legal and ethical issues associated with the production of media • To explain how media products convey meaning, create impact and engage audiences	
Key Learning/Knowledge: • What is the difference between traditional and new media? • How do certain job roles contribute to the creation of media products? • What are the different purposes of media products? • How are style, content and layout adapted to meet each purpose? • Interpreting client requirements to generate ideas and plan. • What are the benefits of audience segmentation? • What are the benefits for conducting research? • How do content and codes work together to convey meaning, create impact and engagement	**Key Vocabulary and meanings:** **Demographic –** study of target audience characteristics **Segmentation –** splitting a target audience into different categories **Interactive –** something which allows the user to be involved in the process of watching or listening (clicking, typing or speaking) **Stereotypes –** an assumption made about people who are part of a particular demographic **Qualitative –** research data based on what people think or feel about something **Quantitative –** research data based on numbers and statistical analysis **Symbolic Codes –** what something represents **Intellectual property –** something created in a person's mind (story, idea, art), protected through copyright
Key Skills: • Theoretical knowledge of the media industry • Ability to analyse a range of media products • Responding to examination questions in a formal, written manner	

Links to prior knowledge/learning:
No prior knowledge required; this unit allows students to gain underpinning knowledge and understanding relevant to the qualification and sector.
Cross Curricular link/ World Issues Damaging effect of stereotyping in the media industry Rise of new media and collapse of some traditional media Social sciences with research methods and mathematics – researching and interpreting given data (qualitative and quantitative)

"Opening Children's Eyes to the Wonderful World of Possibility"
REMARKABLE RUDHEATH
Our values: Excellence & Kindness

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HT2

Y10

I.T. Powerful Knowledge

Unit: R094 Visual Identity and Digital Graphics	
Purpose of Unit: • To develop visual identity • To plan digital graphics for products • To create visual identity and digital graphics	
Key Learning/Knowledge: • What are the purposes, elements and design of a visual identity? • Component features of visual identity (name, logo and slogan) • Graphics, typography, colour palettes and layout options • How does the business type, brand values and brand positioning effect the overall visual identity? • What is alignment? • What are the main colour systems used in graphic design? • What are the layout conventions of different graphics? • What is the difference between Bitmap/raster graphics and vector graphics? • How do licences and permissions effect the sourcing of assets for visual identity? • How to create mindmaps, moodboards, concept sketches and visualisation diagrams to plan visual identities • How to use Adobe Photoshop – all the tools and techniques required • Creating a visual identity based on a client brief • How to save and export visual identity and digital graphics	**Key Vocabulary and meanings:** **Visual identity** - a collection of visual elements that serve to represent and differentiate a brand (eg: a logo) **Typography** – the style and arrangement of letters in a particular way to make sure that it can be read and fits the style of the document it is used in **Pixel** – the smallest part of a digital image, each with a unique colour **Compression** - reducing the size of a file by deleting unnecessary data. **Bitmap/raster graphic** – a digital image composed of pixels **Vector graphic** – a computer-made image made up of points, lines and curves **Pre-production** – everything that happens before the production of a media product **Assets** – the different images collected that will be used to make the final product **Copyright** – A form of protection for the originator of creative work (intellectual property)

R094 Visual Identity and Digital Graphics

Links to prior knowledge/learning:

R093 unit – how style, content and layout are linked to the purpose; reading and interpreting a client brief; target audience demographics and segmentation; concepts of typography and colour symbolism; media codes used to convey meaning; documents used to support idea generation

Cross Curricular link/ World Issues

Computer science – file types, sizes and compression

Photography – taking photographs, collating assets and using image editing software

Reading a written brief (*English*) and making inferences and personal interpretations

Key Skills:

- Planning and preparing a media product
- Reading and interpreting a client brief
- Using specialist image editing software to create a digital graphic