



Trafalgar
S c h o o l

YEAR II
PLC BOOKLET
2026



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AQA GCSE English Language

Paper 1: Explorations in Creative Reading and Writing



Personalised Learning Checklist (PLC)

1. Section A: Reading (40 marks – 1 hour)

You will read one fiction text and answer four questions (Q1–Q4).

Skill	Red 😞	Amber 😐	Green 😊
I can retrieve explicit information from a text (Q1)			
I can identify and interpret implicit information (Q1)			
I can use quotations accurately from the text			
I can analyse how language is used to create effects (Q2)			
I can use subject terminology correctly (e.g. simile, metaphor, etc.)			
I can write structured, detailed analysis of language			
I can analyse how a writer uses structure to interest the reader (Q3)			
I understand structural techniques (e.g. flashback, focus shifts)			
I can comment on the effect of structure on the reader			
I can evaluate how well a text achieves its purpose (Q4)			
I can support my evaluation with detailed references			

2. Section B: Writing (40 marks – 45 minutes)

You will complete one creative writing task: either a description or a story.

Skill	Red 😞	Amber 😐	Green 😊
I understand the features of descriptive and narrative writing			
I can plan and structure a creative response			
I can use a wide range of vocabulary for effect			
I can use language techniques (e.g. imagery, personification)			
I can use a range of sentence types for effect			
I can create a convincing character/setting/mood			
I can structure a story/description effectively (e.g. with a clear ending)			
I can use accurate spelling, punctuation, and grammar			
I can use ambitious and varied punctuation			
I can use paragraphs to organise ideas clearly			

3. General Revision Skills

Skill	Red 😞	Amber 😐	Green 😊
I know how the exam is structured and what each question is assessing			
I can manage my time effectively in the exam			
I've practised past papers under timed conditions			
I've reviewed examiner comments/mark schemes to improve			



AQA GCSE English Language

Paper 2: Writers' Viewpoints and Perspectives



Personalised Learning Checklist (PLC)

1. Section A: Reading (40 marks – 1 hour)

You will read two non-fiction texts and answer four questions (Q1–Q4).

Skill	Red 😞	Amber 😐	Green 😊
I can retrieve explicit information and ideas from both texts (Q1)			
I can select relevant quotations to support my ideas			
I can summarise similarities and differences between texts (Q2)			
I can infer and interpret meaning beyond the surface			
I can analyse how language is used to present ideas or perspectives (Q3)			
I can use subject terminology correctly (e.g. tone, metaphor, etc.)			
I can explain the effect of language on the reader			
I can compare writers' ideas and perspectives effectively (Q4)			
I can analyse how the writers present their views			
I can support comparisons with detailed references and analysis			

2. Section B: Writing (40 marks – 45 minutes)

You will write a non-fiction piece (e.g. article, speech, letter, etc.) presenting your viewpoint.

Skill	Red 😞	Amber 😐	Green 😊
I understand the purpose and format of different non-fiction text types			
I can structure an argument or viewpoint clearly and effectively			
I can use paragraphs to develop my ideas logically			
I can use a range of persuasive and rhetorical devices			
I can adapt my tone and register for different audiences and purposes			
I can use ambitious and precise vocabulary			
I can use a range of sentence structures for effect			
I can spell accurately and use grammar correctly			
I can use a wide range of punctuation accurately and for effect			
I can proofread and edit my writing to improve clarity			

3. General Revision Skills

Skill	Red 😞	Amber 😐	Green 😊
I know how the exam is structured and what each question is assessing			
I can manage my time effectively in the exam			
I've practised past papers under timed conditions			
I've reviewed examiner comments/mark schemes to improve			



AQA GCSE English Literature

Paper 1: Writers' Viewpoints and Perspectives



Personalised Learning Checklist (PLC)

1. Section A: *Macbeth* – Shakespeare (34 marks)

Skill	Red 😞	Amber 😐	Green 😊
I understand the plot and structure of <i>Macbeth</i>			
I can explain key themes (e.g. ambition, power, guilt, fate, masculinity)			
I can analyse the development and function of characters (e.g. Macbeth, Lady Macbeth, Banquo)			
I can explore how characters are used to represent wider ideas			
I can select and refer to relevant quotations			
I can explain WHAT Shakespeare presents (idea/character/theme)			
I can analyse HOW Shakespeare uses language, structure and dramatic techniques			
I can explore WHY these choices are effective and significant			
I can write critical and perceptive responses, offering alternative interpretations			
I understand the context of Jacobean England (e.g. divine right of kings, witchcraft, gender roles)			
I can explain how characters and events reflect Shakespeare's message or critique society			
I can link an extract to the wider play and structure a full essay using WHAT – HOW – WHY			

2. Section B: *A Christmas Carol* – 19th-Century Novel (30 marks)

Skill	Red 😞	Amber 😐	Green 😊
I understand the plot and structure of <i>A Christmas Carol</i>			
I can explain key themes (e.g. redemption, poverty, social responsibility)			
I can analyse the development and function of Scrooge and other characters			
I can explore how characters reflect Dickens' social criticism			
I can select and refer to key quotations to support my ideas			
I can explain WHAT Dickens is presenting (message, character, theme)			
I can explain HOW Dickens uses language and structure			
I can explore WHY these choices are effective or reflect his message			
I can give critical and perceptive analysis with detailed interpretation			
I understand the context of Victorian society (e.g. poverty, class, religion, capitalism)			
I can explain how context shapes the characters and themes			
I can evaluate how Dickens critiques society through his characters and plot			
I can respond to an extract and link it to the wider text using WHAT – HOW – WHY			

3. General Literature Exam Skills

Skill	Red 😞	Amber 😐	Green 😊
I understand the exam structure and mark scheme			
I can manage time effectively between both sections			
I can plan an analytical essay using WHAT – HOW – WHY			
I can write responses that are critical, perceptive, and interpretative			
I can evaluate a writer's message and purpose , linking it to context			
I've memorised key quotations for both texts and can connect them to themes			
I've practised writing full exam responses under timed conditions			



AQA GCSE English Literature

Paper 1: Shakespeare and the 19th-century Novel

Personalised Learning Checklist (PLC)

1. Section A: *Romeo and Juliet* – Shakespeare (34 marks)

Skill	Red 😞	Amber 😐	Green 😊
I understand the plot and structure of <i>Romeo and Juliet</i>			
I can explain the key themes (e.g. love, fate, conflict, honour)			
I can analyse the development and function of characters			
I can explore characters as constructs used by the writer			
I can refer to relevant quotations to support my ideas			
I can explain WHAT the writer presents (idea/character/theme)			
I can analyse HOW language, structure and dramatic methods are used			
I can explore WHY Shakespeare makes specific choices			
I can offer critical and perceptive interpretations			
I understand the context of Elizabethan England (e.g. patriarchy, fate, family honour, women etc.)			
I can explore how context influences characters and events			
I can explain how Shakespeare uses characters/themes to convey messages or critique society			
I can link an extract to the rest of the play in a structured essay using WHAT – HOW – WHY			

2. Section B: *A Christmas Carol* – 19th-Century Novel (30 marks)

Skill	Red 😞	Amber 😐	Green 😊
I understand the plot and structure of <i>A Christmas Carol</i>			
I can explain key themes (e.g. redemption, social responsibility, poverty)			
I can analyse the development and function of Scrooge and other characters			
I can select and refer to relevant quotations			
I can explain WHAT Dickens presents to the reader			
I can analyse HOW Dickens uses language and narrative methods			
I can explore WHY these choices are effective and how they link to his purpose			
I can develop critical and perceptive interpretations			
I understand the social and historical context of Victorian England			
I can explain how context influences the writer's purpose and message			
I can evaluate how Dickens critiques social attitudes through character and theme			
I can structure a developed essay exploring WHAT – HOW – WHY , including context and message			



3. General Literature Exam Skills

Skill	Red 😞	Amber 😐	Green 😊
I understand the exam format and mark allocation for each section			
I can manage my time effectively between the two texts			
I can plan an essay using WHAT – HOW – WHY to build a line of argument			
I can evaluate a writer's message, purpose, and viewpoint			
I have memorised key quotations and linked them to key themes and contexts			
I can write responses that are critical, perceptive, and interpretative			
I've practised writing essays under timed conditions			



AQA GCSE English Literature

Paper 2: Modern Texts, Poetry and Unseen Poetry

Personalised Learning Checklist (PLC)

1. Section A: *An Inspector Calls* – Modern Drama (34 marks)

Skill	Red ☹️	Amber 😐	Green 😊
I understand the plot, structure and key events of <i>An Inspector Calls</i>			
I can explain key themes (e.g. responsibility, social class, guilt, generational conflict)			
I can analyse the development and function of key characters (e.g. Inspector, Birling family members)			
I understand how characters are used to express Priestley's ideas and message			
I can select and refer to key quotations accurately			
I can explain WHAT Priestley presents (ideas, characters, themes)			
I can analyse HOW Priestley uses language, dramatic techniques and structure			
I can explore WHY these techniques are effective and support his message			
I can develop critical and perceptive interpretations			
I understand the context of post-war Britain and Priestley's political views			
I can explain how context influences characters, themes and ideas			
I can write structured essays responding to extracts and linking to the whole play			

2. Section B: Power and Conflict Poetry (34 marks)

Poems studied:

- *Ozymandias*
- *London*
- *The Prelude* (extract)
- *My Last Duchess*
- *The Charge of the Light Brigade*
- *Exposure*
- *Storm on the Island*
- *Bayonet Charge*
- *Remains*
- *Poppies*
- *War Photographer*
- *Tissue*
- *Checking Out Me History*
- *Kamikaze*
- *The Emigree*



Skill	Red ☹️	Amber 😐	Green 😊
I understand the meaning and themes of each poem			
I can analyse key poetic devices (language, form, structure) used in each poem			
I can explain WHAT the poet is showing (theme, idea, feeling)			
I can explain HOW the poet uses language and structure to create effects			
I can explain WHY these effects are important or meaningful			
I can compare and contrast poems confidently			
I can develop critical and perceptive interpretations of poems			
I understand the historical, cultural and social context of the poems			
I can explain how context influences themes and poet's messages			
I can write structured comparative essays using WHAT – HOW – WHY			

3. Section C: Unseen Poetry (28 marks)

Skill	Red ☹️	Amber 😐	Green 😊
I can analyse unseen poems using what I know from studied poetry			
I can identify key themes and ideas in unseen poems			
I can explain WHAT the poet is showing in an unseen poem			
I can analyse HOW language, form and structure create meaning			
I can explore WHY the poet makes particular choices			
I can develop critical and perceptive interpretations of unseen poems			
I can compare two unseen poems effectively			
I can write clear, coherent responses to unseen poetry questions			

4. General Literature Exam Skills

Skill	Red ☹️	Amber 😐	Green 😊
I understand the format and timing for each section of Paper 2			
I can manage my time effectively across all sections			
I can plan essays and responses using the WHAT – HOW – WHY method			
I have memorised key quotations and poems			
I can write responses that are critical, perceptive and supported by evidence			
I have practised writing essays and poetry analyses under timed conditions			

Personalised Learning Checklist (PLC)

1. OCR 1 - Number Operations and Integers

Content	Red ☹️	Amber 😐	Green 😊
Calculations with integers			
Four rules			
Whole number theory			
Definitions and terms			
Prime numbers			
Highest Common Factor (HCF) and Lowest Common Multiple (LCM)			
Combining arithmetic operations			
Priority of operations			
Inverse operations			
Inverse operations			

2. OCR 2 - Fractions, Decimals and Percentages

Content	Red ☹️	Amber 😐	Green 😊
Fractions			
Equivalent fractions			
Calculations with fractions			
Fractions of a quantity			
Decimal fractions			
Decimals and fractions			
Addition, subtraction and multiplication of decimals			
Division of decimals			
Percentages			
Percentage conversions			
Percentage calculations			
Percentage change			
Ordering fractions, decimals and percentages			
Ordinality			
Symbols			

3. OCR 3 - Indices and Surds

Skill	Red ☹️	Amber 😐	Green 😊
Powers and roots			
Index notation			
Calculation and estimation of powers and roots			
Laws of indices			
Standard form			
Standard form			
Calculations with numbers in standard form			
Exact calculations			
Exact calculations			

4. OCR 4 - Approximation and Estimation

Skill	Red ☹️	Amber 😐	Green 😊
Approximation and estimation			
Rounding			
Estimation			
Upper and lower bounds			

5. OCR 5 - Ratio, Proportion and Rates of Change

Skill	Red ☹️	Amber 😐	Green 😊
Calculations with ratio			
Equivalent ratios			
Division in a given ratio			
Ratios and fractions			
Solve ratio and proportion problems			
Direct and inverse proportion			
Direct proportion			
Inverse proportion			
Discrete growth and decay			
Growth and decay			



6. OCR 6 - Algebra

Skill	Red ☹️	Amber 😐	Green 😊
Algebraic expressions			
Algebraic terminology and proofs			
Collecting like terms in sums and differences of terms			
Simplifying products and quotients			
Multiplying out brackets			
Factorising			
Algebraic formulae			
Formulate algebraic expressions			
Substitute numerical values into formulae and expressions			
Change the subject of a formula			
Recall and use standard formulae			
Use kinematics formulae			
Algebraic equations			
Linear equations in one unknown			
Quadratic equations			
Simultaneous equations			
Approximate solutions using a graph			
Algebraic inequalities			
Inequalities in one variable			
Language of functions			
Functions			
Sequences			
Generate terms of a sequence			
Special sequences			

7. OCR 7 - Graphs of Equations and Functions

Skill	Red ☹️	Amber 😐	Green 😊
Graphs of equations and functions			
x- and y-coordinates			
Graphs of equations and functions			
Polynomial and reciprocal functions			
Straight line graphs			
Straight line graphs			
Parallel and perpendicular lines			
Interpreting graphs			
Graphs of real-world contexts			
Gradients			



8. OCR 8 - Basic Geometry

Skill	Red ☹️	Amber 😐	Green 😊
Conventions, notation and terms			
2D and 3D shapes			
Angles			
Polygons			
Polyhedra and other solids			
Diagrams			
Geometrical instruments			
x- and y-coordinates			
Ruler and compass constructions			
Perpendicular bisector			
Angle bisector			
Perpendicular from a point to a line			
Loci			
Angles			
Angles at a point			
Angles on a line			
Angles between intersecting and parallel lines			
Angles in polygons			
Properties of polygons			
Properties of a triangle			
Properties of quadrilaterals			
Symmetry			
Circles			
Circle nomenclature			
Three-dimensional shapes			
3-dimensional solids			
Plans and elevations			



9. OCR 9 - Congruence and Similarity

Skill	Red ☹️	Amber 😐	Green 😊
Plane isometric transformations			
Reflection			
Rotation			
Translation			
Congruence			
Congruent triangles			
Applying congruent triangles			
Plane vector geometry			
Vector arithmetic			
Column vectors			
Similarity			
Similar triangles			
Enlargement			
Similar shapes			

10.OCR 10 - Mensuration

Skill	Red ☹️	Amber 😐	Green 😊
Units and measurement			
Units of measurement			
Compound units			
Maps and scale drawings			
Perimeter calculations			
Perimeter of rectilinear shapes			
Circumference of a circle			
Perimeter of composite shapes			
Area calculations			
Area of a triangle			
Area of a parallelogram			
Area of a trapezium			
Area of a circle			
Area of composite shapes			
Volume and surface area calculations			
Polyhedra			
Cones and spheres			
Pyramids			
Triangle mensuration			
Pythagoras' theorem			
Trigonometry in right-angled triangles			
Exact trigonometric ratios			



11.OCR 11 - Probability

Skill	Red ☹️	Amber 😐	Green 😊
Basic probability and experiments			
The probability scale			
Relative frequency			
Relative frequency and probability			
Equally likely outcomes and probability			
Combined events and probability diagrams			
Sample spaces			
Enumeration			
Venn diagrams and sets			
Tree diagrams			
The addition law of probability			
The multiplication law of probability and conditional probability			

12.OCR 12 - Statistics

Skill	Red ☹️	Amber 😐	Green 😊
Sampling			
Populations and samples			
Interpreting and representing data			
Categorical and numerical data			
Analysing data			
Summary statistics			
Misrepresenting data			
Bivariate data			
Outliers			



OCR Higher GCSE Maths Revision Checklist



3. OCR 3 - Indices and Surds

Skill	Red ☹️	Amber 😐	Green 😊
Powers and roots			
Index notation			
Calculation and estimation of powers and roots			
Laws of indices			
Standard form			
Standard form			
Calculations with numbers in standard form			
Exact calculations			
Exact calculations			
Manipulating surds			

4. OCR 4 - Approximation and Estimation

Skill	Red ☹️	Amber 😐	Green 😊
Approximation and estimation			
Rounding			
Estimation			
Upper and lower bounds			

5. OCR 5 - Ratio, Proportion and Rates of Change

Skill	Red ☹️	Amber 😐	Green 😊
Calculations with ratio			
Equivalent ratios			
Division in a given ratio			
Ratios and fractions			
Solve ratio and proportion problems			
Direct and inverse proportion			
Direct proportion			
Inverse proportion			
Discrete growth and decay			
Growth and decay			

Personalised Learning Checklist (PLC)

1. OCR 1 - Number Operations and Integers

Content	Red ☹️	Amber 😐	Green 😊
Calculations with integers			
Four rules			
Whole number theory			
Definitions and terms			
Prime numbers			
Highest Common Factor (HCF) and Lowest Common Multiple (LCM)			
Combining arithmetic operations			
Priority of operations			
Inverse operations			
Inverse operations			

2. OCR 2 - Fractions, Decimals and Percentages

Content	Red ☹️	Amber 😐	Green 😊
Fractions			
Equivalent fractions			
Calculations with fractions			
Fractions of a quantity			
Decimal fractions			
Decimals and fractions			
Addition, subtraction and multiplication of decimals			
Division of decimals			
Percentages			
Percentage conversions			
Percentage calculations			
Percentage change			
Ordering fractions, decimals and percentages			
Ordinality			
Symbols			



6. OCR 6 - Algebra

Skill	Red ☹️	Amber 😐	Green 😊
Algebraic expressions			
Algebraic terminology and proofs			
Collecting like terms in sums and differences of terms			
Simplifying products and quotients			
Multiplying out brackets			
Factorising			
Completing the square			
Algebraic fractions			
Algebraic formulae			
Formulate algebraic expressions			
Substitute numerical values into formulae and expressions			
Change the subject of a formula			
Recall and use standard formulae			
Use kinematics formulae			
Algebraic equations			
Linear equations in one unknown			
Quadratic equations			
Simultaneous equations			
Approximate solutions using a graph			
Approximate solutions by iteration			
Algebraic inequalities			
Inequalities in one variable			
Inequalities in two variables			
Language of functions			
Functions			
Sequences			
Generate terms of a sequence			
Special sequences			



7. OCR 7 - Graphs of Equations and Functions

Skill	Red ☹️	Amber 😐	Green 😊
Graphs of equations and functions			
x- and y-coordinates			
Graphs of equations and functions			
Polynomial and reciprocal functions			
Exponential functions			
Trigonometric functions			
Equations of circles			
Straight line graphs			
Straight line graphs			
Parallel and perpendicular lines			
Transformations of curves and their equations			
Translations and reflections			
Interpreting graphs			
Graphs of real-world contexts			
Gradients			
Areas			

8. OCR 8 - Basic Geometry

Skill	Red ☹️	Amber 😐	Green 😊
Conventions, notation and terms			
2D and 3D shapes			
Angles			
Polygons			
Polyhedra and other solids			
Diagrams			
Geometrical instruments			
x- and y-coordinates			
Ruler and compass constructions			
Perpendicular bisector			
Angle bisector			
Perpendicular from a point to a line			
Loci			
Angles			
Angles at a point			
Angles on a line			
Angles between intersecting and parallel lines			
Angles in polygons			
Properties of polygons			
Properties of a triangle			
Properties of quadrilaterals			
Symmetry			



9. OCR 8 - Basic Geometry (continued)

Skill	Red ☹️	Amber 😐	Green 😊
Circles			
Circle nomenclature			
Angles subtended at centre and circumference			
Angle in a semicircle			
Angles in the same segment			
Angle between radius and chord			
Angle between radius and tangent			
The alternate segment theorem			
Cyclic quadrilaterals			
Three-dimensional shapes			
3-dimensional solids			

10. OCR 9 - Congruence and Similarity

Skill	Red ☹️	Amber 😐	Green 😊
Plane isometric transformations			
Reflection			
Rotation			
Translation			
Combinations of transformations			
Congruence			
Congruent triangles			
Applying congruent triangles			
Plane vector geometry			
Vector arithmetic			
Column vectors			
Similarity			
Similar triangles			
Enlargement			
Similar shapes			



11. OCR 10 - Mensuration

Skill	Red ☹️	Amber 😐	Green 😊
Units and measurement			
Units of measurement			
Compound units			
Maps and scale drawings			
Perimeter calculations			
Perimeter of rectilinear shapes			
Circumference of a circle			
Perimeter of composite shapes			
Area calculations			
Area of a triangle			
Area of a parallelogram			
Area of a trapezium			
Area of a circle			
Area of composite shapes			
Volume and surface area calculations			
Polyhedra			
Cones and spheres			
Pyramids			
Polyhedra			
Triangle mensuration			
Pythagoras' theorem			
Trigonometry in right-angled triangles			
Exact trigonometric ratios			
Sine rule			
Cosine rule			

12. OCR 11 - Probability

Skill	Red ☹️	Amber 😐	Green 😊
Basic probability and experiments			
The probability scale			
Relative frequency			
Relative frequency and probability			
Equally likely outcomes and probability			
Combined events and probability diagrams			
Sample spaces			
Enumeration			
Venn diagrams and sets			
Tree diagrams			
The addition law of probability			
The multiplication law of probability and conditional probability			



13. OCR 12 - Statistics

Skill	Red	Amber	Green
Sampling			
Populations and samples			
Interpreting and representing data			
Categorical and numerical data			
Grouped data			
Analysing data			
Summary statistics			
Misrepresenting data			
Bivariate data			
Outliers			



Edexcel Combined: Physics Paper 1 Revision Checklist

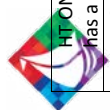
Personalised Learning Checklist (PLC)

1. Topic 1 – Key Concepts

Content	Red	Amber	Green
Recall and use the SI unit for physical quantities, as listed in the specification			
Recall and use multiples and sub-multiples of units, including giga (G), mega (M), kilo (k), centi (c), milli (m), micro (μ) and nano (n)			
Be able to convert between different units, including hours to seconds			
Use significant figures and standard form where appropriate			

2. Topic 2 – Motion and Forces

Content	Red	Amber	Green
Describe what scalar and vector quantities are and explain the differences			
Recall vector and scalar quantities, including: displacement/distance, velocity/speed, acceleration, force, weight/mass, momentum and energy			
Define what velocity is			
Recall and use the equations: (average) speed (metre per second, m/s) = distance (metre, m) $\div$ time (s)			
Recall and use the equation: distance travelled (metre, m) = average speed (metre per second, m/s) $\times$ time (s)			
Analyse distance/time graphs including determination of speed from the gradient			
Recall and use the equation: $a = (v - u) / t$			
Use the equation: $v^2 - u^2 = 2 \times a \times x$			
Analyse velocity/time graphs to: compare acceleration from gradients qualitatively			
Analyse velocity/time graphs to: calculate the acceleration from the gradient (for uniform acceleration only)			
Analyse velocity/time graphs to: determine distance travelled using area between the graph line and the axis (for uniform acceleration only)			
Describe a range of laboratory methods for determining the speeds of objects such as the use of light gates			
Recall some typical speeds encountered in everyday experience for wind and sound, and for walking, running, cycling and other transportation systems			
Recall Newton's first law and use it where the resultant force on a body is zero			
Recall Newton's second law as: $F = m \times a$			
Define weight, recall and use the equation: $W = m \times g$			
Describe how weight is measured			
Describe the relationship between the weight of a body and the gravitational field strength			
Core Practical: Investigate the relationship between force, mass and acceleration by varying the masses added to trolleys			



HT ONLY: Explain that an object moving in a circular orbit at constant speed has a changing velocity			
HT ONLY: Explain that for motion in a circle there must be a resultant force known as a centripetal force that acts towards the centre of the circle			
HT ONLY: Explain that inertial mass is a measure of how difficult it is to change the velocity of an object			
Recall and apply Newton's third law both to equilibrium situations			
HT ONLY: Recall and apply Newton's third law collision interactions and relate it to the conservation of momentum in collisions			
HT ONLY: Define momentum, recall and use the equation: $p = m \times v$			
HT ONLY: Describe examples of momentum in collisions			
HT ONLY: Use Newton's second law as: $F = (mv - mu)/t$			
Explain methods of measuring human reaction times and recall typical results			
Recall what the stopping distance of a vehicle is the sum of			
Explain that the stopping distance of a vehicle is affected by a range of factors and name the factors			
Describe the factors that could affect a driver's reaction time			
Explain the dangers caused by large decelerations			
HT ONLY: Estimate the forces involved in typical situations on a public road due to decelerations			
Estimate how the distance required for a road vehicle to stop in an emergency varies over a range of typical speeds			
Carry out calculations on work done to show the dependence of braking distance for a vehicle on initial velocity squared			

3. Topic 3 – Conservation of Energy

Skill	Red	Amber	Green
Recall and use the equation to calculate the change in gravitational PE when an object is raised above the ground: $\Delta GPE = m \times g \times \Delta h$			
Recall and use the equation to calculate the amounts of energy associated with a moving object: $KE = \frac{1}{2} \times m \times v^2$			
Draw and interpret diagrams to represent energy transfers			
Explain what is meant by conservation of energy			
Analyse the changes involved in the way energy is stored when a system changes for an object projected upwards or up a slope			
Analyse the changes involved in the way energy is stored when a system changes for a moving object hitting an obstacle			
Analyse the changes involved in the way energy is stored when a system changes for an object being accelerated by a constant force			
Analyse the changes involved in the way energy is stored when a system changes for a vehicle slowing down			
Analyse the changes involved in the way energy is stored when a system changes for bringing water to a boil in an electric kettle			
Explain that where there are energy transfers in a closed system there is no net change to the total energy in that system			
Explain that mechanical processes become wasteful when they cause a rise in temperature so dissipating energy in heating the surroundings			
Explain, using examples, how in all system changes energy is dissipated so that it is stored in less useful ways			



Explain ways of reducing unwanted energy transfer including through lubrication, thermal insulation			
Describe the effects of the thickness and thermal conductivity of the walls of a building on its rate of cooling qualitatively			
Recall and use the equation: efficiency = useful energy transferred / total energy supplied			
HT ONLY: Explain how efficiency can be increased			
Describe the main energy sources available for use on Earth and compare the ways in which both renewable and non-renewable sources are used			
Explain patterns and trends in the use of energy resources			

4. Topic 4 - Waves

Skill	Red	Amber	Green
Recall that waves transfer energy and information without transferring matter			
Describe evidence that with water and sound waves it is the wave and not the water or air itself that travels			
Define and use the terms frequency and wavelength as applied to waves			
Use the terms amplitude, period, wave velocity and wavefront as applied to waves			
Describe the difference between longitudinal and transverse waves by referring to sound, electromagnetic, seismic and water waves			
Recall and use both the equations for all waves: $v = f \times \lambda$ and $v = \lambda / t$			
Describe how to measure the velocity of sound in air and ripples on water surfaces			
HT ONLY: Calculate depth or distance from time and wave velocity			
Describe the effects of reflection, refraction, transmission, absorption of waves at material interfaces			
Explain how waves will be refracted at a boundary in terms of the change of direction			
HT ONLY: Explain how waves will be refracted at a boundary in terms of the change of speed			
HT ONLY: Recall that different substances may absorb, transmit, reflect or reflect waves in ways that vary with wavelength			
HT ONLY: Describe the processes which convert wave disturbances between sound waves and vibrations in solids			
HT ONLY: Explain why processes that convert wave disturbances only work over a limited frequency range			
HT ONLY: Use the process that converts wave disturbances to explain the way the human ear works			
HT ONLY: Recall the frequency of ultrasound and state its units			
HT ONLY: Explain uses of ultrasound and infrasound			
Describe how changes, if any, in velocity, frequency and wavelength, in the transmission of sound waves from one medium to another are inter-related			
Core Practical: investigate the suitability of equipment to measure the speed, frequency and wavelength of a wave in a solid and a fluid			



5. Topic 5 – Light and the Electromagnetic Spectrum

Skill	Red ☹️	Amber 😐	Green 😊
Explain, with the aid of ray diagrams, reflection, refraction and total internal reflection (TIR), including the law of reflection and critical angle			
Explain the difference between specular and diffuse reflection			
Explain how colour of light is related to differential absorption at surfaces and transmission of light through filters			
Relate the power of a lens to its focal length and shape			
Use ray diagrams to show the similarities and differences in the refraction of light by converging and diverging lenses			
Explain the effects of different types of lens in producing real and virtual images			
Recall that all electromagnetic waves are transverse, that they travel at the same speed in a vacuum			
Explain, with examples, that all electromagnetic waves transfer energy from source to observer			
Investigate refraction in rectangular glass blocks in terms of the interaction of electromagnetic waves with matter			
Recall the main groupings of the continuous electromagnetic spectrum			
Describe the electromagnetic spectrum			
Recall that our eyes can only detect a limited range of frequencies of electromagnetic radiation			
HT ONLY: Recall that different substances may absorb, transmit, refract or reflect electromagnetic waves in ways that vary with wavelength			
Explain the effects of differences in the velocities of electromagnetic waves in different substances			
Explain that all bodies emit radiation, that the intensity and wavelength distribution of any emission depends on their temperature			
HT ONLY: Explain that for a body to be at a constant temperature it needs to radiate the same average power that it absorbs			
HT ONLY: Explain what happens to a body if the average power it radiates is less or more than the average power that it absorbs			
HT ONLY: Explain how the temperature of the Earth is affected by factors controlling the balance between incoming radiation and radiation emitted			
Core Practical: Investigate how the nature of a surface affects the amount of thermal energy radiated or absorbed			
Recall that the potential danger associated with an electromagnetic wave increases with increasing frequency			
Describe the harmful effects on people of excessive exposure to electromagnetic radiation			
Describe some uses of electromagnetic radiation			
HT ONLY: Recall that radio waves can be produced by, or can themselves induce, oscillations in electrical circuits			
Recall that changes in atoms and nuclei can generate radiations over a wide frequency range and be caused by absorption of a range of radiations			



6. Topic 6 - Radioactivity

Skill	Red ☹️	Amber 😐	Green 😊
Describe the structure of the atom			
Recall the typical size (order of magnitude) of atoms and small molecules			
Describe the structure of nuclei of isotopes			
Define the term isotope			
Recall the relative masses and relative electric charges of protons, neutrons, electrons and positrons			
Recall that in an atom the number of protons equals the number of electrons and is therefore neutral			
Recall that in each atom its electrons orbit the nucleus at different set distances from the nucleus			
Explain that electrons change orbit when there is absorption or emission of electromagnetic radiation			
Explain how atoms may form positive ions			
Recall that alpha, β^- , β^+ , gamma rays and neutron radiation are emitted from unstable nuclei in a random process			
Recall that alpha, β^- , β^+ and gamma rays are ionising radiation			
Explain what is meant by background radiation			
Describe the origins of background radiation from Earth and space			
Describe methods for measuring and detecting radioactivity limited to photographic film and a Geiger-Müller tube			
Recall what alpha, beta and gamma radiation are made up of			
Compare alpha, beta and gamma radiations in terms of their abilities to penetrate and ionise			
Describe how and why the atomic model has changed over time including reference to the different models and scattering experiments			
Describe the process of β^- and β^+ decay			
Explain the effects on the atomic (proton) number and mass (nucleon) number of radioactive decays (α , β , γ and neutron emission)			
Recall that nuclei that have undergone radioactive decay often undergo nuclear rearrangement with a loss of energy as gamma radiation			
Use given data to balance nuclear equations in terms of mass and charge			
Describe how the activity of a radioactive source decreases over a period of time			
Recall that the unit of activity of a radioactive isotope is the Becquerel, Bq			
Explain what half life of a radioactive isotope is			
Explain that it cannot be predicted when a particular nucleus will decay but half-life enables the activity of a very large number of nuclei to be predicted			
Use the concept of half-life to carry out simple calculations on the decay of a radioactive isotope, including graphical representations			
Describe uses of radioactivity in: the home, industry and medicine			
Describe the dangers of ionising radiation in terms of tissue damage and possible mutations and relate this to the precautions needed			
Explain how the dangers of ionising radiation depend on half-life and relate this to the precautions needed			
Explain the precautions taken to ensure the safety of people exposed to radiation, including limiting the dose			
Describe the differences between contamination and irradiation effects and compare the hazards associated with these two			



Edexcel Combined: Physics Paper 2 Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 8 – Forces doing work

Content	Red ☹️	Amber 😐	Green 😊
Describe the changes involved in the way energy is stored when systems change			
Draw and interpret diagrams to represent energy transfers			
Explain that where there are energy transfers in a closed system there is no net change to the total energy in that system			
Identify the different ways that the energy of a system can be changed through work done by forces, in electrical equipment and in heating			
Describe how to measure the work done by a force and recall that energy transferred (joule, J) is equal to work done (joule, J)			
Recall and use the equation: $E = F \times d$			
Describe and calculate the changes in energy involved when a system is changed by work done by forces			
Recall and use the equation to calculate the change in gravitational PE when an object is raised above the ground: $\Delta GPE = m \times g \times \Delta h$			
Recall and use the equation to calculate the amounts of energy associated with a moving object: $KE = \frac{1}{2} \times m \times v^2$			
Explain, using examples, how in all system changes energy is dissipated so that it is stored in less useful ways			
Explain that mechanical processes become wasteful when they cause a rise in temperature so dissipating energy in heating the surroundings			
Define power as the rate at which energy is transferred and use examples to explain this definition			
Recall and use the equation: $P = E/t$			
Recall what one Watt is equal to			
Recall and use the efficiency equation			

2. Topic 9 – Forces and their effects

Content	Red ☹️	Amber 😐	Green 😊
Describe, with examples, how objects can interact with and without contact			
Explain the difference between vector and scalar quantities using examples			
HT ONLY: Use vector diagrams to illustrate resolution of forces, a net force, and equilibrium situations			
HT ONLY: Draw and use free body force diagrams			
HT ONLY: Explain examples of the forces acting on an isolated solid object or a system where several forces lead to a resultant force			
Explain ways of reducing unwanted energy transfer through lubrication			



3. Topic 10a –Electricity and Circuits (part A)

Skill	Red ☹️	Amber 😐	Green 😊
Draw and use electric circuit diagrams			
Describe the differences between series and parallel circuits			
Recall how to measure potential difference using a voltmeter in series and parallel circuits			
Define potential difference and describe what a volt is			
Recall and use the equation: $E = Q \times V$			
Recall how to measure current using an ammeter in series and parallel circuits			
Explain what electrical current is			
Recall and use the equation: $Q = I \times t$			
Describe that when a closed circuit includes a source of potential difference there will be a current in the circuit			
Recall that current is conserved at a junction in a circuit			
Describe how to use a variable resistor in a circuit			
Recall and use the equation: $V = I \times R$			
Explain why, if two resistors are in series, the net resistance is increased, whereas with two in parallel the net resistance is decreased			
Calculate the currents, potential differences and resistances in series circuits			
Explain the design and construction of series circuits for testing and measuring			
Core Practical: Construct electrical circuits to: investigate the relationship between, V , I and R for a resistor and a filament lamp			
Explain how I varies with V for the following devices and how this relates to R for filament lamps, diodes and fixed resistors			
Describe how the resistance of a light-dependent resistor(LDR) varies with light intensity			
Describe how the resistance of a thermistor varies with change of temperature (neg temp thermistors only)			
Explain how the design and use of circuits can be used to explore the variation of resistance in: filament lamps, diodes, thermistors & LDRs			
Recall that, when there is an electric current in a resistor, there is an energy transfer which heats the resistor			
Explain how electrical energy is dissipated when an electrical current does work against electrical resistance			
Explain the energy transfer when electrical energy is dissipated when an electrical current does work against electrical resistance			
Explain ways of reducing unwanted energy transfer through low resistance wires			
Describe the advantages and disadvantages of the heating effect of an electric current			



4. Topic 10b – Electricity and Circuits (part B)

Skill	Red ☹️	Amber 😐	Green 😊
Use the equation: $E = I \times V \times t$			
Describe power as the energy transferred per second and recall that it is measured in watt			
Recall and use the equation: $P = E/t$			
Explain how the power transfer in any circuit device is related to the potential difference across it and the current in it			
Recall and use the equations: $P = I \times V$ and $P = I^2 \times R$			
Describe how, in different domestic devices, energy is transferred from batteries and a.c. mains motors and heating devices			
Explain the difference between direct and alternating voltage			
Describe what direct current (d.c.) is and recall the objects that supply it			
Describe what alternating current (a.c.) is and recall the frequency and voltage in the UK			
Explain the difference in function between the live and the neutral mains input wires			
Explain the function of an earth wire and of fuses or circuit breakers in ensuring safety			
Explain why switches and fuses should be connected in the live wire of a domestic circuit			
Recall the potential differences between the live, neutral and earth mains wires			
Explain the dangers of providing any connection between the live wire and earth			
Describe, with examples, the relationship between the power ratings for domestic electrical appliances and the changes in energy when used			



5. Topic 12 – Magnetism and the motor effect

Skill	Red ☹️	Amber 😐	Green 😊
Describe the interactions between like and unlike magnetic poles			
Describe the uses of permanent and temporary magnetic materials including cobalt, steel, iron and nickel			
Explain the difference between permanent and induced magnets			
Describe the shape and direction of the magnetic field around bar magnets and for a uniform field			
Relate the strength of the magnetic field to the concentration of lines			
Describe the use of plotting compasses to show the shape and direction of the field of a magnet and the Earth's magnetic field			
Explain how the behaviour of a magnetic compass is related to evidence that the core of the Earth must be magnetic			
Describe how to show that a current can create a magnetic effect around a long straight conductor			
Describe the shape of the magnetic field produced and relating the direction of the magnetic field to the direction of the current			
Recall that the strength of the field depends on the size of the current and the distance from the long straight conductor			
Explain how inside a solenoid the fields from individual coils can add together or cancel			
HT ONLY: Recall what happens when a current carrying conductor is placed near a magnet experiences in terms of force			
HT ONLY: Explain how magnetic forces are due to interactions between magnetic fields			
HT ONLY: Recall and use Fleming's left-hand rule to represent the relative directions of the force			
HT ONLY: Use the equation: $F = B \times I \times l$			
HT ONLY: Explain how the force on a conductor in a magnetic field is used to cause rotation in electric motors			

6. Topic 13 – EM Induction

Skill	Red ☹️	Amber 😐	Green 😊
Explain why, in the national grid, electrical energy is transferred at different voltages			
Explain where and why step-up and step-down transformers are used in the transmission of electricity in the national grid			
Use the power equation (for transformers with 100% efficiency): $V_p \times I_p = V_s \times I_s$			



7. Topic 14 – Particle Model

Skill	Red ☹️	Amber 😐	Green 😊
Use a simple kinetic theory model to explain the different states of matter			
Recall and use the equation: $\rho = m/V$			
Core Practical: Investigate the densities of solid and liquids			
Explain the differences in density between the different states of matter in terms of the arrangements of the particles			
Name and describe the physical changes of state			
Describe the differences between chemical and physical changes			
Explain how heating a system will change the energy stored within the system and affect temperature at the state of the material			
Define the terms specific heat capacity and specific latent heat and explain the differences between them			
Use the equation: $\Delta Q = m \times c \times \Delta\theta$			
Use the equation: $Q = m \times L$			
Explain ways of reducing unwanted energy transfers through thermal insulation			
Core Practical: Investigate the properties of water by determining the specific heat capacity of water for melting ice			
Explain the pressure of a gas in terms of the motion of its particles			
Explain the effect of changing the temperature of a gas on the velocity of its particles and hence on the pressure			
Describe the term absolute zero, -273°C , in terms of movement of particles			
Convert between the kelvin and Celsius scales			
HT ONLY: Explain why doing work on a gas can increase its temperature, including a bicycle pump			

8. Topic 15 – Forces and Matter

Skill	Red ☹️	Amber 😐	Green 😊
Explain, using springs and other elastic objects, that stretching, bending or compressing an object requires more than one force			
Describe the difference between elastic and inelastic distortion			
Recall and use the equation for linear elastic distortion including calculating the spring constant: $F = k \times x$			
Use the equation to calculate the work done in stretching a spring: $E = \frac{1}{2} k \times x^2$			
Describe the difference between linear and non-linear relationships between force and extension			
Core Practical: Investigate the extension and work done when applying forces to a spring			

Edexcel Combined: Biology Paper 1

Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 1 – Key concepts in Biology

Content	Red ☹️	Amber 😐	Green 😊
Explain how the sub-cellular structures of eukaryotic and prokaryotic cells are related to their functions, including: animal, plant & bacteria			
Explain how specialised cells are adapted to their functions, including: sperm, egg and ciliated epithelial cells			
Explain how changes in microscope technology, including electron microscopy, have enabled us to see cell structures with more clarity and detail than in the past			
Demonstrate an understanding of number, size and scale, including the use of estimations and explain when they should be used			
Demonstrate an understanding of the relationship between quantitative units in relation to cells, including: milli, micro, nano & pico			
HT ONLY: Complete calculations with numbers written in standard form			
Core Practical: Investigate biological specimens using microscopes, including magnification calculations and labelled scientific drawings from observations			
Explain the mechanism of enzyme action including the active site and enzyme specificity			
Explain how enzymes can be denatured due to changes in the shape of the active site			
Explain the effects of temperature, substrate concentration and pH on enzyme activity			
Core Practical: Investigate the effect of pH on enzyme activity			
Demonstrate an understanding of rate calculations for enzyme activity			
Demonstrate an understanding of rate calculations for enzyme activity			
Explain the importance of enzymes as biological catalysts in the synthesis and breakdown of carbohydrates, fats and proteins			
Explain how substances are transported into and out of cells, including by diffusion, osmosis and active transport			
Core Practical: Investigate osmosis in potatoes			
Calculate percentage gain and loss of mass in osmosis			



2. Topic 2 – Cells and control

Content	Red ☹️	Amber 😐	Green 😊
Describe mitosis as part of the cell cycle, including the stages interphase, prophase, metaphase, anaphase and telophase and cytokinesis			
Describe the importance of mitosis in growth, repair and asexual reproduction			
Describe the division of a cell by mitosis in terms of cells formed and chromosome numbers			
Describe cancer as the result of changes in cells that lead to uncontrolled cell division			
Describe growth in plants and animals including: cell division, differentiation and elongation (plants only)			
Explain the importance of cell differentiation in the development of specialised cell			
Demonstrate an understanding of the use of percentiles charts to monitor growth			
Describe the function of embryonic stem cells in animals and meristems in plants			
Discuss the potential benefits and risks associated with the use of stem cells in medicine			
Explain the structure and function of the nervous system including neurones, synapses and neurotransmitters			
Explain the structure and function of a reflex arc including sensory, relay and motor neurones			

3. Topic 3 – Genetics

Skill	Red ☹️	Amber 😐	Green 😊
Explain the role of meiotic cell division in terms of cells formed and chromosome numbers			
Describe the structure of DNA in terms of bases and bonding			
Describe what a genome and gene are and describe the role of a gene			
Explain how DNA can be extracted from fruit			
Explain why there are differences in the inherited characteristics as a result of alleles			
Explain the terms: chromosome, gene, allele, dominant, recessive, homozygous, heterozygous, genotype, phenotype, gamete and zygote			
Explain monohybrid inheritance using genetic diagrams, Punnett squares and family pedigrees			
Describe how the sex of offspring is determined at fertilisation, using genetic diagrams			
Calculate and analyse outcomes (using probabilities, ratios and percentages) from monohybrid crosses and pedigree analysis for dominant and recessive traits			
State that most phenotypic features are the result of multiple genes rather than single gene inheritance			
Describe the causes of variation that influence phenotype: genetic/environmental variation and mutations			
Discuss the outcomes of the Human Genome Project and its potential applications within medicine			
State that there is usually extensive genetic variation within a population of a species and that these arise through mutations			



4. Topic 4 – Natural selection and genetic modification

Skill	Red ☹️	Amber 😐	Green 😊
Describe the differences in severity of a genetic mutation on the phenotype			
Explain Darwin's theory of evolution by natural selection			
Explain how the emergence of resistant organisms supports Darwin's theory of evolution including antibiotic resistance in bacteria			
Describe the evidence for human evolution, based on fossils, including: Ardi, Lucy and Leakey's discovery of fossils			
Describe the evidence for human evolution based on stone tools, including: a) the development of stone tools over time b) how these can be dated from their environment			
Describe how genetic analysis has led to the suggestion of the three domains rather than the five kingdoms classification method			
Explain selective breeding and its impact on food plants and domesticated animals			
Describe genetic engineering as a process which involves modifying the genome of an organism to introduce desirable characteristics			
HT ONLY: Describe the main stages of genetic engineering including the use of: restriction enzymes, ligase, sticky ends and vectors			
Evaluate the benefits and risks of genetic engineering and selective breeding in modern agriculture and medicine, including practical and ethical implications			



5. Topic 5 – Health, disease and the development of medicines

Skill	Red ☹️	Amber 😐	Green 😊
Describe health as defined by the World Health Organization (WHO)			
Describe the difference between communicable and non-communicable diseases			
Explain why the presence of one disease can lead to a higher susceptibility to other diseases			
Describe a pathogen as a disease-causing organism, including viruses, bacteria, fungi and protists			
Describe some common infections, including: cholera, tuberculosis, Chlamydia, HIV, stomach ulcers, Ebola and state the pathogen type and details of the symptoms			
Explain how pathogens are spread and how this spread can be reduced or prevented, including: cholera, tuberculosis, Chlamydia, HIV, malaria, HIV, stomach ulcers, Ebola			
Explain how sexually transmitted infections (STIs) are spread and how this spread can be reduced or prevented, including: Chlamydia and HIV			
Describe how the physical barriers and chemical defences of the human body provide protection from pathogens			
Explain the role of the specific immune system of the human body in defence against disease, including ideas on antigens and lymphocytes			
Explain the body's response to immunisation using an inactive form of a pathogen			
Explain why antibiotics can only be used to treat bacterial infections			
Describe that the process of developing new medicines, including antibiotics, has many stages, including discovery, development, preclinical and clinical testing			
Describe that many non-communicable human diseases are caused by the interaction of a number of factors			
Explain the effect of lifestyle factors on non-communicable diseases at local, national and global levels including BMI, alcohol and smoking			
Evaluate some different treatments for cardiovascular disease, including: life-long medication, surgical procedures and lifestyle changes			



Edexcel Combined: Biology Paper 2

Revision Checklist

Personalised Learning Checklist (PLC)			
1. Topic 6 – Plant structures and their functions			
Content	Red ☹️	Amber 😐	Green 😊
Describe photosynthetic organisms as the main producers of food and therefore biomass			
Describe photosynthesis in plants and algae as an endothermic reaction and recall the reactants and products			
Explain the effect of temperature, light intensity and carbon dioxide concentration as limiting factors on the rate of photosynthesis			
HT ONLY: Explain the interactions of temperature, light intensity and carbon dioxide concentration in limiting the rate of photosynthesis			
Core Practical: Investigate the effect of light intensity on the rate of photosynthesis			
HT ONLY: Explain how the rate of photosynthesis, including the use of the inverse square law calculation			
Explain how the structure of the root hair cells is adapted to absorb water and mineral ions			
Explain how the structures of the xylem and phloem are adapted to their function in the plant			
Describe how water and mineral ions are transported through the plant by transpiration, including the structure and function of the stomata			
Describe how sucrose is transported around the plant by translocation			
Explain the effect of environmental factors on the rate of water uptake by a plant			
Demonstrate an understanding of rate calculations for transpiration			



2. Topic 7 – Animal coordination, control and homeostasis

Content	Red ☹️	Amber 😐	Green 😊
Recall where different hormones are produced and how they are transferred to their target organs			
HT ONLY: Explain where adrenalin is produced and how it prepares the body for fight or flight			
HT ONLY: Explain how thyroxine controls metabolic rate as an example of negative feedback			
Describe the stages of the menstrual cycle, including the roles of the hormones oestrogen and progesterone, in the control of the menstrual cycle			
HT ONLY: Explain the interactions of oestrogen, progesterone, FSH and LH in the control of the menstrual cycle			
Explain how hormonal contraception influences the menstrual cycle and prevents pregnancy			
Evaluate hormonal and barrier methods of contraception			
HT ONLY: Explain the use of hormones in Assisted Reproductive Technology (ART) including IVF and clomifene therapy			
Explain the importance of maintaining a constant internal environment in response to internal and external change			
HT ONLY: Explain how blood glucose concentration is regulated by glucagon			
Explain how the hormone insulin controls blood glucose concentration			
Explain the cause of type 1 diabetes and how it is controlled			
Explain the cause of type 2 diabetes and how it is controlled			
Evaluate the correlation between body mass and type 2 diabetes including waist: hip calculations and BMI, using the BMI equation			



3. Topic 8 – Exchange and transport in animals

Skill	Red 😞	Amber 😐	Green 😊
Describe the need to transport substances into and out of a range of organisms, including oxygen, carbon dioxide, water, dissolved food molecules, mineral ions and urea			
Explain the need for exchange surfaces and a transport system in multicellular organisms including the calculation of surface area: volume ratio			
Explain how alveoli are adapted for gas exchange by diffusion between air in the lungs and blood in capillaries			
Explain how the structure of the blood is related to its function: red blood cells (erythrocytes), white blood cells (phagocytes and lymphocytes), plasma and platelets			
Explain how the structure of the blood vessels is related to their function			
Explain how the structure of the heart and circulatory system is related to its function, including the role of major blood vessels, valves and thickness of chamber walls			
Describe cellular respiration as an exothermic reaction which occurs continuously in living cells to release energy for metabolic processes, including aerobic and anaerobic respiration			
Compare the process of aerobic respiration with the process of anaerobic respiration			
Core Practical: Investigate the rate of respiration in living organisms			
Calculate heart rate, stroke volume and cardiac output, using the equation cardiac output = stroke volume × heart rate			



4. Topic 9 – Ecosystems and material cycles

Skill	Red 😞	Amber 😐	Green 😊
Describe the different levels of organisation from individual organisms, populations, communities, to the whole ecosystem			
Explain how communities can be affected by abiotic and biotic factors, including: temperature, light, water, pollutants and competition, predation			
Describe the importance of interdependence in a community			
Describe how the survival of some organisms is dependent on other species, including parasitism and mutualism			
Core Practical: Investigate the relationship between organisms and their environment using field-work techniques, including quadrats and belt transects			
Explain how to determine the number of organisms in a given area using raw data from field-work techniques, including quadrats and belt transects			
Explain the positive and negative human interactions within ecosystems and their impacts on biodiversity, including: fish farming, non-indigenous species and eutrophication			
Explain the benefits of maintaining local and global biodiversity, including the conservation of animal species and the impact of reforestation			
Describe how different materials cycle through the abiotic and biotic components of an ecosystem			
Explain the importance of the carbon cycle, including the processes involved and the role of microorganisms as decomposers			
Explain the importance of the water cycle, including the processes involved and the production of potable water in areas of drought including desalination			
Explain how nitrates are made available for plant uptake, including the use of fertilisers, crop rotation and the role of bacteria in the nitrogen cycle			

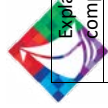
Edexcel Combined: Chemistry Paper 1

Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 1 – Key concepts in chemistry (part a)

Content	Red ☹️	Amber 😐	Green 😊
Describe how the Dalton model of an atom has changed over time because of the discovery of subatomic particles			
Describe the structure of an atom as a nucleus containing protons and neutrons, surrounded by electrons in shells			
Recall the relative charge and relative mass of: a proton, a neutron and an electron			
Explain why atoms contain equal numbers of protons and electrons			
Describe the nucleus of an atom as very small compared to the overall size of the atom			
Recall that most of the mass of an atom is concentrated in the nucleus			
Recall the meaning of the term mass number of an atom			
Describe atoms of a given element as having the same number of protons in the nucleus and that this number is unique			
Describe what isotopes are			
Calculate the numbers of protons, neutrons and electrons in atoms given the atomic number and mass number			
Explain how the existence of isotopes results in relative atomic masses of some elements not being whole numbers			
HT ONLY: Calculate the relative atomic mass of an element from the relative masses and abundances of its isotopes			
Describe how Mendeleev arranged the elements known at that time, in a periodic table by using properties of these elements and their compounds			
Describe how Mendeleev used his table to predict the existence and properties of some elements not discovered by then			
Explain that Mendeleev thought he had arranged elements in order of increasing relative atomic mass but this was not always true			
Explain the meaning of atomic number of an element in terms of position in the periodic table and number of protons in the nucleus			
Describe how elements are arranged in the groups and periods of the periodic table			
Identify elements as metals or non-metals according to their position in the periodic table, explaining this division in terms of atomic structure			
Predict the electronic configurations of the first 20 elements in the periodic table as diagrams and in the form 2.8.1 etc			
Explain how the electronic configuration of an element is related to its position in the periodic table			
Explain how ionic bonds are formed to produce cations and anions, including the use of dot and cross diagrams			
Recall that an ion is an atom or group of atoms with a positive or negative charge			
Calculate the numbers of protons, neutrons and electrons in simple ions given the atomic number and mass number			



Explain the formation of ions in ionic compounds from their atoms, limited to compounds of elements in groups 1, 2, 6 and 7

Explain the use of the endings –ide and –ate in the names of compounds

Deduce the formulae of ionic compounds given the formulae of the constituent ions

Explain the structure of an ionic compound including a description of the lattice and electrostatic forces

2. Topic 1 – Key concepts in chemistry (part b)

Content	Red ☹️	Amber 😐	Green 😊
Explain how a covalent bond is formed when a pair of electrons is shared between two atoms			
Recall that covalent bonding results in the formation of molecules			
Recall the typical size (order of magnitude) of atoms and small molecules			
Explain the formation of simple molecular, covalent substances, using dot and cross diagrams, including: H ₂ , HCl, H ₂ O, CH ₄ , O ₂ , CO ₂			
Explain why elements and compounds can be classified as: ionic, simple molecular (covalent), giant covalent and metallic			
Explain how the structure and bonding of substances results in different physical properties			
Explain the properties of ionic compounds limited to: melting/boiling points, forces between ions and conductivity			
Explain the properties of typical covalent, simple molecular compounds limited to: melting/boiling points, forces between ions and conductivity			
Recall that graphite and diamond are different forms of carbon and that they are examples of giant covalent substances			
Describe the structures of graphite and diamond			
Explain, in terms of structure and bonding, why graphite and diamond have different uses			
Explain the properties of fullerenes including C ₆₀ and graphene in terms of their structures and bonding			
Describe, using poly(ethene) as the example, that simple polymers consist of large molecules containing chains of carbon atoms			
Explain the properties of metals, including malleability and the ability to conduct electricity			
Describe the limitations of particular representations and models, to include dot & cross, ball & stick models & 2/3D			
Describe the properties of most metals			
Calculate relative formula mass given relative atomic masses			
Calculate the formulae of simple compounds from reacting masses and understand that these are empirical formulae			
Deduce: empirical formula of a compound from the formula of its molecule			
Deduce: molecular formula of a compound from its empirical formula and its relative molecular mass			
Describe an experiment to determine the empirical formula of a simple compound such as magnesium oxide			
Explain the law of conservation of mass applied to: a closed system and a non-enclosed system			
Calculate masses of reactants and products from balanced equations, given the mass of one substance			
Calculate the concentration of solutions in g dm ⁻³			



Recall that an ion is an atom or group of atoms with a positive or negative charge		
Calculate the numbers of protons, neutrons and electrons in simple ions given the atomic number and mass number		
Explain the formation of ions in ionic compounds from their atoms, limited to compounds of elements in groups 1, 2, 6 and 7		
Explain the use of the endings -ide and -ate in the names of compounds		
Deduce the formulae of ionic compounds given the formulae of the constituent ions		
Explain the structure of an ionic compound including a description of the lattice and electrostatic forces		

3. Topic 2 – States of matter and mixtures States of matter

Content	Red ☹️	Amber 😐	Green 😊
Describe the arrangement, movement and the relative energy of particles in each of the three states of matter			
Recall the names used for the interconversions between the three states of matter			
Compare physical changes with chemical reactions			
Explain the changes in arrangement, movement and energy of particles during these interconversions			
Predict the physical state of a substance under specified conditions, given suitable data			
Explain the difference between the use of 'pure' in chemistry compared with its everyday use and the differences between a pure substance and a mixture			
Interpret melting point data to distinguish between pure substances and mixtures			
Explain the experimental techniques for separation of mixtures by: simple & fractional distillation, filtration, crystallisation and paper chromatography			
Describe an appropriate experimental technique to separate a mixture when knowing the properties			
Describe what paper chromatography is and explain how it can be used to separate a mixture			
Interpret a paper chromatogram: to distinguish between pure and impure substances			
Interpret a paper chromatogram: to identify substances by comparison with known substances			
Interpret a paper chromatogram: to identify substances by calculation and use of Rf values			
Core Practical: Investigate the composition of inks using simple distillation and paper chromatography			
Describe how: waste and ground water can be made potable, including the need for sedimentation, filtration and chlorination			
Describe how: sea water can be made potable by using distillation			
Describe how: water used in analysis must not contain any dissolved salts			



4. Topic 3 – Chemical changes

Content	Red ☹️	Amber 😐	Green 😊
Recall that acids in solution are sources of hydrogen ions and alkalis in solution are sources of hydroxide ions			
Recall that the pH values of acids, alkalis and neutral			
Recall the effect of acids and alkalis on indicators, including litmus, methyl orange and phenolphthalein			
HT ONLY: Recall what the higher the concentration of hydrogen ions and hydroxide ions in a solution does to the pH of a solution			
HT ONLY: Recall that as hydrogen ion concentration in a solution increases by a factor of 10, the pH of the solution decreases by 1			
Core Practical: Investigate the change in pH on adding powdered calcium hydroxide or calcium oxide to a dilute hydrochloric acid			
HT ONLY: Explain the terms dilute and concentrated, with respect to amount of substances in solution			
HT ONLY: Explain the terms weak and strong acids, with respect to the degree of dissociation into ions			
Recall what is formed when a base of any substance reacts with an acid			
Recall what alkalis and bases are			
Explain the general reactions of aqueous solutions of acids with: metals, metal oxides, metal hydroxides and metal carbonates			
Describe the chemical test for: hydrogen and carbon dioxide (using limewater)			
Describe a neutralisation reaction as a reaction between an acid and a base			
Explain an acid-alkali neutralisation as a reaction in which in terms of the reaction between hydrogen and hydroxide ions			
Explain why, when soluble salts are prepared from an acid and an insoluble reactant: excess reactant is added and excess insoluble reactant is removed			
Explain why, if soluble salts are prepared from an acid and a soluble reactant: titration must be used and what is left after the reaction is only salt and water			
Core Practical: Investigate the preparation of pure, dry hydrated copper sulfate crystals starting from copper oxide including the use of a water bath			
Describe how to carry out an acid-alkali titration, using burette, pipette and a suitable indicator, to prepare a pure, dry salt			
Recall the general rules which describe the solubility of all common sodium, potassium and ammonium salts			
Recall the general rules which describe the solubility of all nitrates			
Recall the general rules which describe the solubility of common chlorides (except those of silver and lead)			
Recall the general rules which describe the solubility of common sulfates (except those of lead, barium and calcium)			
Recall the general rules which describe the solubility of common carbonates and hydroxides (except those of sodium, potassium and ammonium)			
Predict, using solubility rules, whether or not a precipitate will be formed when named solutions are mixed together, naming the precipitate if any is formed			
Describe the method used to prepare a pure, dry sample of an insoluble salt			
Recall that electrolytes are ionic compounds in the molten state or dissolved in water			



Edexcel Combined: Chemistry Paper 2

Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 6 – Groups in the periodic table

Content	Red ☹️	Amber 😐	Green 😊
Explain why some elements can be classified as alkali metals, halogens or noble gases, based on their position in the periodic table			
Recall the physical properties of alkali metals			
Describe the reactions of lithium, sodium and potassium with water			
Describe the pattern in reactivity of the alkali metals, lithium, sodium and potassium, with water; and use this pattern to predict the reactivity of other alkali metals			
Explain this pattern in reactivity in terms of electronic configurations			
Recall the colours and physical states of chlorine, bromine and iodine at room temperature			
Describe the pattern in the physical properties of the halogens, chlorine, bromine and iodine, and use this pattern to predict the physical properties of other halogens			
Describe the chemical test for chlorine			
Describe the reactions of the halogens, chlorine, bromine and iodine, with metals to form metal halides, and use this pattern to predict the reactions of other halogens			
Recall that the halogens, chlorine, bromine and iodine, form hydrogen halides which dissolve in water to form acidic solutions, and use this pattern to predict the reactions of other halogens			
Describe the relative reactivity of the halogens chlorine, bromine and iodine, as shown by their displacement reactions with halide ions and use this to predict the reactions of astatine			
HT ONLY: Explain why these displacement reactions are redox reactions in terms of gain and loss of electrons, identifying which of these are oxidised and which are reduced			
Explain the relative reactivity of the halogens in terms of electronic configurations			
Explain why the noble gases are chemically inert, compared with the other elements, in terms of their electronic configurations			
Explain how the uses of noble gases depend on their inertness, low density and/or non-flammability			
Describe the pattern in the physical properties of some noble gases and use this pattern to predict the physical properties of other noble gases			

Describe electrolysis as a process in which electrical energy, from a direct current supply, decomposes electrolytes			
Explain the movement of ions during electrolysis			
Explain the formation of the products in the electrolysis, using inert electrodes, for copper & sodium chloride solution, sodium sulfate, acidified water & molten lead bromide			
Predict the products of electrolysis of other binary, ionic compounds in the molten state			
HT ONLY: Write half equations for reactions occurring at the anode and cathode in electrolysis			
HT ONLY: Explain oxidation and reduction in terms of loss or gain of electrons			
HT ONLY: Recall that reduction occurs at the cathode and that oxidation occurs at the anode in electrolysis reactions			
Explain the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes, and how this can be used to purify copper			
Core Practical: Investigate the electrolysis of copper sulfate solution with inert electrodes and copper electrodes			

5. Topic 4 – Extracting metals and equilibria

Skill	Red ☹️	Amber 😐	Green 😊
Deduce the relative reactivity of some metals, by their reactions with water, acids and salt solutions			
HT ONLY: Explain displacement reactions as redox reactions, in terms of gain or loss of electrons			
Explain the reactivity series of metals in terms of the reactivity of the metals with water and dilute acids (relative to carbon)			
Recall what ores and native metals are			
Describe what oxidation and reduction are			
Explain why the method used to extract a metal from its ore is related to its position in the reactivity series and the cost of the extraction process (electrolysis and smelting)			
HT ONLY: Evaluate alternative biological methods of metal extraction (bacterial and phytoextraction)			
Explain how a metal's relative resistance to oxidation is related to its position in the reactivity series			
Evaluate the advantages of recycling metals			
Describe what a life time assessment for a product involves and what it needs to consider			
Evaluate data from a life cycle assessment of a product			
Recall that chemical reactions are reversible, the use of the symbol $\rightleftharpoons$ in equations and how the direction of some reversible reactions can be altered			
Explain what is meant by dynamic equilibrium			
Describe the formation of ammonia as a reversible reaction in the Haber process			
Recall the conditions for the Haber process			
HT ONLY: Predict how the position of a dynamic equilibrium is affected by changes in temperature, pressure and concentration			



2. Topic 7 – Rates of reaction and energy changes

Content	Red ☹️	Amber 😐	Green 😊
Core Practical: Investigate the effects of changing the conditions of a reaction on the rates of chemical reactions by: measuring the production of a gas/observing a colour change			
Suggest practical methods for determining the rate of a given reaction			
Explain how reactions occur by discussing the collision theory			
Explain the effects on rates of reaction of changes in temperature, concentration, surface area to volume ratio and pressure in terms of frequency and energy of collisions			
Interpret graphs of mass, volume or concentration of reactant or product against time			
Describe what a catalyst is			
Explain how the addition of a catalyst increases the rate of a reaction in terms of activation energy			
Recall that enzymes are biological catalysts and that enzymes are used in the production of alcoholic drinks			
Recall when chemical changes occur that they cause changes in heat energy			
Describe the differences between endothermic and exothermic in terms of energy taken in or given out			
Recall if bonds are broken or made for each of the following reactions: endothermic and exothermic			
Describe why the overall heat energy change for a reaction is exothermic or endothermic in terms of bonds being made or broken			
HT ONLY: Calculate the energy change in a reaction given the energies of bonds (in kJ mol ⁻¹)			
Explain the term activation energy			
Draw and label reaction profiles for endothermic and exothermic reactions, identifying activation energy			



3. Topic 8 – Fuels and Earth science

Content	Red ☹️	Amber 😐	Green 😊
Recall what a hydrocarbon is			
Describe and explain what crude oil is and why it is important			
Describe and explain the separation of crude oil into simpler, more useful mixtures by the process of fractional distillation			
Recall the names and uses of the following fractions: gases, petrol, kerosene, diesel oil, fuel oil and bitumen			
Explain how hydrocarbons in different fractions differ from each other in terms of boiling point, number of C & H's, flammability and viscosity			
Explain what a homologous series of hydrocarbon compounds is			
Describe the complete combustion of hydrocarbon fuels including energy changes and products			
Explain why the incomplete combustion of hydrocarbons can produce carbon and carbon monoxide			
Explain how carbon monoxide behaves as a toxic gas			
Describe the problems caused by incomplete combustion in appliances that use carbon compounds as fuels			
Explain how impurities in some hydrocarbon fuels result in the production of sulfur dioxide			
Explain some problems associated with acid rain			
Explain why, when fuels are burned in engines, oxides of nitrogen are formed and that they are pollutants			
Evaluate the advantages and disadvantages of using hydrogen, rather than petrol, as a fuel in cars			
Recall the names and sources of some renewable fossil fuels			
Explain what cracking is and why it is necessary			
Recall that the gases produced by volcanic activity formed the Earth's early atmosphere			
Describe what the Earth's early atmosphere was thought to contain			
Explain what the oceans were formed from			
Explain why the amount of carbon dioxide in the atmosphere decreases when the oceans were formed			
Explain how the growth of primitive plants changes the composition of gases in the atmosphere			
Describe the chemical test for oxygen			
Describe and explain the greenhouse effect and name the gases that contribute to it			
Evaluate the evidence for human activity causing climate change			
Describe the potential effects on the climate of increased levels of carbon dioxide and methane generated by human activity			
Describe how effects on the climate may be mitigated: consider scale, risk and environmental implications			

Edexcel Single: Physics Paper 1

Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 1 – Key Concepts

Content	Red ☹️	Amber 😐	Green 😊
Recall and use the SI unit for physical quantities, as listed in the specification			
Recall and use multiples and sub-multiples of units, including giga (G), mega (M), kilo (k), centi (c), milli (m), micro (μ) and nano (n)			
Be able to convert between different units, including hours to seconds			
Use significant figures and standard form where appropriate			

2. Topic 2 – Motion and Forces

Content	Red ☹️	Amber 😐	Green 😊
Describe what scalar and vector quantities are and explain the differences			
Recall vector and scalar quantities, including: displacement/distance, velocity/speed, acceleration, force, weight/mass, momentum and energy			
Define what velocity is			
Recall and use the equations: (average) speed (metre per second, m/s) = distance (metre, m) $\div$ time (s)			
Recall and use the equation: distance travelled (metre, m) = average speed (metre per second, m/s) $\times$ time (s)			
Analyse distance/time graphs including determination of speed from the gradient			
Recall and use the equation: $a = (v - u) / t$			
Use the equation: $v^2 - u^2 = 2a \times x$			
Analyse velocity/time graphs to: compare acceleration from gradients qualitatively			
Analyse velocity/time graphs to: calculate the acceleration from the gradient (for uniform acceleration only)			
Analyse velocity/time graphs to: determine distance travelled using area between the graph line and the axis (for uniform acceleration only)			
Describe a range of laboratory methods for determining the speeds of objects such as the use of light gates			
Recall some typical speeds encountered in everyday experience for wind and sound, and for walking, running, cycling and other transportation systems			
Recall Newton's first law and use it where the resultant force on a body is zero			
Recall Newton's first law and use it where the resultant force is not zero			
Recall and use Newton's second law as: $F = m \times a$			
Define weight, recall and use the equation: $W = m \times g$			
Describe how weight is measured			
Describe the relationship between the weight of a body and the gravitational field strength			
Core Practical: Investigate the relationship between force, mass and acceleration by varying the masses added to trolleys			



HT ONLY: Explain that an object moving in a circular orbit at constant speed has a changing velocity			
HT ONLY: Explain that for motion in a circle there must be a resultant force known as a centripetal force that acts towards the centre of the circle			
HT ONLY: Explain that inertial mass is a measure of how difficult it is to change the velocity of an object			
Recall and apply Newton's third law both to equilibrium situations			
HT ONLY: Recall and apply Newton's third law collision interactions and relate it to the conservation of momentum in collisions			
HT ONLY: Define momentum, recall and use the equation: $p = m \times v$			
HT ONLY: Describe examples of momentum in collisions			
HT ONLY: Use Newton's second law as: $F = (mv - mu) / t$			
Explain methods of measuring human reaction times and recall typical results			
Recall what the stopping distance of a vehicle is the sum of			
Explain that the stopping distance of a vehicle is affected by a range of factors and name the factors			
Describe the factors that could affect a driver's reaction time			
Explain the dangers caused by large decelerations			
HT ONLY: Estimate the forces involved in typical situations on a public road due to decelerations			
Estimate how the distance required for a road vehicle to stop in an emergency varies over a range of typical speeds			
Carry out calculations on work done to show the dependence of braking distance for a vehicle on initial velocity squared			

3. Topic 3 – Conservation of Energy

Skill	Red ☹️	Amber 😐	Green 😊
Recall and use the equation to calculate the change in gravitational PE when an object is raised above the ground: $\Delta GPE = m \times g \times \Delta h$			
Recall and use the equation to calculate the amounts of energy associated with a moving object: $KE = \frac{1}{2} \times m \times v^2$			
Draw and interpret diagrams to represent energy transfers			
Explain what is meant by conservation of energy			
Analyse the changes involved in the way energy is stored when a system changes for an object projected upwards or up a slope			
Analyse the changes involved in the way energy is stored when a system changes for a moving object hitting an obstacle			
Analyse the changes involved in the way energy is stored when a system changes for an object being accelerated by a constant force			
Analyse the changes involved in the way energy is stored when a system changes for a vehicle slowing down			
Analyse the changes involved in the way energy is stored when a system changes for bringing water to a boil in an electric kettle			
Explain that where there are energy transfers in a closed system there is no net change to the total energy in that system			
Explain that mechanical processes become wasteful when they cause a rise in temperature so dissipating energy in heating the surroundings			
Explain, using examples, how in all system changes energy is dissipated so that it is stored in less useful ways			



Explain ways of reducing unwanted energy transfer including through lubrication, thermal insulation			
Describe the effects of the thickness and thermal conductivity of the walls of a building on its rate of cooling qualitatively			
Recall and use the equation: efficiency = useful energy transferred / total energy supplied			
HT ONLY: Explain how efficiency can be increased			
Describe the main energy sources available for use on Earth and compare the ways in which both renewable and non-renewable sources are used			
Explain patterns and trends in the use of energy resources			

4. Topic 4 - Waves

Skill	Red ☹️	Amber 😐	Green 😊
Recall that waves transfer energy and information without transferring matter			
Describe evidence that with water and sound waves it is the wave and not the water or air itself that travels			
Define and use the terms frequency and wavelength as applied to waves			
Use the terms amplitude, period, wave velocity and wavefront as applied to waves			
Describe the difference between longitudinal and transverse waves by referring to sound, electromagnetic, seismic and water waves			
Recall and use both the equations for all waves: $v = f \times \lambda$ and $v = \lambda / t$			
Describe how to measure the velocity of sound in air and ripples on water surfaces			
HT ONLY: Calculate depth or distance from time and wave velocity			
Describe the effects of reflection, refraction, transmission, absorption of waves at material interfaces			
Explain how waves will be refracted at a boundary in terms of the change of direction			
HT ONLY: Explain how waves will be refracted at a boundary in terms of the change of speed			
HT ONLY: Recall that different substances may absorb, transmit, refract or reflect waves in ways that vary with wavelength			
HT ONLY: Describe the processes which convert wave disturbances between sound waves and vibrations in solids			
HT ONLY: Explain why processes that convert wave disturbances only work over a limited frequency range			
HT ONLY: Use the process that converts wave disturbances to explain the way the human ear works			
HT ONLY: Recall the frequency of ultrasound and state its units			
HT ONLY: Explain uses of ultrasound and infrasound			
Describe how changes, if any, in velocity, frequency and wavelength, in the transmission of sound waves from one medium to another are inter-related			
Core Practical: investigate the suitability of equipment to measure the speed, frequency and wavelength of a wave in a solid and a fluid			



5. Topic 5 – Light and the Electromagnetic Spectrum

Skill	Red ☹️	Amber 😐	Green 😊
Explain, with the aid of ray diagrams, reflection, refraction and total internal reflection (TIR), including the law of reflection and critical angle			
Explain the difference between specular and diffuse reflection			
Explain how colour of light is related to differential absorption at surfaces and transmission of light through filters			
Relate the power of a lens to its focal length and shape			
Use ray diagrams to show the similarities and differences in the refraction of light by converging and diverging lenses			
Explain the effects of different types of lens in producing real and virtual images			
Recall that all electromagnetic waves are transverse, that they travel at the same speed in a vacuum			
Explain, with examples, that all electromagnetic waves transfer energy from source to observer			
Investigate refraction in rectangular glass blocks in terms of the interaction of electromagnetic waves with matter			
Recall the main groupings of the continuous electromagnetic spectrum			
Describe the electromagnetic spectrum			
Recall that our eyes can only detect a limited range of frequencies of electromagnetic radiation			
HT ONLY: Recall that different substances may absorb, transmit, refract or reflect electromagnetic waves in ways that vary with wavelength			
Explain the effects of differences in the velocities of electromagnetic waves in different substances			
Explain that all bodies emit radiation, that the intensity and wavelength distribution of any emission depends on their temperature			
HT ONLY: Explain that for a body to be at a constant temperature it needs to radiate the same average power that it absorbs			
HT ONLY: Explain what happens to a body if the average power it radiates is less or more than the average power that it absorbs			
HT ONLY: Explain how the temperature of the Earth is affected by factors controlling the balance between incoming radiation and radiation emitted			
Core Practical: Investigate how the nature of a surface affects the amount of thermal energy radiated or absorbed			
Recall that the potential danger associated with an electromagnetic wave increases with increasing frequency			
Describe the harmful effects on people of excessive exposure to electromagnetic radiation			
Describe some uses of electromagnetic radiation			
HT ONLY: Recall that radio waves can be produced by, or can themselves induce, oscillations in electrical circuits			
Recall that changes in atoms and nuclei can generate radiations over a wide frequency range and be caused by absorption of a range of radiations			

6. Topic 6a – Radioactivity – part A

Skill	Red ☹️	Amber 😐	Green 😊
Describe the structure of the atom			
Recall the typical size (order of magnitude) of atoms and small molecules			
Describe the structure of nuclei of isotopes			
Define the term isotope			
Recall the relative masses and relative electric charges of protons, neutrons, electrons and positrons			
Recall that in an atom the number of protons equals the number of electrons and is therefore neutral			
Recall that in each atom its electrons orbit the nucleus at different set distances from the nucleus			
Explain that electrons change orbit when there is absorption or emission of electromagnetic radiation			
Explain how atoms may form positive ions			
Recall that alpha, β^- , β^+ , gamma rays and neutron radiation are emitted from unstable nuclei in a random process			
Recall that alpha, β^- , β^+ and gamma rays are ionising radiation			
Explain what is meant by background radiation			
Describe the origins of background radiation from Earth and space			
Describe methods for measuring and detecting radioactivity limited to photographic film and a Geiger-Müller tube			
Recall what alpha, beta and gamma radiation are made up of			
Compare alpha, beta and gamma radiations in terms of their abilities to penetrate and ionise			
Describe how and why the atomic model has changed over time including reference to the different models and scattering experiments			
Describe the process of β^- and β^+ decay			
Explain the effects on the atomic (proton) number and mass (nucleon) number of radioactive decays (α , β , γ and neutron emission)			
Recall that nuclei that have undergone radioactive decay often undergo nuclear rearrangement with a loss of energy as gamma radiation			

7. Topic 6b – Radioactivity – part B

Skill	Red ☹️	Amber 😐	Green 😊
Use given data to balance nuclear equations in terms of mass and charge			
Describe how the activity of a radioactive source decreases over a period of time			
Recall that the unit of activity of a radioactive isotope is the Becquerel, Bq			
Explain what half life of a radioactive isotope is			
Explain that it cannot be predicted when a particular nucleus will decay but half-life enables the activity of a very large number of nuclei to be predicted			
Use the concept of half-life to carry out simple calculations on the decay of a radioactive isotope, including graphical representations			
Describe uses of radioactivity in: the home, industry and medicine			
Describe the dangers of ionising radiation in terms of tissue damage and possible mutations and relate this to the precautions needed			
Explain how the dangers of ionising radiation depend on half-life and relate this to the precautions needed			
Explain the precautions taken to ensure the safety of people exposed to radiation, including limiting the dose			
Describe the differences between contamination and irradiation effects and compare the hazards associated with these two			
Phy ONLY: Compare and contrast the treatment of tumours using radiation applied internally or externally			
Phy ONLY: Explain some of the uses of radioactive substances in diagnosis of medical conditions, including PET scanners and tracers			
Phy ONLY: Explain why isotopes used in PET scanners have to be produced nearby			
Phy ONLY: Evaluate the advantages and disadvantages of nuclear power for generating electricity			
Phy ONLY: Recall that nuclear reactions, including fission, fusion and radioactive decay, can be a source of energy			
Phy ONLY: Explain the fission of U-235			
Phy ONLY: Explain the principle of a controlled nuclear chain reaction			
Phy ONLY: Explain how the chain reaction is controlled in a nuclear reactor, including the action of moderators and control rods			
Phy ONLY: Describe how thermal (heat) energy from the chain reaction is used in the generation of electricity in a nuclear power station			
Phy ONLY: Recall that the products of nuclear fission are radioactive			
Phy ONLY: Describe nuclear fusion			
Phy ONLY: Explain the difference between nuclear fusion and nuclear fission			
Phy ONLY: Explain why nuclear fusion does not happen at low temperatures and pressures			
Phy ONLY: Relate the conditions for fusion to the difficulty of making a practical and economic form of power station			



8. Topic 7 – Astronomy

Skill	Red	Amber	Green
Phy ONLY: Explain how and why both the weight of any body and the value of g differ between the surface of the Earth and the surface of other bodies in space			
Phy ONLY: Recall what our solar system consists of			
Phy ONLY: Recall the names and order, in terms of distance from the Sun, of the eight planets			
Phy ONLY: Describe how ideas about the structure of the Solar System have changed over time			
Phy ONLY: Describe the orbits of moons, planets, comets and artificial satellites			
Phy ONLY: Explain for circular orbits how the force of gravity can lead to changing velocity of a planet but unchanged speed			
Phy ONLY: Explain how, for a stable orbit, the radius must change if orbital speed changes (qualitative only)			
Phy ONLY: Compare the Steady State and Big Bang theories			
Phy ONLY: Describe evidence supporting the Big Bang theory, limited to red-shift and the cosmic microwave background (CMB) radiation			
Phy ONLY: Recall that as there is more evidence supporting the Big Bang theory than the Steady State theory			
Phy ONLY: Describe that if a wave source is moving relative to an observer there will be a change in the observed frequency and wavelength			
Phy ONLY: Describe the red-shift in light received from galaxies at different distances away from the Earth			
Phy ONLY: Explain why the red-shift of galaxies provides evidence for the Universe expanding			
Phy ONLY: Explain how both the Big Bang and Steady State theories of the origin of the Universe both account for red-shift of galaxies			
Phy ONLY: Explain how the discovery of the CMB radiation led to the Big Bang theory becoming the currently accepted model			
Phy ONLY: Describe the evolution of stars of similar mass to the Sun			
Phy ONLY: Explain how the balance between thermal expansion and gravity affects the life cycle of stars			
Phy ONLY: Describe the evolution of stars with a mass larger than the Sun			
Phy ONLY: Describe how methods of observing the Universe have changed over time including why some telescopes are located outside the Earth's atmosphere			

Edexcel Single: Physics Paper 2 Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 8 – Forces doing work

Content	Red	Amber	Green
Describe the changes involved in the way energy is stored when systems change			
Draw and interpret diagrams to represent energy transfers			
Explain that where there are energy transfers in a closed system there is no net change to the total energy in that system			
Identify the different ways that the energy of a system can be changed through work done by forces, in electrical equipment and in heating			
Describe how to measure the work done by a force and recall that energy transferred (joule, J) is equal to work done (joule, J)			
Recall and use the equation: $E = F \times d$			
Describe and calculate the changes in energy involved when a system is changed by work done by forces			
Recall and use the equation to calculate the change in gravitational PE when an object is raised above the ground: $\Delta GPE = m \times g \times \Delta h$			
Recall and use the equation to calculate the amounts of energy associated with a moving object: $KE = \frac{1}{2} \times m \times v^2$			
Explain, using examples, how in all system changes energy is dissipated so that it is stored in less useful ways			
Explain that mechanical processes become wasteful when they cause a rise in temperature so dissipating energy in heating the surroundings			
Define power as the rate at which energy is transferred and use examples to explain this definition			
Recall and use the equation: $P = E/t$			
Recall what one Watt is equal to			
Recall and use the efficiency equation			

2. Topic 9 – Forces and their effects

Content	Red	Amber	Green
Describe, with examples, how objects can interact with and without contact			
Explain the difference between vector and scalar quantities using examples			
HT ONLY: Use vector diagrams to illustrate resolution of forces, a net force, and equilibrium situations			
HT ONLY: Draw and use free body force diagrams			
HT ONLY: Explain examples of the forces acting on an isolated solid object or a system where several forces lead to a resultant force			
Phy ONLY: Describe situations where forces can cause rotation			
Phy ONLY: Recall and use the equation: moment of a force = force $\times$ distance normal to the direction of the force			
Phy ONLY: Recall and use the principle of moments in situations where rotational forces are in equilibrium			



Phy ONLY: Explain how levers and gears transmit the rotational effects of forces			
Explain ways of reducing unwanted energy transfer through lubrication			

3. Topic 10a – Electricity and Circuits (part A)

Skill	Red	Amber	Green
Describe the structure of the atom, limited to the position, mass and charge of protons, neutrons and electrons			
Draw and use electric circuit diagrams			
Describe the differences between series and parallel circuits			
Recall how to measure potential difference using a voltmeter in series and parallel circuits			
Define potential difference and describe what a volt is			
Recall and use the equation: $E = Q \times V$			
Recall how to measure current using an ammeter in series and parallel circuits			
Explain what electrical current is			
Recall and use the equation: $Q = I \times t$			
Describe that when a closed circuit includes a source of potential difference there will be a current in the circuit			
Recall that current is conserved at a junction in a circuit			
Describe how to use a variable resistor in a circuit			
Recall and use the equation: $V = I \times R$			
Explain why, if two resistors are in series, the net resistance is increased, whereas with two in parallel the net resistance is decreased			
Calculate the currents, potential differences and resistances in series circuits			
Explain the design and construction of series circuits for testing and measuring			
Core Practical: Construct electrical circuits to: investigate the relationship between, V , I and R for a resistor and a filament lamp			

4. Topic 10b – Electricity and Circuits (part B)

Skill	Red	Amber	Green
Explain how I varies with V for the following devices and how this relates to R for filament lamps, diodes and fixed resistors			
Describe how the resistance of a light-dependent resistor (LDR) varies with light intensity			
Describe how the resistance of a thermistor varies with change of temperature (neg temp thermistors only)			
Explain how the design and use of circuits can be used to explore the variation of resistance in: filament lamps, diodes, thermistors & LDRs			
Recall that, when there is an electric current in a resistor, there is an energy transfer which heats the resistor			
Explain how electrical energy is dissipated when an electrical current does work against electrical resistance			
Explain the energy transfer when electrical energy is dissipated when an electrical current does work against electrical resistance			
Explain ways of reducing unwanted energy transfer through low resistance wires			



Describe the advantages and disadvantages of the heating effect of an electric current			
Use the equation: $E = I \times V \times t$			
Describe power as the energy transferred per second and recall that it is measured in watt			
Recall and use the equation: $P = E/t$			
Explain how the power transfer in any circuit device is related to the potential difference across it and the current in it			
Recall and use the equations: $P = I \times V$ and $P = I^2 \times R$			
Describe how, in different domestic devices, energy is transferred from batteries and a.c. mains motors and heating devices			
Explain the difference between direct and alternating voltage			
Describe what direct current (d.c.) is and recall the objects that supply it			
Describe what alternating current (a.c.) is and recall the frequency and voltage in the UK			
Explain the difference in function between the live and the neutral mains input wires			
Explain the function of an earth wire and of fuses or circuit breakers in ensuring safety			
Explain why switches and fuses should be connected in the live wire of a domestic circuit			
Recall the potential differences between the live, neutral and earth mains wires			
Explain the dangers of providing any connection between the live wire and earth			
Describe, with examples, the relationship between the power ratings for domestic electrical appliances and the changes in energy when used			

5. Topic 11 – Static Electricity

Skill	Red	Amber	Green
Phy ONLY: Explain how an insulator can be charged by friction, through the transfer of electrons			
Phy ONLY: Explain how insulating materials become charged due to the loss or gain of electrons			
Phy ONLY: Describe the interactions between like charges and unlike charges			
Phy ONLY: Explain common electrostatic phenomena for movement of electrons, inc: shocks from objects, lightning & attraction by induction			
Phy ONLY: Explain how earthing removes excess charge			
Phy ONLY: Explain some of the uses of electrostatic charges in everyday situations			
Phy ONLY: Describe some of the dangers of sparking in everyday situations			
Phy ONLY: Define what an electric field is			
Phy ONLY: Describe the shape and direction of the electric field around a point charge and between parallel plates			
Phy ONLY: Relate the electrical strength of the field to the concentration of lines			
Phy ONLY: Explain how the concept of an electric field helps to explain the phenomena of static electricity			



6. Topic 12 – Magnetism and the motor effect

Skill	Red 😞	Amber 😐	Green 😊
Describe the interactions between like and unlike magnetic poles			
Describe the uses of permanent and temporary magnetic materials including cobalt, steel, iron and nickel			
Explain the difference between permanent and induced magnets			
Describe the shape and direction of the magnetic field around bar magnets and for a uniform field			
Relate the strength of the magnetic field to the concentration of lines			
Describe the use of plotting compasses to show the shape and direction of the field of a magnet and the Earth's magnetic field			
Explain how the behaviour of a magnetic compass is related to evidence that the core of the Earth must be magnetic			
Describe how to show that a current can create a magnetic effect around a long straight conductor			
Describe the shape of the magnetic field produced and relating the direction of the magnetic field to the direction of the current			
Recall that the strength of the field depends on the size of the current and the distance from the long straight conductor			
Explain how inside a solenoid the fields from individual coils can add together or cancel			
HT ONLY: Recall what happens when a current carrying conductor is placed near a magnet experiences in terms of force			
HT ONLY: Explain how magnetic forces are due to interactions between magnetic fields			
HT ONLY: Recall and use Fleming's left-hand rule to represent the relative directions of the force			
HT ONLY: Use the equation: $F = B \times I \times l$			
HT ONLY: Explain how the force on a conductor in a magnetic field is used to cause rotation in electric motors			

7. Topic 13 – EM Induction

Skill	Red 😞	Amber 😐	Green 😊
HT & Phy ONLY: Explain how to produce an electric current by the relative movement of a magnet and a conductor in the lab & on a large-scale			
HT & Phy ONLY: Recall the factors that affect the size and direction of an induced potential difference			
HT & Phy ONLY: Describe how the magnetic field produced opposes the original change			
HT & Phy ONLY: Explain how electromagnetic induction is used in alternators to generate alternating current (a.c)			
HT & Phy ONLY: Explain how electromagnetic induction is used in dynamos to generate direct current (d.c.)			
HT & Phy ONLY: Explain the action of the microphone in converting sound waves into variations in current			
HT & Phy ONLY: Explain the action of loudspeakers and headphones in converting current into sound waves			



HT & Phy ONLY: Explain how an alternating current in one circuit can induce a current in another circuit in a transformer			
HT & Phy ONLY: Recall that a transformer can change the size of an alternating voltage			
HT & Phy ONLY: Use the turns ratio equation for transformers to calculate either voltage or number of turns: $V_p/V_s = N_p/N_s$			
Explain why, in the national grid, electrical energy is transferred at different voltages			
Explain where and why step-up and step-down transformers are used in the transmission of electricity in the national grid			
Use the power equation (for transformers with 100% efficiency): $V_p \times I_p = V_s \times I_s$			
HT & Phy ONLY: Explain the advantages of power transmission in high voltage cables, using the equations from the spec			

8. Topic 14 – Particle Model

Skill	Red 😞	Amber 😐	Green 😊
Use a simple kinetic theory model to explain the different states of matter			
Recall and use the equation: $\rho = m/V$			
Core Practical: Investigate the densities of solid and liquids			
Explain the differences in density between the different states of matter in terms of the arrangements of the particles			
Name and describe the physical changes of state			
Describe the differences between chemical and physical changes			
Explain how heating a system will change the energy stored within the system and affect temperature at the state of the material			
Define the terms specific heat capacity and specific latent heat and explain the differences between them			
Use the equation: $\Delta Q = m \times c \times \Delta\theta$			
Use the equation: $Q = m \times L$			
Explain ways of reducing unwanted energy transfers through thermal insulation			
Core Practical: Investigate the properties of water by determining the specific heat capacity of water for melting ice			
Explain the pressure of a gas in terms of the motion of its particles			
Explain the effect of changing the temperature of a gas on the velocity of its particles and hence on the pressure			
Describe the term absolute zero, -273°C , in terms of movement of particles			
Convert between the kelvin and Celsius scales			
Phy ONLY: Explain that gases can be compressed or expanded by pressure changes			
Phy ONLY: Explain that the pressure of a gas produces a net force at right angles to any surface			
Phy ONLY: Explain the effect of changing the volume of a gas on the rate at which its particles collide with the walls of its container and therefore pressure			
Phy ONLY: Use the equation: $P_1 \times V_1 = P_2 \times V_2$			
HT ONLY: Explain why doing work on a gas can increase its temperature, including a bicycle pump			



Edexcel Single: Biology Paper 1

Revision Checklist

9. Topic 15 – Forces and Matter

Skill	Red ☹️	Amber 😐	Green 😊
Explain, using springs and other elastic objects, that stretching, bending or compressing an object requires more than one force			
Describe the difference between elastic and inelastic distortion			
Recall and use the equation for linear elastic distortion including calculating the spring constant: $E = k \times x$			
Use the equation to calculate the work done in stretching a spring: $E = \frac{1}{2} k \times x^2$			
Describe the difference between linear and non-linear relationships between force and extension			
Core Practical: Investigate the extension and work done when applying forces to a spring			
Phy ONLY: Explain why atmospheric pressure varies with height above the Earth's surface with refer to Earth's atmosphere			
Phy ONLY: Describe the pressure in a fluid as being due to the fluid and atmospheric pressure			
Phy ONLY: Recall that the pressure in fluids causes a force normal to any surface			
Phy ONLY: Explain how pressure is related to force and area, using appropriate examples			
Phy ONLY: Recall and use the equation: $P = F/A$			
Phy ONLY: Describe how pressure in fluids increases with depth and density			
HT & Phy ONLY: Explain why the pressure in liquids varies with density and depth			
HT & Phy ONLY: Use the equation to calculate the magnitude of pressure in liquids & differences at different depths: $P = h \times \rho \times g$			
HT & Phy ONLY: Explain why an object in a fluid is subject to an upwards force (upthrust)			
HT & Phy ONLY: Relate upthrust to examples including objects that are fully immersed in a fluid (liquid or gas)			
HT & Phy ONLY: Relate upthrust to examples including objects that are partially immersed in a liquid			
HT & Phy ONLY: Recall that the upthrust is equal to the weight of fluid displaced			
HT & Phy ONLY: Explain the factors influence whether an object will float or sink			

Personalised Learning Checklist (PLC)

1. Topic 2 – Cells and control

Content	Red ☹️	Amber 😐	Green 😊
Describe mitosis as part of the cell cycle, including the stages interphase, prophase, metaphase, anaphase and telophase and cytokinesis			
Describe the importance of mitosis in growth, repair and asexual reproduction			
Describe the division of a cell by mitosis in terms of cells formed and chromosome numbers			
Describe cancer as the result of changes in cells that lead to uncontrolled cell division			
Describe growth in plants and animals including: cell division, differentiation and elongation (plants only)			
Explain the importance of cell differentiation in the development of specialised cell			
Demonstrate an understanding of the use of percentiles charts to monitor growth			
Describe the function of embryonic stem cells in animals and meristems in plants			
Discuss the potential benefits and risks associated with the use of stem cells in medicine			
Bio ONLY: Describe the structures and functions of the brain including the cerebellum, cerebral hemispheres and medulla oblongata			
Bio & HT ONLY: Explain how the difficulties of accessing brain tissue inside the skull can be overcome by using CT scanning and PET scanning			
Bio & HT ONLY: Explain some of the limitations in treating damage and disease in the brain and other parts of the nervous system			
Explain the structure and function of the nervous system including neurones, synapses and neurotransmitters			
Explain the structure and function of a reflex arc including sensory, relay and motor neurones			
Bio ONLY: Explain the structure and function of the eye as a sensory receptor including the role of: cornea, lens, iris, rod and cone cells			
Bio ONLY: Describe defects of the eye including cataracts, long-sightedness, short-sightedness and colour blindness			



2. Topic 3 – Genetics

Skill	Red ☹️	Amber 😐	Green 😊
Bio ONLY: Explain how cataracts, long-sightedness and short-sightedness can be corrected			
Bio ONLY: Explain some of the advantages and disadvantages of asexual reproduction			
Bio ONLY: Explain some of the advantages and disadvantages of sexual reproduction			
Explain the role of meiotic cell division in terms of cells formed and chromosome numbers			
Describe the structure of DNA in terms of bases and bonding			
Describe what a genome and gene are and describe the role of a gene			
Explain how DNA can be extracted from fruit			
Bio & HT ONLY: Explain how the order of bases in a section of DNA decides the order of amino acids and how this determines the shape of the protein			
Bio & HT ONLY: Describe the stages of protein synthesis, including transcription and translation:			
Bio & HT ONLY: Describe how genetic variants in the non-coding DNA of a gene can affect phenotype			
Bio & HT ONLY: Describe how genetic variants in the coding DNA of a gene can affect phenotype			
Bio ONLY: Describe the work of Mendel in discovering the basis of genetics and recognise the difficulties of understanding inheritance before this discovery			
Explain why there are differences in the inherited characteristics as a result of alleles			
Explain the terms: chromosome, gene, allele, dominant, recessive, homozygous, heterozygous, genotype, phenotype, gamete and zygote			
Explain monohybrid inheritance using genetic diagrams, Punnett squares and family pedigrees			
Describe how the sex of offspring is determined at fertilisation, using genetic diagrams			
Calculate and analyse outcomes (using probabilities, ratios and percentages) from monohybrid crosses and pedigree analysis for dominant and recessive traits			
Bio ONLY: Describe the inheritance of the ABO blood groups with reference to codominance and multiple alleles			
Bio & HT ONLY: Explain how sex-linked genetic disorders are inherited			
State that most phenotypic features are the result of multiple genes rather than single gene inheritance			
Describe the causes of variation that influence phenotype:			
genetic/environmental variation and mutations			
Discuss the outcomes of the Human Genome Project and its potential applications within medicine			
State that there is usually extensive genetic variation within a population of a species and that these arise through mutations			



3. Topic 4 – Natural selection and genetic modification

Skill	Red ☹️	Amber 😐	Green 😊
Describe the differences in severity of a genetic mutation on the phenotype			
Bio ONLY: Describe the work of Darwin and Wallace in the development of the theory of evolution by natural selection and explain the impact of these ideas on modern biology			
Explain Darwin's theory of evolution by natural selection			
Explain how the emergence of resistant organisms supports Darwin's theory of evolution including antibiotic resistance in bacteria			
Describe the evidence for human evolution, based on fossils, including: Ardi, Lucy and Leakey's discovery of fossils			
Describe the evidence for human evolution based on stone tools, including: a) the development of stone tools over time b) how these can be dated from their environment			
Bio ONLY: Describe how the anatomy of the pentadactyl limb provides scientists with evidence for evolution			
Describe how genetic analysis has led to the suggestion of the three domains rather than the five kingdoms classification method			
Explain selective breeding and its impact on food plants and domesticated animals			
Bio ONLY: Describe the process of tissue culture and its advantages in medical research and plant breeding programmes			
Describe genetic engineering as a process which involves modifying the genome of an organism to introduce desirable characteristics			
HT ONLY: Describe the main stages of genetic engineering including the use of: restriction enzymes, ligase, sticky ends and vectors			
Bio ONLY: Explain the advantages and disadvantages of genetic engineering to produce GM organisms including the modification of crop plants			
Bio ONLY: Explain the advantages and disadvantages of agricultural solutions to the demands of a growing human population, including use of fertilisers and biological control			

4. Topic 5 – Health, disease and the development of medicines

Skill	Red ☹️	Amber 😐	Green 😊
Evaluate the benefits and risks of genetic engineering and selective breeding in modern agriculture and medicine, including practical and ethical implications			
Describe health as defined by the World Health Organization (WHO)			
Describe the difference between communicable and non-communicable diseases			
Explain why the presence of one disease can lead to a higher susceptibility to other diseases			
Describe a pathogen as a disease-causing organism, including viruses, bacteria, fungi and protists			



Edexcel Single: Biology Paper 2

Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 6 – Plant structures and their functions

Content	Red ☹️	Amber 😐	Green 😊
Describe photosynthetic organisms as the main producers of food and therefore biomass			
Describe photosynthesis in plants and algae as an endothermic reaction and recall the reactants and products			
Explain the effect of temperature, light intensity and carbon dioxide concentration as limiting factors on the rate of photosynthesis			
HT ONLY: Explain the interactions of temperature, light intensity and carbon dioxide concentration in limiting the rate of photosynthesis			
Core Practical: Investigate the effect of light intensity on the rate of photosynthesis			
HT ONLY: Explain how the rate of photosynthesis, including the use of the inverse square law calculation			
Explain how the structure of the root hair cells is adapted to absorb water and mineral ions			
Explain how the structures of the xylem and phloem are adapted to their function in the plant			
Describe how water and mineral ions are transported through the plant by transpiration, including the structure and function of the stomata			
Describe how sucrose is transported around the plant by translocation			
Bio ONLY: Explain how the structure of a leaf is adapted for photosynthesis and gas exchange			
Explain the effect of environmental factors on the rate of water uptake by a plant			
Demonstrate an understanding of rate calculations for transpiration			
Bio ONLY: Explain how plants are adapted to survive in extreme environments			
Bio ONLY: Explain how plant hormones control and coordinate plant growth and development, including the role of auxins			
HT & Bio ONLY: Describe the commercial uses of auxins, gibberellins and ethene in plants			

Describe some common infections, including: cholera, tuberculosis, Chlamydia, HIV, stomach ulcers, Ebola and state the pathogen type and details of the symptoms			
Explain how pathogens are spread and how this spread can be reduced or prevented, including: cholera, tuberculosis, Chlamydia, HIV, stomach ulcers, Ebola			
Bio ONLY: Describe the lifecycle of a virus, including lyso-genic and lytic pathways			
Explain how sexually transmitted infections (STIs) are spread and how this spread can be reduced or prevented, including: Chlamydia and HIV			
Bio ONLY: Describe how some plants defend themselves against attack from pests and pathogens by physical barriers			
Bio ONLY: Describe how plants defend themselves against attack from pests and pathogens by producing chemicals and how some can be used to treat humans			
Bio & HT ONLY: Describe different ways plant diseases can be detected and identified			
Describe how the physical barriers and chemical defences of the human body provide protection from pathogens			
Explain the role of the specific immune system of the human body in defence against disease, including ideas on antigens and lymphocytes			
Explain the body's response to immunisation using an inactive form of a pathogen			
Bio ONLY: Discuss the advantages and disadvantages of immunisation, including the concept of herd immunity			
Explain why antibiotics can only be used to treat bacterial infections			
Bio ONLY: Explain the aseptic techniques used in culturing microorganisms in the laboratory			
Bio ONLY: Core Practical: Investigate the effects of antiseptics, antibiotics or plant extracts on microbial cultures			
Bio ONLY: Calculate cross-sectional areas of bacterial cultures and clear agar jelly using πr^2			
Describe that the process of developing new medicines, including antibiotics, has many stages, including discovery, development, preclinical and clinical testing			
Bio & HT ONLY: Describe the production of monoclonal antibodies			
Bio & HT ONLY: Explain the use of monoclonal antibodies			
Describe that many non-communicable human diseases are caused by the interaction of a number of factors			
Explain the effect of lifestyle factors on non-communicable diseases at local, national and global levels including BMI, alcohol and smoking			
Evaluate some different treatments for cardiovascular disease, including: life-long medication, surgical procedures and lifestyle changes			



2. Topic 7 – Animal coordination, control and homeostasis

Content	Red ☹️	Amber 😐	Green 😊
Recall where different hormones are produced and how they are transferred to their target organs			
HT ONLY: Explain where adrenalin is produced and how it prepares the body for fight or flight			
HT ONLY: Explain how thyroxine controls metabolic rate as an example of negative feedback			
Describe the stages of the menstrual cycle, including the roles of the hormones oestrogen and progesterone, in the control of the menstrual cycle			
HT ONLY: Explain the interactions of oestrogen, progesterone, FSH and LH in the control of the menstrual cycle			
Explain how hormonal contraception influences the menstrual cycle and prevents pregnancy			
Evaluate hormonal and barrier methods of contraception			
HT ONLY: Explain the use of hormones in Assisted Reproductive Technology (ART) including IVF and clomifene therapy			
Explain the importance of maintaining a constant internal environment in response to internal and external change			
Bio ONLY: Explain the importance of homeostasis, including: thermoregulation – effect on enzyme activity and osmoregulation – effect on animal cells			
Bio ONLY: Explain how thermoregulation takes place, with reference to the function of the skin			
Bio ONLY: Explain how thermoregulation takes place, with reference to: shivering			
HT & Bio ONLY: Explain how thermoregulation takes place, with reference to: vasoconstriction and vasodilation			
HT ONLY: Explain how blood glucose concentration is regulated by glucagon			
Explain how the hormone insulin controls blood glucose concentration			
Explain the cause of type 1 diabetes and how it is controlled			
Explain the cause of type 2 diabetes and how it is controlled			
Evaluate the correlation between body mass and type 2 diabetes including waist: hip calculations and BMI, using the BMI equation			
Bio ONLY: Describe the structure of the urinary system			
Bio ONLY: Explain how the structure of the nephron is related to its function in filtering the blood and forming urine			
HT & Bio ONLY: Explain the effect of ADH on the permeability of the collecting duct in regulating the water content of the blood			
Bio ONLY: Describe the treatments for kidney failure, including kidney dialysis and organ donation			
Bio ONLY: Recall what urea is produced from and where this occurs in the body			



3. Topic 8 – Exchange and transport in animals

Skill	Red ☹️	Amber 😐	Green 😊
Describe the need to transport substances into and out of a range of organisms, including oxygen, carbon dioxide, water, dissolved food molecules, mineral ions and urea			
Explain the need for exchange surfaces and a transport system in multicellular organisms including the calculation of surface area: volume ratio			
Explain how alveoli are adapted for gas exchange by diffusion between air in the lungs and blood in capillaries			
Bio ONLY: Describe the factors affecting the rate of diffusion, including surface area, concentration gradient and diffusion distance			
Bio ONLY: Calculate the rate of diffusion using Fick's law: rate of diffusion = surface area x concentration difference / membrane thickness of membrane			
Explain how the structure of the blood is related to its function: red blood cells (erythrocytes), white blood cells (phagocytes and lymphocytes), plasma and platelets			
Explain how the structure of the blood vessels is related to their function			
Explain how the structure of the heart and circulatory system is related to its function, including the role of major blood vessels, valves and thickness of chamber walls			
Describe cellular respiration as an exothermic reaction which occurs continuously in living cells to release energy for metabolic processes, including aerobic and anaerobic respiration			
Compare the process of aerobic respiration with the process of anaerobic respiration			
Core Practical: Investigate the rate of respiration in living organisms			
Calculate heart rate, stroke volume and cardiac output, using the equation cardiac output = stroke volume x heart rate			



Edexcel Single: Chemistry Paper 1

Revision Checklist

4. Topic 9 – Ecosystems and material cycles

Skill	Red ☹️	Amber 😐	Green 😊
Describe the different levels of organisation from individual organisms, populations, communities, to the whole ecosystem			
Explain how communities can be affected by abiotic and biotic factors, including: temperature, light, water, pollutants and competition, predation			
Describe the importance of interdependence in a community			
Describe how the survival of some organisms is dependent on other species, including parasitism and mutualism			
Core Practical: Investigate the relationship between organisms and their environment using field-work techniques, including quadrats and belt transects			
Explain how to determine the number of organisms in a given area using raw data from field-work techniques, including quadrats and belt transects			
Bio ONLY: Explain how some energy is transferred to less useful forms at each trophic level and that this affects the number of organisms at each trophic level			
Bio ONLY: Calculate the efficiency of energy transfers between trophic levels and percentage calculations of biomass			
Explain the positive and negative human interactions within ecosystems and their impacts on biodiversity, including: fish farming, non-indigenous species and eutrophication			
Explain the benefits of maintaining local and global biodiversity, including the conservation of animal species and the impact of reforestation			
Bio ONLY: Describe the biological factors affecting levels of food security			
Describe how different materials cycle through the abiotic and biotic components of an ecosystem			
Explain the importance of the carbon cycle, including the processes involved and the role of microorganisms as decomposers			
Explain the importance of the water cycle, including the processes involved and the production of potable water in areas of drought including desalination			
Explain how nitrates are made available for plant uptake, including the use of fertilisers, crop rotation and the role of bacteria in the nitrogen cycle			
HT & Bio ONLY: Evaluate the use of indicator species as evidence to assess the level of pollution, for: polluted water and air quality			
Bio ONLY: Explain the effects of temperature, water content and oxygen availability on the rate of decomposition in food preservation			
Bio ONLY: Explain the effects of temperature, water content and oxygen availability on the rate of decomposition in composting			
Bio ONLY: Calculate rate changes in the decay of biological material			

Personalised Learning Checklist (PLC)

1. Topic 2 – States of matter and mixtures States of matter

Content	Red ☹️	Amber 😐	Green 😊
Describe the arrangement, movement and the relative energy of particles in each of the three states of matter			
Recall the names used for the interconversions between the three states of matter			
Compare physical changes with chemical reactions			
Explain the changes in arrangement, movement and energy of particles during these interconversions			
Predict the physical state of a substance under specified conditions, given suitable data			
Explain the difference between the use of 'pure' in chemistry compared with its everyday use and the differences between a pure substance and a mixture			
Interpret melting point data to distinguish between pure substances and mixtures			
Explain the experimental techniques for separation of mixtures by: simple & fractional distillation, filtration, crystallisation and paper chromatography			
Describe an appropriate experimental technique to separate a mixture when knowing the properties			
Describe what paper chromatography is and explain how it can be used to separate a mixture			
Interpret a paper chromatogram: to distinguish between pure and impure substances			
Interpret a paper chromatogram: to identify substances by comparison with known substances			
Interpret a paper chromatogram: to identify substances by calculation and use of Rf values			
Core Practical: Investigate the composition of inks using simple distillation and paper chromatography			
Describe how: waste and ground water can be made potable, including the need for sedimentation, filtration and chlorination			
Describe how: sea water can be made potable by using distillation			
Describe how: water used in analysis must not contain any dissolved salts			



2. Topic 3 – Chemical changes

Content	Red 😞	Amber 😐	Green 😊
Recall that acids in solution are sources of hydrogen ions and alkalis in solution are sources of hydroxide ions			
Recall that the pH values of acids, alkalis and neutral orange and phenolphthalein			
HT ONLY: Recall what the higher the concentration of hydrogen ions and hydroxide ions in a solution does to the pH of a solution			
HT ONLY: Recall that as hydrogen ion concentration in a solution increases by a factor of 10, the pH of the solution decreases by 1			
Core Practical: Investigate the change in pH on adding powdered calcium hydroxide or calcium oxide to a dilute hydrochloric acid			
HT ONLY: Explain the terms dilute and concentrated, with respect to amount of substances in solution			
HT ONLY: Explain the terms weak and strong acids, with respect to the degree of dissociation into ions			
Recall what is formed when a base of any substance reacts with an acid			
Recall what alkalis and bases are			
Explain the general reactions of aqueous solutions of acids with: metals, metal oxides, metal hydroxides and metal carbonates			
Describe the chemical test for: hydrogen and carbon dioxide (using limewater)			
Describe a neutralisation reaction as a reaction between an acid and a base			
Explain an acid-alkali neutralisation as a reaction in which in terms of the reaction between hydrogen and hydroxide ions			
Explain why, when soluble salts are prepared from an acid and an insoluble reactant: excess reactant is added and excess insoluble reactant is removed			
Explain why, if soluble salts are prepared from an acid and a soluble reactant: titration must be used and what is left after the reaction is only salt and water			
Core Practical: Investigate the preparation of pure, dry hydrated copper sulfate crystals starting from copper oxide including the use of a water bath			
Describe how to carry out an acid-alkali titration, using burette, pipette and a suitable indicator, to prepare a pure, dry salt			
Recall the general rules which describe the solubility of all common sodium, potassium and ammonium salts			
Recall the general rules which describe the solubility of all nitrates			
Recall the general rules which describe the solubility of common chlorides (except those of silver and lead)			
Recall the general rules which describe the solubility of common sulfates (except those of lead, barium and calcium)			
Recall the general rules which describe the solubility of common carbonates and hydroxides (except those of sodium, potassium and ammonium)			
Predict, using solubility rules, whether or not a precipitate will be formed when named solutions are mixed together, naming the precipitate if any is formed			
Describe the method used to prepare a pure, dry sample of an insoluble salt			
Recall that electrolytes are ionic compounds in the molten state or dissolved in water			
Describe electrolysis as a process in which electrical energy, from a direct current supply, decomposes electrolytes			
Explain the movement of ions during electrolysis			



Explain the formation of the products in the electrolysis, using inert electrodes, for copper & sodium chloride solution, sodium sulfate, acidified water & molten lead bromide

Predict the products of electrolysis of other binary, ionic compounds in the molten state			
HT ONLY: Write half equations for reactions occurring at the anode and cathode in electrolysis			
HT ONLY: Explain oxidation and reduction in terms of loss or gain of electrons			
HT ONLY: Recall that reduction occurs at the cathode and that oxidation occurs at the anode in electrolysis reactions			
Explain the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes, and how this can be used to purify copper			
Core Practical: Investigate the electrolysis of copper sulfate solution with inert electrodes and copper electrodes			

3. Topic 4 – Extracting metals and equilibria

Skill	Red 😞	Amber 😐	Green 😊
Deduce the relative reactivity of some metals, by their reactions with water, acids and salt solutions			
HT ONLY: Explain displacement reactions as redox reactions, in terms of gain or loss of electrons			
Explain the reactivity series of metals in terms of the reactivity of the metals with water and dilute acids (relative to carbon)			
Recall what ores and native metals are			
Describe what oxidation and reduction are			
Explain why the method used to extract a metal from its ore is related to its position in the reactivity series and the cost of the extraction process (electrolysis and smelting)			
HT ONLY: Evaluate alternative biological methods of metal extraction (bacterial and phytoextraction)			
Explain how a metal's relative resistance to oxidation is related to its position in the reactivity series			
Evaluate the advantages of recycling metals			
Describe what a life time assessment for a product involves and what it needs to consider			
Evaluate data from a life cycle assessment of a product			
Recall that chemical reactions are reversible, the use of the symbol $\rightleftharpoons$ in equations and how the direction of some reversible reactions can be altered			
Explain what is meant by dynamic equilibrium			
Describe the formation of ammonia as a reversible reaction in the Haber process			
Recall the conditions for the Haber process			
HT ONLY: Predict how the position of a dynamic equilibrium is affected by changes in temperature, pressure and concentration			



4. Topic 5 – Separate chemistry 1

Skill	Red ☹️	Amber 😐	Green 😊
Chem ONLY: Recall that most metals are transition metals and describe their typical properties			
Chem ONLY: Recall that the oxidation of metals results in corrosion			
Chem ONLY: Explain how rusting of iron can be prevented			
Chem ONLY: Explain how electroplating can be used to improve the appearance and/or the resistance to corrosion of metal objects			
Chem ONLY: Explain, using models, why converting pure metals into alloys often increases the strength of the product			
Chem ONLY: Explain why iron is alloyed with other metals to produce alloy steels			
Chem ONLY: Explain how the uses of metals are related to their properties (and vice versa) for Al, Cu, Ag and alloys inc: magnesium and brass			
HT & Chem ONLY: Calculate the concentration of solutions in mol dm ⁻³ and convert concentration in g dm ⁻³ into mol dm ⁻³ and vice versa			
Chem ONLY: Core Practical: Carry out an accurate acid-alkali titration, using burette, pipette and a suitable indicator			
HT & Chem ONLY: Carry out simple calculations using the results of titrations to calculate an unknown concentration/volume of a solution			
Chem ONLY: Calculate the percentage yield of a reaction from the actual yield and the theoretical yield			
Chem ONLY: Describe that the actual yield of a reaction is usually less than the theoretical yield and that the causes of this			
Chem ONLY: Recall the atom economy of a reaction forming a desired product			
Chem ONLY: Calculate the atom economy of a reaction forming a desired product			
HT & Chem ONLY: Explain why a particular reaction pathway is chosen to produce a specified product			
HT & Chem ONLY: Describe what the molar volume, of any gas at room temperature and pressure is			
HT & Chem ONLY: Use the molar volume and balanced equations in calculations involving the masses of solids and volumes of gases			



Edexcel Single: Chemistry Paper 2

Revision Checklist

Personalised Learning Checklist (PLC)

1. Topic 6 – Groups in the periodic table

Content	Red ☹️	Amber 😐	Green 😊
Explain why some elements can be classified as alkali metals, halogens or noble gases, based on their position in the periodic table			
Recall the physical properties of alkali metals			
Describe the reactions of lithium, sodium and potassium with water			
Describe the pattern in reactivity of the alkali metals, lithium, sodium and potassium, with water; and use this pattern to predict the reactivity of other alkali metals			
Explain this pattern in reactivity in terms of electronic configurations			
Recall the colours and physical states of chlorine, bromine and iodine at room temperature			
Describe the pattern in the physical properties of the halogens, chlorine, bromine and iodine, and use this pattern to predict the physical properties of other halogens			
Describe the chemical test for chlorine			
Describe the reactions of the halogens, chlorine, bromine and iodine, with metals to form metal halides, and use this pattern to predict the reactions of other halogens			
Recall that the halogens, chlorine, bromine and iodine, form hydrogen halides which dissolve in water to form acidic solutions, and use this pattern to predict the reactions of other halogens			
Describe the relative reactivity of the halogens chlorine, bromine and iodine, as shown by their displacement reactions with halide ions and use this to predict the reactions of astatine			
HT ONLY: Explain why these displacement reactions are redox reactions in terms of gain and loss of electrons, identifying which of these are oxidised and which are reduced			
Explain the relative reactivity of the halogens in terms of electronic configurations			
Explain why the noble gases are chemically inert, compared with the other elements, in terms of their electronic configurations			
Explain how the uses of noble gases depend on their inertness, low density and/or non-flammability			
Describe the pattern in the physical properties of some noble gases and use this pattern to predict the physical properties of other noble gases			



2. Topic 7 – Rates of reaction and energy changes

Content	Red ☹️	Amber 😐	Green 😊
Core Practical: Investigate the effects of changing the conditions of a reaction on the rates of chemical reactions by: measuring the production of a gas/observing a colour change			
Suggest practical methods for determining the rate of a given reaction			
Explain how reactions occur by discussing the collision theory			
Explain the effects on rates of reaction of changes in temperature, concentration, surface area to volume ratio and pressure in terms of frequency and energy of collisions			
Interpret graphs of mass, volume or concentration of reactant or product against time			
Describe what a catalyst is			
Explain how the addition of a catalyst increases the rate of a reaction in terms of activation energy			
Recall that enzymes are biological catalysts and that enzymes are used in the production of alcoholic drinks			
Recall when chemical changes occur that they cause changes in heat energy			
Describe the differences between endothermic and exothermic in terms of energy taken in or given out			
Recall if bonds are broken or made for each of the following reactions: endothermic and exothermic			
Describe why the overall heat energy change for a reaction is exothermic or endothermic in terms of bonds being made or broken			
HT ONLY: Calculate the energy change in a reaction given the energies of bonds (in kJ mol ⁻¹)			
Explain the term activation energy			
Draw and label reaction profiles for endothermic and exothermic reactions, identifying activation energy			



3. Topic 8 – Fuels and Earth science

Content	Red ☹️	Amber 😐	Green 😊
Recall what a hydrocarbon is			
Describe and explain what crude oil is and why it is important			
Describe and explain the separation of crude oil into simpler, more useful mixtures by the process of fractional distillation			
Recall the names and uses of the following fractions: gases, petrol, kerosene, diesel oil, fuel oil and bitumen			
Explain how hydrocarbons in different fractions differ from each other in terms of boiling point, number of C & H's, flammability and viscosity			
Explain what a homologous series of hydrocarbon compounds is			
Describe the complete combustion of hydrocarbon fuels including energy changes and products			
Explain why the incomplete combustion of hydrocarbons can produce carbon and carbon monoxide			
Explain how carbon monoxide behaves as a toxic gas			
Describe the problems caused by incomplete combustion in appliances that use carbon compounds as fuels			
Explain how impurities in some hydrocarbon fuels result in the production of sulfur dioxide			
Explain some problems associated with acid rain			
Explain why, when fuels are burned in engines, oxides of nitrogen are formed and that they are pollutants			
Evaluate the advantages and disadvantages of using hydrogen, rather than petrol, as a fuel in cars			
Recall the names and sources of some renewable fossil fuels			
Explain what cracking is and why it is necessary			
Recall that the gases produced by volcanic activity formed the Earth's early atmosphere			
Describe what the Earth's early atmosphere was thought to contain			
Explain what the oceans were formed from			
Explain why the amount of carbon dioxide in the atmosphere decreases when the oceans were formed			
Explain how the growth of primitive plants changes the composition of gases in the atmosphere			
Describe the chemical test for oxygen			
Describe and explain the greenhouse effect and name the gases that contribute to it			
Evaluate the evidence for human activity causing climate change			
Describe the potential effects on the climate of increased levels of carbon dioxide and methane generated by human activity			
Describe how effects on the climate may be mitigated: consider scale, risk and environmental implications			



4. Topic 9a – Separate chemistry 2 part a

Content	Red ☹️	Amber 😐	Green 😊
Chem ONLY: Explain why the test for any ion must be unique			
Chem ONLY: Describe flame tests to identify the following ions in solids: Li ⁺ , Na ⁺ , K ⁺ , Ca ²⁺ , Cu ²⁺ including the colours of the flames			
Chem ONLY: Describe tests to identify the following ions: Al ³⁺ , Ca ²⁺ , Cu ²⁺ , Fe ²⁺ , Fe ³⁺ , NH ₄ using NaOH solution			
Chem ONLY: Describe the chemical test for ammonia			
Chem ONLY: Describe tests to identify the following ions: CO ₃ ²⁻ , SO ₄ ²⁻ , Cl ⁻ , Br ⁻ , I ⁻			
Chem ONLY: Core Practical: Identify the ions in unknown salts, using the tests for the specified cations and anions in the specification			
Chem ONLY: Identify the ions in unknown salts, using results of the tests stated			
Chem ONLY: Describe that instrumental methods of analysis are available and that these may improve sensitivity, accuracy and speed of tests			
Chem ONLY: Evaluate data from a flame photometer to determine the concentration of ions in dilute solution using a calibration curve			
Chem ONLY: Evaluate data from a flame photometer to identify metal ions by comparing the data with reference data			
Chem ONLY: To identify metal ions by comparing the data with reference data			
Chem ONLY: Recall the formulae of molecules of the alkanes, methane, ethane, propane and butane, and draw the structure of these			
Chem ONLY: Explain why the alkanes are saturated hydrocarbons			
Chem ONLY: Recall the formulae of molecules of the alkenes, ethene, propene, butene, and draw the structures (but-1-ene and but-2-ene only)			
Chem ONLY: Explain why the alkenes are unsaturated hydrocarbons			
Chem ONLY: Recall the addition reaction of ethene with bromine, showing the structures of reactants and products, and extend this to other alkenes			
Chem ONLY: Explain how bromine water is used to distinguish between alkanes and alkenes			
Chem ONLY: Describe how the complete combustion of alkanes and alkenes involves the oxidation of the hydrocarbons, name the products			



5. Topic 9b – Separate chemistry 2 part b

Content	Red ☹️	Amber 😐	Green 😊
Chem ONLY: Recall that a polymer is a substance of high average relative molecular mass made up of small repeating units			
Chem ONLY: Describe how ethene molecules can combine together in a polymerisation reaction			
Chem ONLY: Describe that the addition polymer formed is called polyethene			
Chem ONLY: Describe how other addition polymers can be made by combining together other monomer molecules containing C=C			
Chem ONLY: Describe how to deduce the structure of a monomer from the structure of an addition polymer and vice versa			
Chem ONLY: Explain how the uses of polymers are related to their properties and vice versa			
HT & Chem ONLY: Explain why polyesters are condensation polymers			
HT & Chem ONLY: Explain how a polyester is formed when a monomer molecule containing two carboxylic acid groups is reacted with a monomer molecule containing two alcohol groups			
HT & Chem ONLY: Explain how a molecule of water is formed each time an ester link is formed			
Chem ONLY: Describe some problems associated with polymers including the availability of starting materials			
Chem ONLY: Describe the advantages and disadvantages of recycling polymers, including economic implications, availability of starting materials and environmental impact			
Chem ONLY: Recall that DNA is a polymer made from four different monomers called nucleotides			
Chem ONLY: Recall that starch is a polymer based on sugars			
Chem ONLY: Recall that proteins are polymers based on amino acids			
Chem ONLY: Recall the formulae of molecules of the alcohols, methanol, ethanol, propanol and butanol, and draw the structures of these molecules, showing all covalent bonds			
Chem ONLY: Recall that the functional group in alcohols is –OH			
Chem ONLY: Core Practical: Investigate the temperature rise produced in a known mass of water by the combustion of the alcohols ethanol, propanol, butanol and pentanol			
Chem ONLY: Recall the formulae of molecules of the carboxylic acids, methanoic, ethanoic, propanoic and butanoic acids, and draw the structures of these molecules, showing all covalent bonds			
Chem ONLY: Recall that the functional group in carboxylic acids is –COOH			
Chem ONLY: Recall that ethanol can be oxidised to produce ethanoic acid and extend this to other alcohols			
Chem ONLY: Recall members of a given homologous series have similar reactions because their molecules contain the same functional group and use this to predict the products of other in series			
Chem ONLY: Describe the production of ethanol by fermentation of carbohydrates in aqueous solution, using yeast to provide enzymes			
Chem ONLY: Explain how to obtain a concentrated solution of ethanol by fractional distillation of the fermentation mixture			
Chem ONLY: Compare the size of nanoparticles with the sizes of atoms and molecules			



Chem ONLY: Describe how the properties of nanoparticulate materials are related to their uses including surface area to volume ratio of the particles they contain, including sunscreens				
Chem ONLY: Explain the possible risks associated with some nanoparticulate materials				
Chem ONLY: Compare, using data, the physical properties of glass and clay ceramics, polymers, composites and metals				
Chem ONLY: Describe how the properties of nanoparticulate materials are related to their uses including surface area to volume ratio of the particles they contain, including sunscreens				
Chem ONLY: Explain the possible risks associated with some nanoparticulate materials				
Chem ONLY: Compare, using data, the physical properties of glass and clay ceramics, polymers, composites and metals				
Chem ONLY: Explain why the properties of a material make it suitable for a given use and use data to select materials appropriate for specific uses				

AQA GCSE Geography Revision Checklist

Paper 1: Physical

Personalised Learning Checklist (PLC)

1. Section A: The Challenge of Natural Hazards

Content	Red ☹️	Amber 😐	Green 😊
Define a natural hazard and give examples			
The different factors affecting hazard risk			
Tectonic hazards			
The distribution of earthquakes and volcanoes (plate tectonics)			
The differences between destructive, constructive, and conservative plate boundaries			
Contrasting case studies of a tectonic hazard in HICs (Chile 2010) and LICs (Nepal 2015): causes, primary and secondary effects, immediate and long-term responses			
Reasons for people choosing to live in areas at risk from tectonic hazards			
3Ps (Prediction, Planning and Protection) for tectonic hazards			
Weather hazards			
Global atmospheric circulation (Hadley, Ferrell and Polar cells) and links to weather around the world			
The distribution of tropical storms (locations and why)			
The formation of tropical storms (what do they need to form?)			
Case study of a tropical storm (Typhoon Haiyan 2013): primary and secondary effects, immediate and long-term responses			
The effect of global warming on future tropical storms			
3P's (Prediction, Planning and Protection) for tropical storms			
Causes of extreme weather in the UK (UK's weather roundabout)			
Case study of UK extreme weather event (Somerset Levels Floods 2014): causes, impacts (social, environmental, and economic), immediate and long-term responses			
Causes of increasing extreme weather in the UK (climate change etc)			
Climate change			
Evidence for climate change (e.g. ice cores, tree rings)			
Natural causes of climate change (Orbital changes- Milankovitch cycles, sunspots, volcanoes)			
Human causes of climate change (enhanced greenhouse gas effect)			
Managing climate change- mitigation (CSC, afforestation etc)			
Managing climate change- adaptation (building flood barriers etc)			



2. Section B: The Living World

Content	Red ☹️	Amber 😐	Green 😊
Ecosystems			
Define what an ecosystem/ biome is (food webs, nutrient cycle, biotic/ abiotic factors)			
Example of a UK ecosystem (freshwater pond) and its interdependence			
Distribution and characteristics of global biomes			
Tropical Rainforest			
Characteristics (climate, soils, vegetation)			
Plant and animal adaptations (drip tips, buttress roots, poison arrow frog, sloth)			
Case study of a tropical rainforest (Malaysian, Asia): causes and impacts of deforestation, management (international agreements, ecotourism, selective logging)			
Hot Desert			
Characteristics (climate, soils, vegetation)			
Plant and animal adaptations (camel, fennec fox, cacti, ephemeral flowers)			
Case study of a hot desert (Thar Desert, India/ Pakistan): opportunities and challenges			
Case study of desertification (The Sahel region, Africa): solutions to desertification			

3. Section C: UK Physical Landscapes

Content	Red ☹️	Amber 😐	Green 😊
Relief of land across the UK (upland/ lowland areas)			
Coasts			
Characteristics of constructive and destructive waves			
Coastal processes of erosion (hydraulic action, abrasion, attrition, solution), transportation (longshore drift) and deposition			
Subaerial processes (weathering and mass movement)			
Concordant and discordant coastlines			
Erosional landforms (wave-cut platforms, crack, cave, arch, stack, stump)			
Depositional landforms (beaches, spits, bars)			
Hard and soft engineering- costs and benefits of each			
Case study of a UK coastline (Medmerry, Dorset Coastline): landforms, management			
Rivers			
The difference between the long profile (upper, middle lower course) and cross profile			
Processes of erosion, transportation, deposition in a river			
Upper course landforms and their formation (waterfalls, gorges, v-shaped valleys)			
Middle course landforms and their formation (meanders, oxbow lakes)			
Lower course landforms and their formation (levees, floodplains, estuaries)			
Hydrographs- river discharge and lag time			
Hard and soft engineering for flooding- costs and benefits of each			
Case study of a UK river (River Tees): landforms, flood management			



AQA GCSE Geography Revision Checklist

Paper 2: Physical

Personalised Learning Checklist (PLC)

1. Section A: Urban Issues and Challenges

Content	Red ☹️	Amber 😐	Green 😊
Rates of urbanisation around the world and factors affecting (migration and natural increase)			
Distribution and characteristics of megacities			
Urban World			
Case study of a NEE city (Rio de Janeiro, Brazil): location, importance, reasons for growth			
Opportunities- access to healthcare, education, water supply, energy and economic development in urban industrial areas			
Challenges- growth of favelas, lack of clean water, sanitation, informal employment, crime, waste disposal, air/ water pollution, traffic congestion			
Urban planning to improve the quality of life for the urban poor (Favela Bairro Project)			
Case study of a HIC city (Portsmouth, UK): location, importance, reasons for growth (international and natural migration changing the city's characteristics)			
Opportunities- cultural mix, recreation, entertainment, employment, integrated transport systems, urban greening			
Challenges- inequalities in housing, education, employment, urban deprivation, dereliction of buildings, greenfield/ brownfield sites, water disposal, urban sprawl (commuter towns)			
Regeneration to improve the city (Temple Quarter Regeneration)			
Example of urban sustainability (BedZED, London): conserving water and energy, recycling waste, creating green space, urban transport strategies			



2. Section B: The Changing Economic World

Content	Red ☹️	Amber 😐	Green 😊
Different ways of classifying parts of the world according to their level of development.			
Identify different economic and social measures of development and their limitations.			
Demographic Transition Model			
Causes and consequences of uneven development (physical, economic, wealth, health)			
Strategies to reduce the development gap and one example case study			
Case Study of NEE: India			
Location and importance of the country regionally and globally			
Nigeria's political, social, cultural and environmental context			
Nigeria's changing industrial structure (manufacturing industry boosts economy)			
Role of transnational corporations (TNC) in India (Shell and Unilever)			
Types of aid			
The effects of economic development on quality of life for the population			

3. Section C: The Challenge of Resource Management

Content	Red ☹️	Amber 😐	Green 😊
Importance of food, energy and water to social and economic wellbeing			
Distribution of resources around the world (uneven distribution)			
UK resources			
Distribution of UK's resources			
Food- changing demand for different food (seasonal food and organic produce), food miles, agribusiness			
Water- changing demand for water, water quality and pollution, supply and demand (areas of deficit and surplus), ways to manage water			
Energy- changing energy mix, reducing reliance on fossil fuels, issues with exploitation of energy sources			
Option 4: Food (do not answer the energy or water section)			
Global distribution of food resources (surplus and deficit)			
Increase in food consumption globally			
Factors affecting food availability (climate change, technology, water supply, conflict, poverty)			
Impacts of food insecurity (famine, under-nutrition, soil erosion, increasing prices, social unrest)			
Managing/ increasing food supply in certain areas (appropriate technology, sustainable production etc)			
Example of a large-scale agricultural development (Thanet Earth / IBIS): advantages and disadvantages			
Example of a LIC small-scale agricultural development (Appropriate technology/Agroforestry): sustainable production			

AQA GCSE Geography Revision Checklist

Paper 3



History Revision Checklist

Crime and Punishment in Britain c.500 to the present day

Personalised Learning Checklist (PLC)

1. Section A: Issue Evaluation

Content	Red	Amber	Green
Using Figures to make a decision about a relevant geographical issue – Pre-release booklet material to be released in March 2023			

2. Section B: Fieldwork (Familiar and unfamiliar fieldwork)

Content	Red	Amber	Green
Setting up a suitable enquiry question (River Tillingbourne and Leatherhead)			
Selecting, measuring, and recording appropriate data (primary/ secondary data methods, sampling methods)			
Processing and presenting fieldwork data (visual, graphic and cartographic methods)			
Describing, analysing, and explaining fieldwork data (making links, using statistical techniques)			

3. Section C: Geographical skills

Content	Red	Amber	Green
OS maps (4/6 figure grid references)			
Graph skills			
Numerical/ statistical skills (mean, mode, range, median, ratio)			
Literacy (SPaG- Spelling, Punctuation and Grammar)			

Take your time, breathe, BUG the question, and give it your best shot!

Good luck Geographers!

Personalised Learning Checklist (PLC)

Theme 1 Medieval problems

1. Causes of Crime

What have been the main causes of crime over time?

Content	Red	Amber	Green
16th C economic pressures			
16th & 17th Cs impact of religion			
18th & 19th Cs pressure of industrialisation			
20th C pressures: technology, violent crime and anti-social behaviour			

2. Nature of Crime

How has the nature of criminal activity differed and changed over time?

Content	Red	Amber	Green
Medieval common crimes			
16th & 17th Cs vagrancy, heresy and treason			
18th C smuggling and highway robbery			
19th C crimes connected with urbanisation			
18th & 19th C industrial and agrarian disorder			
20th & 21stCs growth of crimes (car, computers, hooliganism and terrorism)			

Theme 2 Saxon & Medieval communal and family responsibilities

3. Enforcing Law and Order

How has the responsibility of enforcing law and order changed over time?

Content	Red	Amber	Green
Medieval role of manorial, church and royal courts			
16th C civic and parish responsibilities			
19th C concept of state police forces			
20th & 21st Cs changing nature of policing			



4. Methods of Combatting Crime

How effective have methods of combating crime been over time?

Content	Red ☹️	Amber 😐	Green 😊
Saxon & Medieval communal methods of combatting crime			
Tudor role and effectiveness of Justices of the Peace (JPs) and other parish officers			
19th C establishment and influence of the Bow St. Runners			
1829 Peel and the setting up of the Metropolitan Police			
19th C extension of police forces			
20th & 21st Cs development of policing			

Theme 3 Saxon & Medieval harsh nature of punishment

5. Methods of Punishment

How have methods of punishment changed over time?

Content	Red ☹️	Amber 😐	Green 😊
Tudor treatment of vagabonds			
Up to 19th C use of public punishment			
1770s to the 1860s transportation			
18th & 19th Cs prison reform			
19th C new prisons (separate and silent systems)			
20th C alternative methods of dealing with prisoners			

6. Attitudes to Crime and Punishment

Why have attitudes to crime and punishment changed over time?

Content	Red ☹️	Amber 😐	Green 😊
Purpose of punishments over time			
Factors influencing attitudes to punishments over time			
Purpose of public punishments over time			
18th & 19th Cs use of banishment			
19th C use of prisons to punish and reform			
20th C change in attitudes to punishment			
20th & 21st C attempts to rehabilitate and make restitution			

Crime and Punishment Exam Paper:

7 Questions - 75 Minutes paper.



Question type	Marks	How are you going to remember it?
Use Sources A, B and C to identify one similarity and one difference in ...	4	
Which of the two sources is the more reliable to an historian studying ...?	6	
Describe ...	5	
Explain why ...	6	
Outline how has changed from c.500 to the present day.	16 + 4 SPaG	
Describe two ...	8	
Explain why ...	12	
Total	64	



History Revision Checklist Elizabeth

Personalised Learning Checklist (PLC)

Elizabethan government

How successful was the government of Elizabeth I?

Content	Red ☹️	Amber 😐	Green 😊
The coronation and popularity of Elizabeth			
Royal Court, Privy Council and councillors;			
local government			
the role of Parliament			
taxation and freedom of speech			

Lifestyles of rich and poor

How did life differ for the rich and poor in Elizabethan times?

Content	Red ☹️	Amber 😐	Green 😊
Contrasting lifestyles of rich and poor;			
homes and fashion;			
causes of poverty			
issue of unemployment and vagrancy			
government legislation including the 1601 Poor Law			

Popular entertainment

What were the most popular types of entertainment in Elizabethan times?

Content	Red ☹️	Amber 😐	Green 😊
The importance of popular entertainment			
cruel sports			
entertainment enjoyed by the rich			
Elizabethan theatre; design, plays			
Elizabethan theatre: attitudes towards the theatre			

The problem of religion

How successfully did Elizabeth deal with the problem of religion?

Content	Red ☹️	Amber 😐	Green 😊
Religious problems in 1559			
aims of the Religious Settlement			
The middle way. Acts of Supremacy and Uniformity			
reactions to the Settlement			



The Catholic threat

Why were the Catholics such a serious threat to Elizabeth?

Content	Red ☹️	Amber 😐	Green 😊
Early toleration			
excommunication in 1570;			
recusancy			
rebellion of Northern Earls			
Catholic Plots – Ridolfi, Throckmorton, Babington			
role of Mary, Queen of Scots			

The Spanish Armada

Why have attitudes to crime and punishment changed over time?

Content	Red ☹️	Amber 😐	Green 😊
Reasons for the Armada			
war in the Netherlands			
course of the Armada – events in the Channel			
Calais, 'fireships' and return to Spain			
results of the Armada			

The Puritan threat

Why did the Puritans become an increasing threat during Elizabeth's reign?

Content	Red ☹️	Amber 😐	Green 😊
Puritanism; challenge to the Settlement			
Puritan opposition in Parliament and Privy Council			
measures taken to deal with the Puritan challenge			



History Revision Checklist Germany in Transition 1919-1939



Personalised Learning Checklist (PLC)

1. Impact of the First World War

What challenges were faced by the Weimar Republic from 1919-1923

Content	Red	Amber	Green
Impact of Versailles	☹️	😐	😊
Weakness of the Weimar Government			
Political instability – Spartacist, Kapp, Munich Putsch			
Hyperinflation			
Events in the Ruhr 1923			

2. Recovery of Weimar

Why were the Stresemann years considered a 'golden age'?

Content	Red	Amber	Green
Recovery from Hyperinflation	☹️	😐	😊
Dawes and Young plans			
Locarno Pact			
League of Nations			
US Investment			
Social and Political developments.			

3. End of the Weimar Republic

How and why did the Weimar Republic collapse between 1929-1933?

Content	Red	Amber	Green
Social and political impact of the depression on the Weimar Republic	☹️	😐	😊
Hitler's electoral appeal			
Role of the SA			
Propaganda			
Political extremism and scheming 1929-1932			

4. Consolidation of power

How did the Nazis consolidate their power between 1933-1934?

Content	Red	Amber	Green
Hitler as chancellor	☹️	😐	😊
Reichstag Fire			
1933 election and the enabling act			
Trade unions and political parties			
Night of the long knives			
Hitler becomes Fuhrer			

5. Nazi economic, social and racial policy

How did the Nazi economic, social and racial policy affect life in Germany?

Content	Red	Amber	Green
Reducing unemployment	☹️	😐	😊
Policy towards workers			
Women and the Three Ks			
Controlling education			
The Hitler Youth			
The treatment of the Jews			

6. Terror and persuasion

What methods did the Nazis use to control Germany?

Content	Red	Amber	Green
Use of SS and Gestapo	☹️	😐	😊
Control of the legal system			
Goebbels and propaganda			
Use of rallies			
Radio and cinema			
Censorship of newspapers and the arts			

7. Hitler's foreign policy

What factors led to the outbreak of WW2?

Content	Red	Amber	Green
Hitler's foreign policy aims	☹️	😐	😊
Rearmament and conscription			
The Rhineland 1936			
Anschluss 1938			
Sudetenland 1938			
Nazi- Soviet Pact 1939			



Germany Exam Paper:

5 Questions - 1 Hour paper.

Question type	Marks	How are you going to remember it?
Use Source A and your own knowledge to describe...	5	
What is the purpose of Source B?	8	
Do the interpretations support the view that....	10	
Which of the sources is more useful to a historian studying....	11	
To what extent do you agree with this interpretation?	16 +3	
Total	53	



History Revision Checklist The Development of the USA 1992-2000

Personalised Learning Checklist (PLC)

1. Economic downturn and Recovery

Content	Red	Amber	Green
Impact of the Wall street Crash	☹️	😐	😊
Republican attempts to deal with the crisis			
Roosevelt and the New Deal			
Success of the New Deal			
Opposition to the New Deal			

2. Economic impact of the Second World War and post- War developments

Content	Red	Amber	Green
Industrial output	☹️	😐	😊
Post War affluence, consumerism and suburbanisation			
Poverty in the midst of plenty			

3. The issue of Civil Rights

Content	Red	Amber	Green
Black Americans and WW2	☹️	😐	😊
Education			
Bus Boycott			
Sit ins			
Freedom Riders			
Martin Luther King			
Malcolm X			
Civil rights Legislation			
Race Riots			
Black Power Movement			
Black Panther Movement			



WJEC GCSE Sociology

Paper 1 – Families & Education



4. Political change 1960-2000

Content	Red	Amber	Green
Kennedy domestic policies	☹️	😐	😊
Johnson domestic policies			
Nixon and Watergate			
Reagan years			
Changes under Bush Sr and Clinton			

5. Social Change

Content	Red	Amber	Green
Changes in music, entertainment, media and literature	☹️	😐	😊
Changes in Youth culture			
Student protest			
Changing role of women			

6. Cold War rivalry

Content	Red	Amber	Green
Reasons for US involvement in the Cold War	☹️	😐	😊
Truman doctrine and containment of communism			
Berlin crisis 1948-49			
Cuban Missile crisis			
US involvement in Vietnam			

7. Search for World Peace since 1970

Content	Red	Amber	Green
Détente and attempts to limit arms	☹️	😐	😊
Changing relations with China			
Changing relations with the USSR			
Change under Reagan and Gorbachev			
Fall of communism and the end of the cold War			
US involvement in Iran, Iraq and the Gulf War			

USA Exam Paper:

5 Questions - 45 Minutes paper.

Personalised Learning Checklist (PLC)

Family diversity and different family forms

Content	Red	Amber	Green
What is the nuclear family?			
What is a lone-parent family?			
What is a single-sex family?			
What is a reconstituted/ blended family?			
What is the extended family?			
What is a beanpole family?			
What is cohabitation?			
What is polygamy?			
What is monogamy?			
What is arranged marriage?			
What was China's 'one child policy'?			
What are the five types of family diversity according to the Rapoport?			
What are the main sociological perspectives around family forms?			
What is the New Right perspective on the decline of the nuclear family?			

Family Relationships

Content	Red	Amber	Green
What are conjugal roles?			
What are joint and segregated conjugal roles?			
How has the domestic division of labour changed between traditional and contemporary families?			
What issues impact on conjugal relationships?			
What is the functionalist perspective on conjugal role relationships?			
What is the Marxist perspective on conjugal role relationships?			
What is the feminist perspective on conjugal role relationships?			
What is Oakley's (feminist) view of the conventional family? (including the dual burden)			

Changing relationships within families

Content	Red ☹️	Amber 😐	Green 😊
How have relationships within families changed over time?			
How have changing social norms impacted families?			
What is the 'new man'?			
What are 'segregated' and 'joint' conjugal roles?			
How has the domestic division of labour changed?			
What is the symmetrical family according to Wilmott and Young (functionalists)?			
What is stratified diffusion?			
How have child rearing and child-centered families changed?			
What are 'boomerang' children?			
What is the 'sandwich' generation?			

Functions of Families

Content	Red ☹️	Amber 😐	Green 😊
What are the different functions of families (sexual, reproductive, economic and educational)?			
What is the functionalist view of the functions of families?			
What is Parson's (functionalist) Warm Bath Theory?			
What is the 'dark side' of the family?			
What is the Marxist view of the functions of families?			
How does Zaretsky (Marxist) argue that families support capitalism?			
What is the feminist view of the functions of families?			
What did Delphy and Leonard (feminists) argue about the role of women in families?			
What is Oakley's (feminist) view of the family?			
What is the New Right view of the family?			

Divorce

Content	Red ☹️	Amber 😐	Green 😊
How have patterns of divorce changed since 1945? (including data)			
How have changes in the law led to a rise in divorce?			
How have changes in social attitudes and values led to a rise in divorce?			
How has secularisation led to a rise in divorce?			
How have changes in the status of women led to a rise in divorce?			
What are the consequences of a rise in divorce?			
What do functionalists, Marxists and feminists think about the rise in divorce?			
What does the Murray (New Right) think about the rise in divorce?			



Role and functions of education

Content	Red ☹️	Amber 😐	Green 😊
What are main functions of education?			
What is social cohesion?			
What is social mobility?			
What different types of schools exist in the UK?			
What did Durkheim (functionalist) believe about the role of education (including cohesion)?			
What did Parsons (functionalist) argue about the role of education (including status)?			
How is the education system meritocratic?			
What is the Marxist perspective on the role and functions of education?			
What is the feminist perspective on the role and functions of education?			
What is Francis' (feminist) view on the patriarchal nature of schools?			
What is the correspondence principle according to Bowles and Gintis (Marxists)?			
What are the criticisms of the correspondence principle?			

Educational achievement

Content	Red ☹️	Amber 😐	Green 😊
How does social class affect educational achievement?			
What material factors affect educational achievement?			
What is cultural capital and how does it affect educational achievement?			
How does gender affect educational achievement?			
How does ethnicity affect educational achievement?			
What is an ethnocentric curriculum?			
What did Halsey, Heath and Ridge say about class-based inequalities in education?			
What is the marketisation of education?			
How has competition between school affected educational achievement?			
What did Ball, Bowe and Gerwitz say about parental choice?			



WJEC GCSE Sociology

Paper 2 – Social Stratification / Crime and Deviance

Processes within schools

Content	Red	Amber	Green
What is the hidden curriculum?			
What is setting and streaming (Ball)?			
What is mixed-ability teaching			
What are the benefits and drawbacks of setting, streaming and mixed ability teaching?			
How are students labelled by teachers, and what are these labels based on?			
How does teacher labelling affect educational achievement?			
What did Ball believe about teacher expectations linked to setting?			
What are pro-school/anti-school subcultures?			
What did Willis (Neo-Marxist) say about the creation of counter school cultures?			
What do functionalists think about processes within schools?			
What do Marxists think about processes within schools?			
What do feminists think about processes within schools?			
What do interactionists think about processes within schools?			

Personalised Learning Checklist (PLC)

Sociological theories of stratification

Content	Red	Amber	Green
What is meritocracy?			
What is role allocation according to Davis and Moore (functionalists)			
Why do functionalists believe that there needs to be some inequality for society to function?			
What is the myth of meritocracy according to Marxists?			
How do feminists criticise the functionalist view on stratification?			
What are the bourgeoisie and the proletariat?			
What is false-class consciousness?			
What did Marx believe about social class and capitalism?			
What is the functionalist viewpoint of socio-economic class?			
What is the feminist viewpoint of socio-economic class?			

Different forms and sources of power and authority

Content	Red	Amber	Green
What are formal and informal sources of power?			
What are the different agencies of social control?			
What are the different types of authority according to Weber?			

Life chances

Content	Red	Amber	Green
How does social class affect life chances?			
What is the 'old boys network' or 'old school tie'?			
How does gender affect life chances?			
What does Walby (feminist) say about patriarchal society?			
What is the 'glass ceiling'?			
How does race and ethnicity affect life chances?			
How does sexuality class affect life chances?			
How does age affect life chances?			
How does disability affect life chances?			
How do religion and beliefs affect life chances?			
What are prejudice and discrimination?			
What did Devine say about 'the affluent worker'?			
What do functionalists, Marxists and feminists say about life chances?			



Poverty as a social issue

Content	Red ☹️	Amber 😐	Green 😊
What is poverty (including absolute and relative poverty)?			
What is deprivation (including material and cultural)?			
What is the culture of poverty according to New Right sociologists?			
What is the 'cycle of deprivation'?			
What is social exclusion and inclusion?			
How has the government attempted to reduce poverty and unemployment?			
What is the impact of globalisation on poverty in the UK?			
How did Townsend attempt to define deprivation, and what were the criticisms of this?			
What does Murray (New Right) say about the underclass?			
What do functionalists, Marxists and feminists say about poverty as social issue?			

Power and relationships

Content	Red ☹️	Amber 😐	Green 😊
How does social class affect power relationships?			
How does gender affect power relationships?			
How does race and ethnicity affect power relationships?			
How does sexuality class affect power relationships?			
How does age affect power relationships?			
How does disability affect power relationships?			
How do religion and beliefs affect power relationships?			
What are the 6 patriarchal structures that restrict women and help maintain male dominance in society according to Walby (feminist)?			
What do functionalists argue about power and relationships?			
What do Marxists argue about power and relationships?			
What do feminists argue about power and relationships?			

The social construction of crime and deviance

Content	Red ☹️	Amber 😐	Green 😊
What is the difference between a deviant act and a criminal act?			
How is crime and deviance socially constructed?			
What historical and cultural variations are there with regards to crime?			
What is anomie and how does it lead to crime and deviance?			
How does labelling lead to crime and deviance?			
What are subcultural theories of crime and deviance?			
What is status frustration and how does it lead to crime and deviance?			

Social control

Content	Red ☹️	Amber 😐	Green 😊
What is formal social control (including examples)?			
What is informal social control (including examples)?			
What do functionalists believe about social control?			
What do Marxists believe about social control?			
What do feminists believe about social control?			

Patterns of Criminal and deviant behaviour

Content	Red ☹️	Amber 😐	Green 😊
How does social class affect criminal and deviant behaviour?			
How does gender affect criminal and deviant behaviour?			
How does ethnicity affect criminal and deviant behaviour?			
How does age affect criminal and deviant behaviour?			
What is white collar crime (including examples)?			
What is corporate crime (including how it is punished)?			
What are the different sanctions for crime in the UK?			
What has happened to violent crime in the UK?			
What are the criticisms of the criminal justice system (including sentencing, prisons and young offenders)?			
What are the issues around media coverage of crime in the UK?			
What is a moral panic?			



Sociological theories and explanations of crime and deviance

Content	Red	Amber	Green
What is the view of functionalism and crime?			
WJEC GCSE Sociology RAG			
www.tutor2net/sociology			
What is Durkheim's (functionalist) idea of anomie?			
What is strain theory according to Merton (functionalist)?			
What are the five different ways that people react to strain according to Merton?			
What are delinquent subcultures according to Albert Cohen (functionalist)?			
What is master status and the self-fulfilling prophecy according to Becker (interactionist)?			
What are the reasons for female conformity according to Heidensohn (feminist)?			
What are the links between female crime and poverty according to Carlen (feminist)?			

Data on crime

Content	Red	Amber	Green
What are the main sources of crime data?			
What are the main trends and patterns in crime data in the UK (including statistics)?			
What are official statistics?			
What is the 'dark figure' of crime?			
Why is some crime unreported or unrecorded?			
What are victim and self-report studies?			



WJEC GCSE Sociology Overview

Personalised Learning Checklist (PLC)

The basics!

Content	Red	Amber	Green
What are social norms?			
What are values?			
What is culture?			
What is cultural diversity (including some examples)?			
What is identity (and what affects it)?			
What is status (including ascribed and achieved)?			
What is primary socialisation?			
What is secondary socialisation?			
What are agents of socialisation?			
What are the agents of both primary and secondary socialisation?			
What is gender socialisation?			
What is the nature vs nurture debate?			
What is a conflict view?			
What is a consensus view?			
What is the functionalist perspective?			
What is the Marxist perspective (including ruling class, bourgeoisie, working class, proletariat)?			
What is the feminist perspective?			
What is the interactionist perspective?			
What is the New Right perspective?			



Ancient History Revision Checklist

Alexander the Great

Sociological research methods paper 1 and paper 2

Content	Red ☹️	Amber 😐	Green 😊
What are the stages of research design?			
What are aims and hypotheses?			
What are pilot studies, and why are they used?			
What different methods of sampling are there?			
What is representativeness?			
What is validity and reliability?			
What is the difference between primary and secondary data?			
What are qualitative methods of data collection (including examples)?			
What are quantitative methods of data collection (including examples)?			
What are official and non-official statistics (including examples)?			
What is the mixed methods approach and why is it useful?			
What are open and closed questions?			
What are the strengths and weaknesses of using questionnaires to collect data?			
What are structured, semi-structured and unstructured interviews?			
What is trust rapport and why is it important?			
What are the strengths and weaknesses of using interviews to collect data?			
What are overt and covert observations?			
What are participant and non-participant observations?			
What are the strengths and weaknesses of using observation to collect data?			
What practical issues are there with sociological research (including time, cost and access)?			
What ethical issues are there with sociological research (including consent, confidentiality and harm to participants)?			
What ethical guidelines should sociological researchers follow?			
Are you able to interpret graph, diagrams and charts?			
Are you able to spot and describe patterns and trends in data?			

Personalised Learning Checklist (PLC)

1. Upbringing, character, beliefs and early life

Content	Red ☹️	Amber 😐	Green 😊
Alexander's youth			
Character, political and personal influence of Olympias			
Alexander's relationship with Phillip			
Alexander's character and beliefs			
Adoption of Persian dress and customs			
Relations with:			
Parmenio			
Cleitus			
Callisthenes			
Hephaestion			
Antipater			

2. Campaigns – reasons for his expeditions and main battles

Content	Red ☹️	Amber 😐	Green 😊
Reasons for the expedition against Persia			
Battle of Granicus			
Battle of Gaugamela			
Pursuits of Darius and Bessus			
Final campaign in the Indus valley			
Mutiny at Hyphasis			
Return journey to Babylon			
Changing aims of the expeditions			
Changing views of Persia			
Nature and role of his foundation cities			

3. Significant events in Alexander's life

Content	Red ☹️	Amber 😐	Green 😊
The murder of Philip and the differing interpretations of the events			
Events of the battle at Granicus			
Events of the battle of Gaugamela			
Burning of Persepolis			
Murder of Cleitus			
Mass marriages at Susa			
Death of Alexander			



Ancient History Revision Checklist

Cleopatra



4. The Macedonian army under Alexander

Content	Red ☹️	Amber 😐	Green 😊
The use of cavalry			
The use of the phalanx			
The use of specialist troops			
Weapons and armour			
Significance of the tactics used			
Siege warfare at Tyre and Aornus Rock			
Actions during the final capture of Tyre			
Alexander's relationship with his army			

Personalised Learning Checklist (PLC)

Content	Red ☹️	Amber 😐	Green 😊
Egypt's relationship with Rome			
Cleopatra's early life and reign (69–48 BC)			
Cleopatra's personal and political relationship with Caesar (48–44 BC)			
The aftermath of Caesar's assassination			
Cleopatra's initial meeting with Antony (44–41 BC)			
The Perusine War and subsequent treaty (41–40 BC)			
Octavian in the West (39–36 BC)			
Antony in the East (38–34 BC)			
Preparations for war (33–32 BC)			
The Battle of Actium (2nd September 31 BC)			
The suicides of Antony and Cleopatra			
Octavian's conquest of Egypt			
Overview of Cleopatra's reign			



Ancient History Revision Checklist

Ancient Persia

Personalised Learning Checklist (PLC)

1. Cyrus the Great – 559-530 BC

Content	Red ☹️	Amber 😐	Green 😊
Accession of Cyrus			
Conquest of Lydia			
Conquest of Babylon			
How Cyrus treats his conquered people			
Liberation of the Jews			
Construction of Pasargadae			
Cyrus' Death			

2. Cambyses II – 530-522 BC

Content	Red ☹️	Amber 😐	Green 😊
Conquest of Egypt			
Cambyses' treatment of the Egyptians			
Cambyses' death			
Darius' overthrow of Smerdis/Bardiya/Gaumata			

3. Darius the Great – 522-486 BC

Content	Red ☹️	Amber 😐	Green 😊
Darius' pacification of the empire			
Restoration of control over Babylon			
Construction of Susa, Persepolis and the Egyptian Canal			
Persian expansion into the Aegean Sea			
The campaign in India			
The war with the Scythians			
Persian culture and religion under Darius			
Darius' organisation and administration of the Persian Empire			
The Ionian Revolt			
Persian relations with Athens before the revolt			
Mardonius' expedition of 493-492 BC			
The expedition to Greece in 490BC			



4. Xerxes – 486-465 BC

Content	Red ☹️	Amber 😐	Green 😊
Death of Darius and accession of Xerxes			
Suppression of revolts in Babylonia and Egypt			
Invasion of Greece			
Journey to Greece			
Battle of Thermopylae			
Sack of Athens			
Battle of Salamis			
Persian military organisation and fighting techniques			
Completion of Darius' building projects			
Battle of Eurymedon			
Plutarch's 'famous peace'			



Ancient History Revision Checklist Ancient Rome

Personalised Learning Checklist (PLC)

Content	Red	Amber	Green
Introduction to Ancient Rome			

1. The Kings of Rome – 753 – 509 BC

Content	Red	Amber	Green
Romulus and Remus			
Numa			
Tullus Hostilius			
Ancus Marcius			
The Etruscan Kings			
Tarquinius Priscus			
Servius Tullius			
Tarquinius Superbus			

2. The Origins of the Republic 509 – 494 BC

Content	Red	Amber	Green
Downfall of the Kings			
The Rape of Lucretia			
Creation of the Roman Republic			

3. Securing the Republic 494 – 440 BC

Content	Red	Amber	Green
The First Secession			
Improving the Lives of the plebs			
The Volero Publilius uprising and the reforms of 471			
Decemvirate			
The Valerio-Horatian Laws and the publication of the Twelve Tables and other reforms of the 440s			



Child Development Checklist Health and Well-being for Child Development Personalised Learning Checklist (PLC)

Component 1: Health and Well-being for Child Development 1. Topic 1: Pre-conception Health and Reproduction

Content	Red	Amber	Green
1.1 Factors effecting pre-conception health for women and for men			
1.2 Other factors affecting the pre-conception health for women			
1.3 Types of contraception method and their advantages and disadvantages			
1.4 The structure and function of the reproductive systems			
1.5 How reproduction takes place			
1.6 The signs and symptoms of pregnancy			

2. Topic 2: Antenatal Care and Preparation for Birth

Content	Red	Amber	Green
2.1 The purpose and importance of antenatal clinics			
2.2 Screen and diagnostic tests			
2.3 The purpose and importance of antenatal (parenting) classes			
2.4 The choices available for delivery			
2.5 The role of the birth partner in supporting the mother through pregnancy and birth			
2.6 The methods of pain relief when in labour			
2.7 The signs labour has started			
2.8 The three stages of labour and the physiological changes			
2.9 The methods of assisted birth			

3. Topic 3: Postnatal Checks, Postnatal Care and Conditions for Development

Content	Red	Amber	Green
3.1 Postnatal checks			
3.2 Postnatal care of the mother and baby			
3.3 The development needs of children from birth to five years			

4. Topic 1: Childhood Illnesses and a Child-Safe Environment

Content	Red	Amber	Green
4.1 Recognise general signs and symptoms of illness in children			
4.2 How to meet the needs of the child			
4.3 How to ensure a child-friendly, safe environment			



AQA GCSE Computer Science Revision Checklist

Personalised Learning Checklist (PLC)

Component 1: Computational Thinking and Programming skills

1. Fundamentals of Algorithms

Content	Red 😞	Amber 😐	Green 😊
Representing Algorithms			
Algorithms			
Decomposition			
Abstraction			
Systematic Approach to Problem Solving			
Pseudocode			
Program Code			
Flowcharts			
Algorithm Inputs, Processes & Outputs			
Identifying Inputs, Processes & Outputs			
Tracing Algorithms			
Trace Tables			
Efficiency of Algorithms			
Understand that more than one algorithm can be used to solve the same problem			
Compare Algorithm Time Efficiency			
Searching Algorithms			
Linear Search			
Binary Search			
Comparing Linear Search & Binary Search Algorithms			
Sorting Algorithms			
Merge Sort			
Bubble Sort			
Comparing Merge Sort & Bubble Sort Algorithms			

2. Programming

Content	Red 😞	Amber 😐	Green 😊
Data Types			
Integer			
Real / float			
Boolean			
Character			
String			
Casting			
Programming Concepts			
Inputs & Outputs			
Variables, Constants & Assignments			



Sequence			
Selection			
Nested Selection			
Definite Iteration			
Indefinite Iteration			
Nested Iteration			
Introduction to Subroutines			
Procedures			
Functions			
Meaningful Identifiers			
Arithmetic, Relational & Boolean Operations			
Arithmetic Operations			
Relational Operators			
Boolean Operations			
Data Structures			
The Concept of Data Structures			
1 Dimensional Arrays			
2 Dimensional Arrays			
Records			
String Handling Operations			
Length			
Position			
Substring			
Concatenation			
Convert character to character code			
Convert character code to character			
String conversion operations			
Random Number Generation			
Generate random numbers			
Structured Programming			
The Concept of Subroutines			
Advantages of using Procedures and Functions			
Using parameters			
Local Variables			
Advantages of Structured Programming			
Robust & Secure Programming			
Data Validation			
Authentication Routines			
Testing Algorithms			
Normal, Boundary & Erroneous Tests			
Selecting Suitable Test Data			
Types of Errors			
Syntax & Logic Errors			
Identify & Categorise Errors			



Component 2: Computing Concepts

3. Fundamentals of Data Representation

Content	Red 😞	Amber 😐	Green 😊
Number Bases			
Decimal (Base 10)			
Binary (Base 2)			
Hexadecimal (Base 16)			
Bit Patterns			
Converting Between Number Bases			
Decimal to Binary Conversion			
Binary to Decimal Conversion			
Decimal to Hexadecimal Conversion			
Hexadecimal to Decimal Conversion			
Binary to Hexadecimal Conversion			
Hexadecimal to Binary Conversion			
Units of Information			
Units of Data			
Binary Addition			
Be able to add together up to three binary numbers			
Binary Shifts			
Perform Binary			
Describe where binary shifts can be performed			
Representing Characters			
Character Sets			
ASCII			
Unicode			
Representing Images			
Pixels			
Image Size & Colour Depth			
Calculate Bitmap File Size			
Converting Between Binary Data & Bitmaps			
Representing Sound			
How Sound is Sampled & Stored			
Sample Rate, Duration & Bit Depth			
Calculate Sound File Sizes			
Compression			
The Need For Compression			
Lossy Compression			
Lossless Compression			
Huffman Coding			
Huffman Trees			
Run Length Encoding			
Represent Data in Frequency / Data Pairs			



4. Computer Systems

Content	Red 😞	Amber 😐	Green 😊
Hardware & Software			
Understand the relationship between Hardware & Software			
Software			
System Software			
Application Software			
The Purpose & Functionality of Operating Systems			
User Interface			
Memory & Processor Management			
I/O Management & Device Drivers			
Application & Security Management			
File Management			
The Purpose & Functionality of Utility Software			
Utility Software			

5. Boolean Logic

Content	Red 😞	Amber 😐	Green 😊
Boolean Logic Diagrams			
Combining Boolean Operators			
Truth Tables			
AND Gates, OR Gates, NOT Gates & XOR Gates			
Truth Tables for Logic Circuits			

6. Systems Architecture

Content	Red ☹️	Amber 😐	Green 😊
Levels of Programming Languages			
Low-level Languages			
High-level Languages			
Translators			
Purpose of Translators			
Interpreters			
Compilers			
Assemblers			
CPU Components & Their Function			
Arithmetic logic unit			
Control unit			
Clock			
Register			
Bus			
Characteristics of the CPU			
Clock speed			

Number of processor cores
Cache size
Fetch-Execute Cycle
Understand and explain the Fetch-Execute Cycle
Embedded Systems
Embedded Systems

7. Memory & Storage

Content	Red ☹️	Amber 😐	Green 😊
Different Types of Memory			
RAM			
ROM			
Cache			
Registers			
RAM & ROM			
RAM			
ROM			
Secondary Storage			
The Need for Secondary Storage			
Magnetic Storage			
Solid State Storage			
Optical Storage			
Cloud Storage			
Cloud Storage			

8. Fundamentals of Computer Networks

Content	Red ☹️	Amber 😐	Green 😊
Types of Network			
Personal Area Network (PAN)			
Local Area Network (LAN)			
Wide Area Network (WAN)			
Wired & Wireless Networks			
Wired & Wireless Networks			
LAN Topologies			
Star Network Topology			
Bus Network Topology			
Network Protocols			
Ethernet & Wi-Fi			
TCP/IP & UDP			
HTTP & HTTPS			
FTP			
IMAP & SMTP			

Network Security
The Need for Network Security
Authentication
Encryption
Firewalls
MAC Address Filtering
The Concept of Layers
TCP/IP Model

9. Cyber Security

Content	Red ☹️	Amber 😐	Green 😊
Cyber Security & Threats			
Cyber Security			
Social Engineering			
Malware			
Pharming			
Weak Passwords			
Access Rights			
Removable Media			
Unpatched/Outdated Data			
Methods of Preventing Cyber Security Threats			
Penetration Testing			
Biometric Measures			
CAPTCHA			
Confirming Identity			



10. Relational Databases & Structured Query

Content	Red	Amber	Green
Relational Databases			
Relational Databases			
Tables & Records			
Fields & Data Types			
Primary Keys & Foreign Keys			
Structured Query Language (SQL)			
Retrieving Data Using SQL			
Inserting Data Using SQL			
Deleting Data Using SQL			

11. Ethical, Legal & Environmental Impacts of Digital Technology

Content	Red	Amber	Green
Impacts of Digital Technology on Wider Society			
Privacy Issues in Computing			
Legal & Ethical Issues in Computing			
Environmental Issues in Computing			
Impacts & Risks of Digital Technology on Society			
Legislation in Computer Science			
The Data Protection Act(2018)			
Computer Misuse Act(1990)			
Copyright Designs & Patents Act(1988)			
Software Licences (Open Source & Proprietary)			



GCSE Film Studies Checklist

Personalised Learning Checklist (PLC)

Core Study Areas

Skill	Red	Amber	Green
I am confident in my knowledge of cinematography, including lighting			
I understand mise-en-scène and how it creates meaning			
I understand editing techniques and how they create meaning			
I understand diegetic and non-diegetic sound and their effects			
I understand how films are shaped by social, cultural and historical contexts			

Component 1 – Key Developments in US Film (35 marks)

Set films:

- Dracula (Browning, USA, 1931) – U
- The Lost Boys (Schumacher, USA, 1987) – 15

Skill	Red	Amber	Green
I can apply all core study areas to Dracula			
I can apply all core study areas to The Lost Boys			
I can use film subject terminology accurately in my writing			
I understand how cinematography creates meaning in both films			
I understand how mise-en-scène creates meaning in both films			
I understand how editing creates meaning in both films			
I understand how sound is used to create meaning in both films			
I understand the social, cultural and historical contexts of both films			
I can compare contexts between the two films			
I can compare themes between the two films			
I know two key sequences from Dracula in detail			
I know two key sequences from The Lost Boys in detail			

Key Developments in Film and the Film Industry

Skill	Red	Amber	Green
I know the film timeline			
I understand the origins of moving image and silent film			
I understand the rise of Hollywood and the development of sound			
I understand the introduction of colour film			
I understand widescreen and 3D technology			
I understand the impact of portable cameras and Steadicam			
I understand the role of CGI in modern filmmaking			



Component 1 – Section C: US Independent Film (15 marks)

Set Film: Whiplash (Chazelle, USA, 2014)

Skill	Red 😞	Amber 😐	Green 😊
I can apply the core study areas to Whiplash			
I know two key sequences from the film in detail			
I have read specialist writing on Whiplash			
I understand the specialist writing			
I can form my own opinions using specialist writing			
I can agree or disagree with specialist opinions and give reasons			

Component 2 – Section A: Global Film (15 marks)

Set Film: Slumdog Millionaire (Boyle, UK, 2008)

Skill	Red 😞	Amber 😐	Green 😊
I know two key sequences in detail			
I can analyse cinematography in key sequences			
I can analyse mise-en-scène in key sequences			
I can analyse editing in key sequences			
I can analyse sound in key sequences			
I understand the film's contexts			
I can write about the narrative of the film			

Component 2 – Section B: Global Non English Language Film (15 marks)

Set Film: Tsotsi (Hood, South Africa, 2005)

Skill	Red 😞	Amber 😐	Green 😊
I know two key sequences in detail			
I can analyse cinematography in key sequences			
I can analyse mise-en-scène in key sequences			
I can analyse editing in key sequences			
I can analyse sound in key sequences			
I understand the film's contexts			
I can analyse representation in the film			



Component 2 – Section C: Contemporary UK Film (15 marks)

Set Film: Attack the Block (Cornish, UK, 2011)

Skill	Red 😞	Amber 😐	Green 😊
I know two key sequences in detail			
I can analyse cinematography in key sequences			
I can analyse mise-en-scène in key sequences			
I can analyse editing in key sequences			
I can analyse sound in key sequences			
I understand the film's contexts			
I can analyse the film's aesthetic			



GCSE Food Preparation Checklist



Personalised Learning Checklist (PLC)

Section A: Nutrition

Content	Red ☹️	Amber 😐	Green 😊
The relationship between diet and health- Eatwell guide, Government guidelines Diet related health issues			
Nutrition and dietary needs of different groups of people Life cycle Allergies and intolerances Calculating Nutritional needs			
Nutritional needs when selecting recipes for different groups of people Modifying recipes			
Energy Balance The relationship between food intake and healthy body weight			
Protein Types, sources and function Food/protein combining Deficiency			
Fats Types, sources and function Structure of fats Deficiency and excess			
Carbohydrates Types, sources and function Structure of carbohydrates Deficiency and excess			
Vitamins Types, sources and function			
Minerals Types, sources and function			
Water Importance How much is needed Lack of water Too much			
Nutrients in food Potatoes, bread, rice, pasta and other starchy food Fruit and vegetables Dairy and dairy alternatives Meat, fish, eggs, beans, pulses and other proteins			

Section B: Food source and supply

Content	Red ☹️	Amber 😐	Green 😊
How cereals, sugars, fruits and vegetables grown Cereals, sugars, fruits, vegetables, locally produced, seasonal foods.			
Meat and poultry Classifications, welfare, farming			
Fish Classification, methods, sustainability, farming			
Food processing and production Primary processing-wheat, milk. Secondary processing- bread, pasta butter, cream, yoghurt and cheese, preservation			
Food security Food availability, moral and environmental issues, ethical issues, environmental issues, carbon footprint, food miles, sustainability			
Technological developments Fortification, additives, new and emerging foods			
Developments of culinary traditions British cuisine, international cuisine, religious and cultural factors, specialist traditional equipment, adaptations.			
Factors influencing food choice Personal, social and economic factors. Religious and cultural beliefs, Ethical and moral beliefs			



Section C: Cooking and Food Preparation

Content	Red ☹️	Amber 😐	Green 😊
Reason we cook food			
Heat transfer			
How cooking methods affect the nutritional value of foods			
How cooking methods improve the sensory properties of food			
The working characteristics and the functional and chemical properties of ingredient groups			
Carbohydrates, fats and oils, proteins, fruit and vegetables, raising agents			
Organoleptic properties			
Preferential and sensory testing panels			
Setting up a testing panel, food tasting tests,			
Conditions and control for bacteria growth			
Growth conditions and control for mould and yeast production			
Moulds, Yeast			
Signs of food spoilage			
Helpful properties of micro-organisms in food production			
Buying food			
Labelling and date marks, visual checks, Supplier			
Storing food			
Refrigerators, Freezers,			
Preparing food			
Rules for hygiene, Cross contamination, preventing food poisoning			
Cooking and serving			
Key temperatures.			



Section D: Cooking skills and Preparation

Content	Red ☹️	Amber 😐	Green 😊
Knife skills			
Cutting and chopping , types of knife,			
Meat, fish and alternatives			
Portioning a chicken, filleting a chicken breast, filleting fish,			
Fruits and vegetables			
Grips, types of cut			
Cooking and serving			
Key temperatures.			
Tenderise and marinate			
Meat preparation and fish preparation			
Fruits and vegetables			
Equipment used for preparing and skills			
Cooking methods			
Moist methods of cooking, dry methods of cooking, microwave			
Sauces			
Making sauces, reducing sauces, emulsions			
Setting a mixture			
Starch as a setting agent, eggs as a setting agent			
Raising agents			
Eggs, chemical raising agent, steam,			
Making cakes			
Methods and ingredients,			
Dough			
Brad, pastry, biscuits, pasta, finishing and glazing			
Knife skills			
Cutting and chopping , types of knife,			



GCSE PE Checklist

Fitness and Body Systems

Personalised Learning Checklist (PLC)

Component 1: Fitness and Body Systems

1. Topic 1: Applied anatomy and Physiology

Content	Red	Amber	Green
1.1 The structure and functions of the musculoskeletal system			
1.2 The structure and functions of the cardiorespiratory system			
1.3 Anaerobic and aerobic exercise			
1.4 The short- and long- term effects of exercise			

2. Topic 2: Movement Analysis

Content	Red	Amber	Green
2.1 Lever systems, examples of their use in activity and the mechanical advantage they provide in movement			
2.2 Planes and axes of movement			

3. Topic 3: Physical Training

Content	Red	Amber	Green
3.1 The relationship between health and fitness and the role that exercise plays in both			
3.2 The components of fitness and benefits for sport			
3.2 Fitness testing - how it is measured and improved			
3.3 Principles of training and their application to personal exercise/training programmes			
3.3 The methods of training and their application to personal exercise/training programmes			
3.3 Thresholds of training and its application to personal exercise/training programmes			
3.4 The long-term effects of exercise on the Musculo-skeletal system			
3.4 The long-term effects of exercise on the cardio- respiratory system			
3.5 PAR-Q's and preventing injury			
3.5 Injuries and treatment			
3.5 Performance Enhancing drugs			
3.6 Effective use of warm up and cool down			



Component 2: Health and Performance

1. Topic 1: Health, Fitness and Well-being

Content	Red	Amber	Green
1.1 Physical, emotional and social health, fitness and well-being			
1.2 The consequences of a sedentary lifestyle			
1.3 Energy use, diet, nutrition and hydration			

2. Topic 2: Sport Psychology

Content	Red	Amber	Green
2.1 Classification of skills (basic/ complex, open/closed)			
2.2 The use of goal setting and SMART targets to improve and/or optimise performance			
2.3 Guidance and feedback on performance			
2.4 Mental preparation for performance			

3. Topic 3: Socio-Cultural Influences

Content	Red	Amber	Green
3.1 Engagement patterns of different social groups in physical activity and sport			
3.2 Commercialisation of physical activity and sport			
3.3 Ethical and socio-cultural issues in physical activity and sport			



Health and Social Care Checklist

Personalised Learning Checklist (PLC)

1. Topic 1: The Rights of Service Users in Health and Social Care Settings

Content	Red	Amber	Green
1.1 Types of care settings			
1.2 The rights of service users			
1.3 The benefits to service users' health and well-being when their rights are maintained			

2. Topic 2: Personal-Centred Values

Content	Red	Amber	Green
2.1 Personal centred values and how they are applied by service users			
2.2 Benefits of applying the person-centred values			
2.3 Effects on service users' health and well-being if person centred values are not applied			

3. Topic 3: Effective Communication in Health and Social Care Settings

Content	Red	Amber	Green
3.1 The importance of verbal communication skills in health and social care settings			
3.2 The importance of non-verbal communication skills in health and social care settings			
3.3 The importance of active listening skills in health and social care settings			
3.4 The importance of special methods of communication in health and social care settings			
3.5 The importance of effective communication in health and social care settings			

4. Topic 4: Protecting Service Users and Service Providers in Health and Social Care Settings

Content	Red	Amber	Green
4.1 Safeguarding			
4.2 Infection prevention			
4.3 Safety procedures and measures			
4.4 How security measures protect service users and staff			



French Revision Checklist

Personalised Learning Checklist (PLC)

THEME 1: PEOPLE AND LIFESTYLE

Unit 1: Identity and relationships with others

Content	Red	Amber	Green
Describe a person's nationality, character, personality and physical appearance.			
Describe a person's sexual orientation.			
Describe relationships with friends and family.			
Describe qualities of a good friend.			
Describe ideal partners and why.			
Describe different types of partnerships (pros and cons)			

Unit 2: Healthy living and lifestyle

Content	Red	Amber	Green
Give preferences for food and drink, attitudes to fast-food, cooking, smoking/vaping, drugs, alcohol, including consequences.			
Refer to physical and mental well-being, reasons for staying healthy and consequences of not staying healthy.			
Describe sporting activities, ways of keeping fit.			
Compare past and present lifestyle choices and future intentions			

Unit 3: Education and work

Content	Red	Amber	Green
Express opinions about school subjects, homework, school rules, uniform, exams and teachers.			
Describe weekly routine including school day, activities in school including timetable, sporting activities and clubs.			
Refer to primary school days.			
Refer to school rules.			
Refer to education post-16: options available, advantages and disadvantages, future intentions and plans.			
Give opinions on different jobs, including advantages and disadvantages.			
Describe personal qualities and qualifications.			
Refer to ideal job/personal ambitions and skills required.			
Recognise opportunities to work abroad/use language skills and give opinions.			



THEME 2: POPULAR CULTURE

Unit 4: Free-time activities

Content	Red	Amber	Green
Express positive and negative opinions about own and other people's hobbies.	☹️	😐	😊
Extend sentences with justified reasons.			
Add details regarding when, where, how often and who with.			
Use a variety of adverbs and connectives.			
Include opinions and justifications with preceding direct objects.			
Use comparatives to compare activities/give preference.			
Refer to past activities and future plans.			
Refer to sporting events and favourite sports personalities/teams			

Unit 5: Customs, festivals and celebrations

Content	Red	Amber	Green
Learn about local and national festivals in the UK and in French-speaking countries/communities.	☹️	😐	😊
Refer to and give opinions on festivals and celebrations with family and friends such as birthday parties, weddings, religious events.			
Refer to food on special occasions and at celebrations.			
Refer to nationally renowned events such as sports (eg Tour de France, 14 juillet).			
Country traditions/customs focus, eg Senegal, Morocco			

Unit 6: Celebrity Culture

Content	Red	Amber	Green
Give opinions and personal details on a variety of celebrities/famous people.	☹️	😐	😊
Refer to celebrity magazines/articles/reviews, podcasts, social media, reality TV involving famous people and influencers, with opinions.			
Give opinions about celebrities' activities/influences on young people and wider society.			
Refer to events involving famous people eg music, film, TV, fashion, culture and technology.			

THEME 3: COMMUNICATION AND THE WORLD AROUND US

Unit 7: Travel and tourism, including places of interest

Content	Red	Amber	Green
Refer to and give opinions on:	☹️	😐	😊
Holiday destinations			
Holiday locations			
Means of transport for holidays			
Weather			
Holiday activities			



Holiday accommodation

Refer to recent and future holidays

Places of interest locally and elsewhere, including descriptions and preferences.

Unit 8: Media and Technology

Content	Red	Amber	Green
Refer to internet, describe how it is used/its importance to young people and society, frequency of use, preferences, advantages/disadvantages.	☹️	😐	😊
Refer to social media, including reasons for and frequency of use, different apps/platforms, advantages/disadvantages.			
Describe mobile technology, including computers, phones, tablets and other devices, reasons for personal			

Unit 9: The environment and where people live

Content	Red	Amber	Green
Describe town/village/neighbourhood of residence.	☹️	😐	😊
Refer to period of time in residence.			
Describe local area, buildings.			
Describe activities and facilities in area.			
Give opinions including advantages/disadvantages for young people/tourists.			
Describe an ideal home and area, future intentions on where to live with reasons.			
Understanding/giving directions			
Describe local environment, including environmental issues.			
Refer to activities to help/protect local area/environment in the past, present and future.			
Refer to and express opinions on wider global issues eg climate change, environmental damage.			



German Revision Checklist

Personalised Learning Checklist (PLC)

THEME 1: PEOPLE AND LIFESTYLE

Unit 1: Identity and relationships with others

Content	Red	Amber	Green
Describe a person's nationality, character, personality and physical appearance.	☹️	😐	😊
Describe a person's sexual orientation.			
Describe relationships with friends and family.			
Describe qualities of a good friend.			
Describe ideal partners and why.			
Describe different types of partnerships (pros and cons)			

Unit 2: Healthy living and lifestyle

Content	Red	Amber	Green
Give preferences for food and drink, attitudes to fast-food, cooking, smoking/vaping, drugs, alcohol, including consequences.	☹️	😐	😊
Refer to physical and mental well-being, reasons for staying healthy and consequences of not staying healthy.			
Describe sporting activities, ways of keeping fit.			
Compare past and present lifestyle choices and future intentions			

Unit 3: Education and work

Content	Red	Amber	Green
Express opinions about school subjects, homework, school rules, uniform, exams and teachers.	☹️	😐	😊
Describe weekly routine including school day, activities in school including timetable, sporting activities and clubs.			
Refer to primary school days.			
Refer to school rules.			
Refer to education post-16: options available, advantages and disadvantages, future intentions and plans.			
Give opinions on different jobs, including advantages and disadvantages.			
Describe personal qualities and qualifications.			
Refer to ideal job/personal ambitions and skills required.			
Recognise opportunities to work abroad/use language skills and give opinions.			



THEME 2: POPULAR CULTURE

Unit 4: Free-time activities

Content	Red	Amber	Green
Express positive and negative opinions about own and other people's hobbies.	☹️	😐	😊
Say why you do free time activities.			
Add details regarding when, where, how often and who with.			
Compare and give preferences about free time activities.			
Refer to past activities and future plans.			
Refer to sporting events and favourite sports personalities/teams.			

Unit 6: Customs, festivals and celebrations

Content	Red	Amber	Green
Learn about local and national festivals in the UK and in German speaking countries/communities.	☹️	😐	😊
Refer to and give opinions on festivals and celebrations with family and friends such as birthday parties, weddings, religious events.			
Refer to past and future celebrations.			
Refer to food on special occasions and at celebrations.			
Refer to nationally renowned events such as Oktoberfest.			
Country traditions/customs focus			

Unit 7: Celebrity Culture

Content	Red	Amber	Green
Give opinions and personal details on a variety of celebrities/famous people.	☹️	😐	😊
Refer to celebrity magazines/articles/ reviews, podcasts, social media, reality TV involving famous people and influencers, with opinions.			
Give opinions about celebrities' activities/influences on young people and wider society.			
Refer to events involving famous people eg music, film, TV, fashion, culture and technology.			

THEME 3: COMMUNICATION AND THE WORLD AROUND US

Unit 7: Travel and tourism, including places of interest

Content	Red	Amber	Green
Refer to and give opinions on:	☹️	😐	😊
Holiday destinations			
Holiday locations			
Means of transport for holidays			
Weather			
Holiday activities			
Holiday accommodation			
Refer to recent and future holidays			



Spanish Revision Checklist



Places of interest locally and elsewhere, including descriptions and preferences.			
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Unit 8: Media and Technology

Content	Red 😞	Amber 😐	Green 😊
Refer to internet, describe how it is used/its importance to young people and society, frequency of use, preferences, advantages/disadvantages			
Refer to social media, including reasons for and frequency of use, different apps/platforms, advantages/disadvantages.			
Describe mobile technology, including computers, phones, tablets and other devices, reasons for personal use with advantages/disadvantages/ dangers.			
Future intentions to keep safe			

Unit 9: The environment and where people live

Content	Red 😞	Amber 😐	Green 😊
Describe town/village/neighborhood of residence.			
Refer to period of time in residence.			
Describe local area and buildings.			
Describe activities and facilities in area.			
Give opinions including advantages/ disadvantages for young people/ tourists.			
Describe an ideal home and area, and future intentions on where to live with reasons.			
Describe local environment, including environmental issues.			
Refer to activities to help/protect local area/environment in the past, present and future.			
Refer to and express opinions on wider global issues, eg climate change, environmental damage etc.			
Understand instructions given regarding the environment			

Personalised Learning Checklist (PLC)

THEME 1: PEOPLE AND LIFESTYLE

Unit 1: Identity and relationships with others

Content	Red 😞	Amber 😐	Green 😊
To describe your nationality, gender and orientation, personal beliefs, equality, physical descriptions, character and personality, and that of others.			
To describe members of your family or friends in detail.			
To say what activities you do with others.			
To describe your friendships with others, giving reasons for getting on/not getting on with people.			
To describe the qualities of a good friend.			
To describe the qualities of an ideal partner and give reasons why. To name different types of partnership with advantages and disadvantages			

Unit 2: Healthy living and lifestyle

Content	Red 😞	Amber 😐	Green 😊
To describe your level of fitness. To talk about your fitness and health routine.			
To describe your diet and preferences for food and drink. To say what makes a good or a bad diet.			
To discuss how to achieve good physical and mental well-being. To give reasons for staying healthy and consequences of not staying healthy.			
To talk about healthy and unhealthy habits (fast-food, cooking, smoking/vaping, drugs, alcohol, etc) including consequences			
To talk about illness and injuries.			
To say what your lifestyle was like in the past and your future intentions.			

Unit 3: Education and work

Content	Red 😞	Amber 😐	Green 😊
To give and justify opinions about subjects, homework, school rules, uniform, teachers and exams.			
To talk about school life and daily routine, including school, clubs and sporting activities.			
To describe school facilities and how you get to school.			
To describe your ideal school.			
To talk about primary school.			
To talk about post-16 studies: options available, advantages and disadvantages, future intentions and plans.			
To talk about issues at school.			
To say what jobs people have and list advantages and disadvantages.			
To describe what a job entails and places of work.			
To talk about the personal qualities, qualifications and skills required for a job.			
To talk about work experience.			



To discuss a dream job and your personal ambitions.			
To give opinions about working abroad/using language skills.			
To discuss unemployment.			

THEME 2: POPULAR CULTURE

Unit 4: Free-time activities

Content	Red 😞	Amber 😐	Green 😊
To say what free-time activities I like and dislike and why. To give opinions about types of sport, advantages and disadvantages watching/participating. To say what is required in order to carry out these activities. To say who I do them with. To say where I go to do these activities. To say what I wear for these activities. To say what I did in the past and what my future intentions are. To talk about sporting events and favourite sports personalities/teams.			
To talk about film and television. To give reviews and opinions. To say what film or programme is your favourite and who your favourite stars are. To say where you watch these and to give advantages and disadvantages of watching in that way.			
To discuss reading habits.			
To say what music you like and how you like to listen to it. To talk about concerts, favourite artists and musical activities that you like to attend.			
To discuss food and drink preferences, eg fast-food, eating with friends, eating in different places and when, eg special occasions.			
To discuss shopping habits and preferences, including favourite shop/location.			

Unit 5: Customs, festivals and celebrations

Content	Red 😞	Amber 😐	Green 😊
To describe festivals in the UK and in the target language-speaking countries/communities and give your opinion about them.			
To describe customs and say what you do on celebrations at home and elsewhere (eg birthdays, parties, weddings, etc).			
To say how you prefer to celebrate these.			
To say what food is consumed on special occasions and at celebrations.			
To talk about a special day in the past			

Unit 6: Celebrity Culture

Content	Red 😞	Amber 😐	Green 😊
To talk about and describe celebrities/famous people that you know.			
To talk about why they are famous, their achievements and lifestyle.			
To talk about celebrity magazines/articles/reviews, podcasts, social media, reality TV involving famous people and influencers, and give your opinions about it			
To give your opinion about their activities and to discuss their influence on young people and wider society			



To describe events involving famous people eg sport, music, film, TV, fashion, culture and technology			
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THEME 3: COMMUNICATION AND THE WORLD AROUND US

Unit 7: Travel and tourism, including places of interest

Content	Red 😞	Amber 😐	Green 😊
Refer to and give opinions on:			
To talk about travel: means of transport, descriptions and preferences with advantages and disadvantages.			
To talk about the weather.			
To describe holiday time activities (while away on holiday or at home) and give opinions.			
To describe holiday destinations in the present, past and future.			
To say whether holidays are important and why.			
To describe an ideal holiday.			
To list and describe places of interest, locally and elsewhere and give opinions about them.			

Unit 8: Media and Technology

Content	Red 😞	Amber 😐	Green 😊
To say how you use the internet, how often, your preferences, and to list advantages and disadvantages.			
To say what social media apps or platforms you use, how often, and what you think are the advantages and disadvantages.			
To say what mobile phone technology you use (computers, phones, tablets and other devices), why you use it, and their advantages and disadvantages.			
To give your opinions about the importance of technology to young people and society.			

Unit 9: The environment and where people live

Content	Red 😞	Amber 😐	Green 😊
To describe your local area and say what there is.			
To say what you can do and see in your area.			
To give opinions of local facilities and to list advantages and disadvantages.			
To describe your ideal area.			
To describe your home and your ideal home.			
To say where you would like to live in the future and why.			
To talk about local environmental issues.			
To say what you do/did/will do to help protect the environment. To discuss and give opinions about global environmental issues (climate change, environmental damage, etc)			



Performing Arts – Units 1, 2 & 3 Personal Learning Checklist

Personalised Learning Checklist (PLC)

1. Exploring Performing Arts

Task	Content	Red ☹️	Amber 😐	Green 😊
Task 1a	Research the original creator's intentions, background, themes, style/genre, purpose, original target audience, performance space, and intended audience relationship			
Task 1b	Analyse how your research impacts your performance: review findings and determine how these shape your performance approach			
Task 2	Develop a detailed performance plan and rehearsal schedule, including reflection journal, annotation of materials, and health & safety considerations			
Task 3	Rehearse and refine performance choices—apply direction/choreography, develop character or technical skills, use rehearsal types (e.g., technical run, dress rehearsal)			
Task 4	Deliver the performance, demonstrating accuracy, communication, control, coordination, interpretation, and discipline-specific skills			
Task 5	Review and reflect on your performance: identify strengths and areas for improvement, assess how research and rehearsal informed the outcome, consider audience impact, and set targets for future development			

2. Creating Performing Arts

Task	Content	Red ☹️	Amber 😐	Green 😊
Task 1	Develop a creative brief: respond to stimulus with initial ideas and devised plan			
Task 2	Maintain a development log: record how ideas evolve into the final original piece			
Task 3	Present the original piece to an audience and collect feedback			
Task 4	Evaluate the creation: reflect on feedback, personal skill development, and success in responding to stimulus			



3. Performing Arts in Practice

Task	Content	Red ☹️	Amber 😐	Green 😊
Task 1	Outline industry/practitioner influences: research key influences shaping the project			
Task 2	Devise a plan for responding to the commission/stimulus			
Task 3	Create timeline/personnel/resources schedule for the project			
Task 4	Develop a marketing plan to support the project			
Task 5	Produce practical examples: showcase aspects of the intended output			
Task 6	Pitch the project idea professionally to stakeholders			
Task 7	Evaluate the project: review processes and outcomes			



Sports Studies Care Checklist Contemporary Issues in Sports

Personalised Learning Checklist (PLC)

1. Topic 1: The issues which affect participation in sport

Content	Red 😞	Amber 😐	Green 😊
1.1 User groups			
1.1.1 Different user groups who participate in sport			
1.2 Possible barriers			
1.2.2 Possible barriers which affect participation in sport			
1.3 Possible barrier solutions			
1.3.1 Possible solutions to the barriers which affect participation in sport			
1.4 Factors which can positively and negatively impact upon the popularity of sport in the UK			
1.4.1 Positive and negative impacts on the popularity of sport in the UK			
1.5 Emerging/new sports in the UK			
1.5.1 The growth of emerging/ new sports in the UK			

2. Topic 2: The Role of Sport in Promoting Values

Content	Red 😞	Amber 😐	Green 😊
2.1 Sports Value			
2.1.1 Values which can be promoted through sport			
2.2 The Olympic and Paralympic movement			
2.2.1 Olympic and paralympic			
2.3 Sporting values, initiatives and campaigns			
2.3.1 Other initiatives, campaigns and events which promote sporting values			
2.4 The importance of etiquette AND sporting behaviour			
2.4.1 The importance of etiquette AND sporting behaviour of performers			
2.4.2 The importance of etiquette AND sporting behaviour of spectators			
2.5 The use of Performance Enhancing Drugs (PEDS) in sport			
2.5.1 The reasons why sports performers use PEDS			
2.5.2 The reasons why performers should not use PEDS			
2.5.3 The role of the World Anti-Doping Agency (WADA) in eradicating the use of PEDS			
2.5.4 Sanctions to prevent the use of PEDS			
2.5.5 Educational strategies to prevent the use of PEDS			
2.5.6 Impact of the use of PEDS on the sport			



3. Topic 3: The implications of Hosting a Major Sporting Event for a City or Country

Content	Red 😞	Amber 😐	Green 😊
3.1 The features of a major sporting event			
3.1.1 The types of scheduling of major sporting events			
3.1.2 The nature of the participants and spectators			
3.2 Positive and negative pre-event aspects of hosting a major sporting event			
3.2.1 Positive and negative pre-event aspects of hosting a major sporting event			
3.3 Potential positive and negative aspects of hosting a major sporting event			
3.3.1 During the event			
3.3.2 Immediate and long-term post-event			

4. Topic 4: The Role National Governing Bodies (NGBs) Play in The Development of Their Sport

Content	Red 😞	Amber 😐	Green 😊
4.1 National Governing Bodies (NGBs)			
4.1.1 What NGBs do for their sport			

5. Topic 5: The Use of Technology in Sport

Content	Red 😞	Amber 😐	Green 😊
5.1 The role of technology in sport			
5.1.1 To enhance performance			
5.1.2 To increase safety of participants			
5.1.3 To increase fair play and increase the accuracy of officiating			
5.1.4 To enhance spectatorship			
5.2 Positive and negative effects of the use of technology in sport			
5.2.1 Positive effects			
5.2.2 Negative effects			
5.2.3 Positive and negative effects of technology on the spectator experience			



BTEC Tech Award: Travel & Tourism



Personalised Learning Checklist (PLC)

Component 1A

Content	Red	Amber	Green
I can identify different types of travel and tourism organisations	☹️	😐	😊
I can explain the roles and purposes of these organisations			
I understand the difference between public, private, and voluntary sectors			
I can describe how organisations work together in tourism			
I can give real examples of UK and international organisations			

Component 1B

Content	Red	Amber	Green
I can identify UK and international destinations	☹️	😐	😊
I can describe features of destinations (cultural, natural, man-made)			
I understand factors that attract tourists to destinations			
I can explain why destinations appeal to different types of visitors			
I can compare two destinations effectively			

Component 1C

Content	Red	Amber	Green
I can explain economic impacts of tourism	☹️	😐	😊
I can explain environmental impacts of tourism			
I can explain social and cultural impacts of tourism			
I can suggest ways to reduce negative impacts			
I can use examples to support my answers			

Component 2A

Content	Red	Amber	Green
I can identify different types of customers	☹️	😐	😊
I understand why people travel			
I can explain customer needs and expectations			



Component 2B

Content	Red	Amber	Green
I can explain how budget affects customer choice	☹️	😐	😊
I understand the importance of time, location, and accessibility			
I can explain how personal interests and circumstances affect choices			
I can apply this knowledge to real travel scenarios			

Component 2C

Content	Red	Amber	Green
I can describe good customer service skills	☹️	😐	😊
I can explain the importance of communication			
I can deal with customer complaints and problems			
I can explain how customer service affects business success			

Component 3A

Content	Red	Amber	Green
I can explain how economic factors affect tourism	☹️	😐	😊
I understand the impact of political factors			
I can explain environmental influences on tourism			
I understand how health and safety issues affect travel			

Component 3B

Content	Red	Amber	Green
I can explain how technology has changed travel	☹️	😐	😊
I understand online booking systems			
I can explain the role of social media in tourism			

Component 3C

Content	Red	Amber	Green
I understand the importance of sustainable tourism	☹️	😐	😊
I can explain how organisations are becoming more responsible			
I can discuss future trends in travel and tourism			
I can write extended exam answers using examples			



GCSE Business (OCR 9-1)

Business 1: Business Activity, Marketing and People

Personalised Learning Checklist (PLC)

1. Business Activity

Topic	Red ☹️	Amber 😐	Green 😊
- Content - Points to include			
1.1 The role of business enterprise and entrepreneurship			
- The purpose of business activity and enterprise - spotting an opportunity, developing an idea, satisfying needs of customers			
- Characteristics of an entrepreneur - creativity, risk taking, determination, confidence			
The concept of risk and reward			
1.2 Business planning			
- The purpose of planning business activity - reducing risk, helping a business to succeed			
- The role, importance and usefulness of a business plan - identifying markets, help with obtaining finance, identifying resources a business needs to operate, achieving business aims and objectives			
1.3 Business ownership			
- The features of different types of business ownership - sole traders, partnerships, private and public limited companies			
The concept of limited liability			
- The suitability of differing types of ownership in different contexts - start-ups and established businesses			
1.4 Business aims and objectives			
- The aims and objectives of business - profit, survival, growth, providing a service, market share			
How and why objectives might change as businesses evolve			
Why different businesses may have different objectives			
1.5 Stakeholders in business			
- The roles and objectives of internal and external stakeholder groups - owners, employees, customers, suppliers, government, local community			
The effect business activity has on stakeholders			
The effect stakeholders have on business			
1.6 Business growth			
- Organic growth - increasing output, gaining new customers, developing new products, increasing market share			
- External growth - mergers, takeovers - including horizontal, vertical, diversification - advantages and disadvantages			



2. Marketing

Topic	Red ☹️	Amber 😐	Green 😊
- Content - Points to include			
2.1 The role of marketing - The purpose of marketing within business - the importance to a business of identifying and understanding its customers, informing customers, increasing sales			
2.2 Market research - The purpose of market research - identifying and understanding customer needs - Primary research methods – direct with customer - questionnaires, interviews, trialling, focus groups - Secondary research sources – from a secondary source - newspapers and magazines, census, websites, internal data - How appropriate different methods and sources of market research are for different business purposes - The use and interpretation of qualitative and quantitative data in market research			
2.3 Market segmentation - The use of segmentation to target customers - age, gender, income, location, lifestyle			
2.4 The marketing mix - The 'four Ps' of the marketing mix and their importance - price, product, place, promotion - Product - design, invention, innovation - Product - stages of the product lifecycle - introduction, growth, maturity, decline - Pricing methods - skimming, cost-plus, penetration, competitor, promotional - Promotion - point of sale - price reductions, loss leaders, competitions, free samples - Promotion - advertising - social media, websites, print media, television, radio - Place - distribution of products and services - digital and physical distribution channels - How the four Ps of the marketing mix work together - The use of the marketing mix to inform and implement business decisions - Interpretation of market data - changes in demand, target market and market share, changes in product and effects of promotion			



3. People (Human Resources)

Topic	Red ☹️	Amber 😐	Green 😊
- Content - Points to include			
3.1 The role of human resources - The purpose of human resources in business - identifying and meeting the human resource needs of a business			
3.2 Organisational structures and different ways of working - Different organisational structures 1. tall 2. flat - The terminology of organisation charts - span of control, chain of command, delegation, subordinates, authority - Why businesses have different organisational structures - importance of effective communication, different job roles and responsibilities, different ways of working - Ways of working - full-time, part-time, flexible working, temporary work, working from home, working whilst mobile, self-employed			
3.3 Communication in business - Ways of communicating in a business context - letter, email, text, phone, meeting/presentation, social media, website - The importance of business communications - The influence of digital communication on business activity			
3.4 Recruitment and selection - Why businesses recruit - replace employees who leave, business growth, skill gaps - The use of different recruitment methods to meet different business needs - internal methods, external methods, job description and person specification - Methods of selection - CV, application form, letter of application, interviews, tests, group activities, references			
3.5 Motivation and retention - Financial methods of motivation - pay, bonuses, profit sharing, fringe benefits - Non-financial methods of motivation - praise, award schemes, working environment - The importance of employee motivation - improved employee performance, helps employee retention - The importance of employee retention - already familiar with business and customers, saves time and expense of recruitment			
3.6 Training and development - Different training methods - induction, on-the-job, off-the-job - Why businesses train their workers - development of the business, improve productivity, skill shortages, customer service, motivation and retention - Staff development - vocational and academic qualifications, apprenticeships - The benefits to employees and businesses of staff development			
3.7 Employment law - The impact of current legislation on recruitment and employment - discrimination, employees' right to a contract, holidays, hours of work			



GCSE Business (OCR 9-1)

Business 2: Operations, Finance, Influences on business, and the interdependent nature of business



5. Finance

Topic	Red	Amber	Green
- Content - Points to include			
5.1 The role of the finance function - The purpose of the finance function - provide financial information, support business planning and decision making - The influence of the finance function on business activity			
5.2 Sources of finance - The reasons businesses need finance - establishing a new business, funding expansion, to run the business recruitment, marketing - Ways of raising finance - loan, overdraft, trade credit, retained profit, sale of assets, owners' capital, new partner, share issue, crowdfunding - How and why different sources of finance are suitable for new and established businesses			
5.3 Revenue, costs, profit and loss - The concept of revenue, costs and profit and loss in business and their importance in business decision-making - The different costs in operating a business - fixed, variable, total - Calculation of costs and revenue - Calculation of profit/loss - gross profit, net profit - Calculation and interpretation of profitability ratios - gross profit margin, net profit margin - Calculation and interpretation of average rate of return			
5.4 Break-even - The concept of break-even - total costs = total revenue - Simple calculation of break-even quantity - The usefulness of break-even in business decision-making - informs marketing and planning decisions			
5.5 Cash and cash flow - The importance of cash to a business - providing liquidity, enables business to meet short-term debts/expenses - The difference between cash and profit - The usefulness of cash flow forecasting to a business - planning tool, anticipates periods of cash shortage, enables remedies to be put in place for shortages, provides targets - Completion of cash flow forecasts			

Personalised Learning Checklist (PLC)

4. Operations

Topic	Red	Amber	Green
- Content - Points to include			
4.1 Production processes - Different production processes and their impact on businesses - job, batch, flow - The influence of technology on production and the impact on businesses - automation, computers and robotics			
4.2 Quality of goods and services - The concept of quality - Methods of ensuring quality - quality control, quality assurance - The importance of quality in both the production of goods and the provision of services - reputation of the business, to gain and retain customers, reduce product returns and recalls			
4.3 The sales process and customer service - Methods of selling - e-commerce, face to face, telesales - The influence of e-commerce on business activity - The importance to a business of good customer service including after-sales service - to gain and retain customers - The contribution of product knowledge and customer engagement to good customer service			
4.4 Consumer law - The impact of consumer law on businesses - reputation of the business, safety and satisfactory quality of goods			
4.5 Business location - Factors influencing business location - costs, the proximity to market, labour and materials			
4.6 Working with suppliers - The role of procurement - identifying goods and services to buy, choosing suppliers, ordering goods and services, receiving deliveries from suppliers - The impact of logistical and supply decisions on businesses - time, length of supply chain, reliability of supply, costs, customer service			



6. Influences on business

Topic	Red ☹️	Amber 😐	Green 😊
▪ Content ✓ <i>Points to include</i>			
6.1 Ethical and environmental considerations			
▪ Ethical considerations and their impact on businesses ✓ <i>treatment of workers/suppliers/customers, sourcing of materials, marketing decisions</i>			
▪ Environmental considerations and their impact on businesses ✓ <i>sustainability, waste disposal, pollution, climate change</i>			
6.2 The economic climate			
▪ The economic climate and its impact on businesses ✓ <i>changing levels of consumer income and unemployment</i>			
6.3 Globalisation			
▪ The concept of globalisation			
▪ The impact of globalisation on businesses ✓ <i>the growth of multinational companies, influences on business location, international branding, how businesses compete internationally</i>			

7. The interdependent nature of business

Topic	Red ☹️	Amber 😐	Green 😊
▪ Content ✓ <i>Points to include</i>			
▪ The interdependent nature of business operations, finance, marketing and human resources within a business context			
▪ How these interdependencies underpin business decision making			
▪ The impact of risk and reward on business activity			
▪ The use of financial information in measuring and understanding business performance and decision making.			



