GCSE The Sciences (Double Award) Qualification Outline – Consultation Version

Introduction

This document provides a high-level overview of the WJEC GCSE The Sciences (Double Award) qualification available for first teaching from September 2026.

It is based on Qualifications Wales's Approval Criteria (key sections are included in Appendix 1). Our qualification **must** meet these requirements.

The qualification outline will provide a guide for the development of the Specification and Sample Assessment Materials (SAMs). Aspects of the outlines may need to be revisited if issues arise during the development process.

Qualification Overview

The construct of GCSE The Sciences (Double Award) qualification is to:

- explain phenomena scientifically to demonstrate how the world works
- construct and evaluate designs for scientific enquiry and interpret scientific data and evidence critically
- research, evaluate and use scientific information to make informed decisions[1].

The GCSE The Sciences (Double Award) qualification will support the Curriculum for Wales by:

- supporting the statements of what matters, giving learners the opportunity to engage with the following:
  - curiosity – being curious and searching for answers is essential to understanding and predicting phenomena
  - living things – the world around us is full of living things which depend on each other for survival
  - matter – matter and the way it behaves defines our universe and shapes our lives
  - forces – forces and energy provide a foundation for understanding our universe.

- supporting the principles of progression by:
  - developing knowledge and understanding of scientific concepts
  - using, applying and evaluating scientific enquiry skills
  - becoming more effective as a learner, to solve scientific problems with increased independence
  - making connections and exploring new contexts, considering the impacts of scientific actions.

[1] Adapted from OECD PISA 2025 Science Framework

Qualification Structure

Unit 1: Biology – Basis of Life
Written examination (tiered)
14% of qualification
Available in the first year of study
External assessment, marked by WJEC

Unit 2: Chemistry – Chemical Substances and How They Behave
Written examination (tiered)
14% of qualification
Available in the first year of study
External assessment, marked by WJEC

Unit 3: Physics – Forces, Motion and the Universe
Written examination (tiered)
14% of qualification
Available in the first year of study
External assessment, marked by WJEC

Unit 4 Biology – Continuity of Life
Written examination (tiered)
16% of qualification
Available in the final year of study
External assessment, marked by WJEC

Unit 5: Chemistry – Chemical Bonding, Reactions and Resources
Written examination (tiered)
16% of qualification
Available in the final year of study
External assessment, marked by WJEC

Unit 6: Physics – Waves, Electricity and Energy
Written examination (tiered)
16% of qualification
Available in the final year of study
External assessment, marked by WJEC

Unit 7: Scientific Enquiry
Practical science assessment
10% of qualification
Completed in the final year of study
External assessment, marked by WJEC

These are the percentages for The Sciences (Double Award) assessment objectives:

AO1	Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures.	25%
AO2	Apply knowledge and understanding of scientific ideas, processes, techniques and procedures	50%
AO3	Analyse, interpret and evaluate scientific information, processes, techniques and procedures	25%

This will be a unitised qualification.

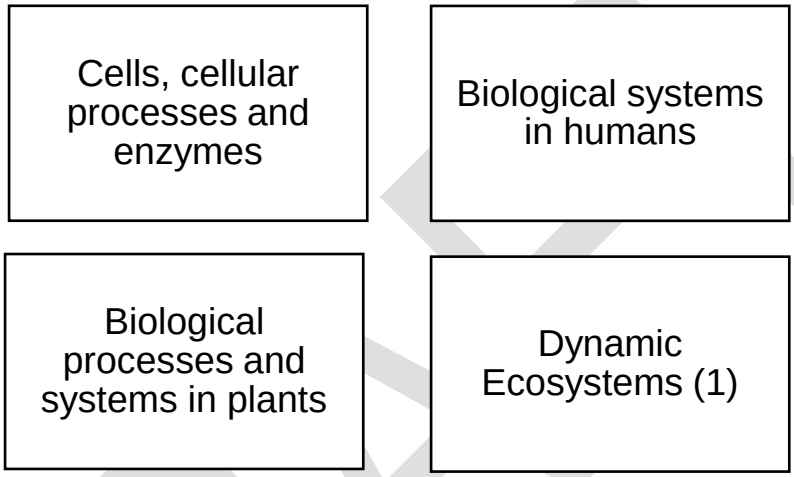
Unit Information

Unit 1 - Biology – Basis of Life

The purpose of this unit is to:

- explore phenomena scientifically to explain how the living world works
- apply knowledge, understanding and skills from the biology content to real life contexts
- interpret scientific data and evidence critically
- evaluate scientific information to make informed decisions.

This unit will focus on:



The unit will be assessed via an examination available in the summer series of the first year of study. The question types will target all Assessment Objectives.

There will be no optionality in this unit.

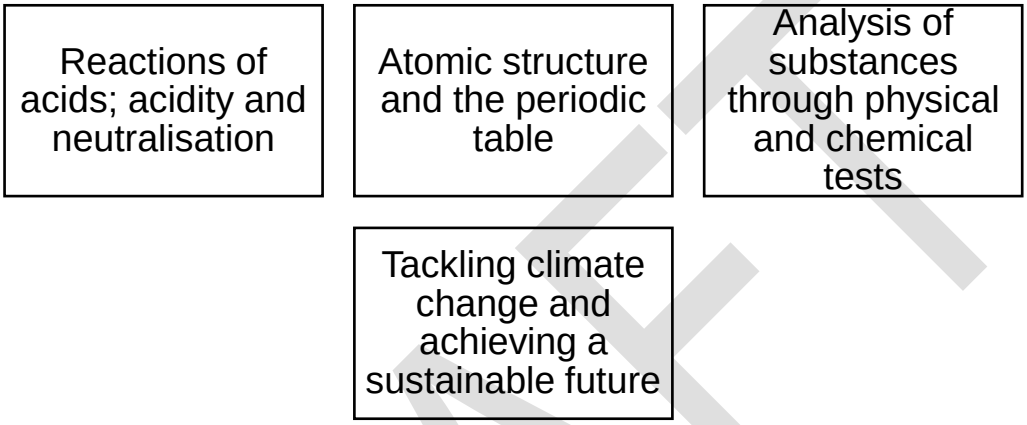
The examination will be tiered – higher tier and foundation tier.

Unit 2 – Chemistry – Chemical Substances and How They Behave

The purpose of this unit is to:

- explore phenomena scientifically to explain how matter defines the universe
- apply knowledge, understanding and skills from the chemistry content to real life contexts
- interpret scientific data and evidence critically
- evaluate scientific information to make informed decisions.

This unit will focus on:



The unit will be assessed via an examination available in the summer series of the first year of study. The question types will target all Assessment Objectives.

There will be no optionality in this unit.

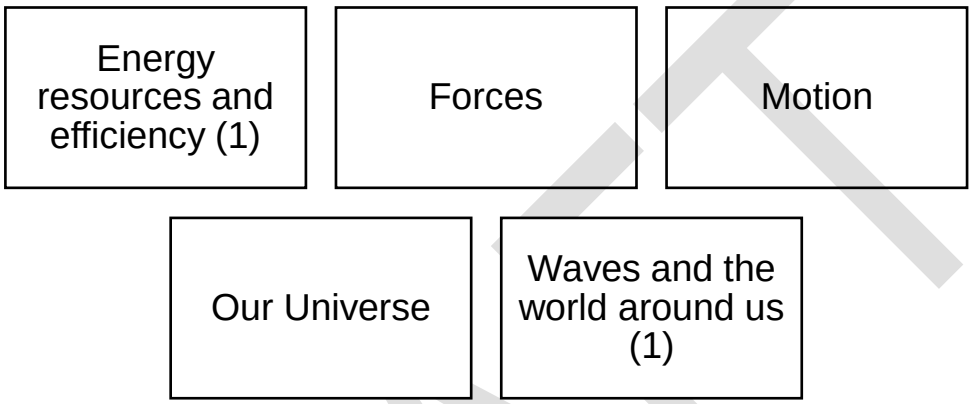
The examination will be tiered – higher tier and foundation tier.

Unit 3 – Physics – Forces, Motion and the Universe

The purpose of this unit is to:

- explore phenomena scientifically to explain forces and energy
- apply knowledge, understanding and skills from the physics content to real life contexts
- interpret scientific data and evidence critically
- evaluate scientific information to make informed decisions.

This unit will focus on:



The unit will be assessed via an examination available in the summer series of the first year of study. The question types will target all Assessment Objectives.

There will be no optionality in this unit.

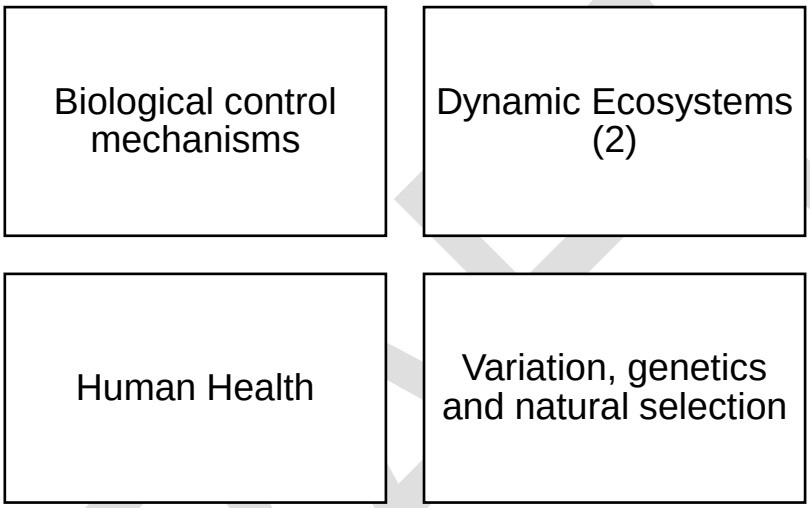
The examination will be tiered – higher tier and foundation tier.

Unit 4 – Biology – Continuity of Life

The purpose of this unit is to:

- explore phenomena scientifically to explain how the living world works
- apply knowledge, understanding and skills from the biology content to real life contexts
- interpret scientific data and evidence critically
- evaluate scientific information to make informed decisions
- use existing knowledge to make connections and relationships between different topics in Biology

This unit will focus on:



The unit will be assessed via an examination available in the summer series of the final year of study. The question types will target all Assessment Objectives. The assessment will also include a small number of questions that assess connections and relationships of content that learners will have studied in Unit 1 (the content will be clearly identified in the specification).

There will be no optionality in this unit.

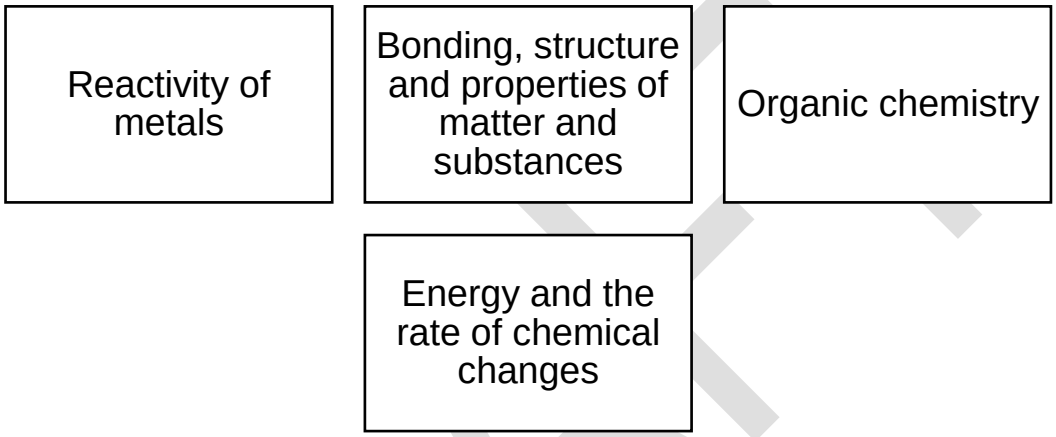
The examination will be tiered – higher tier and foundation tier.

Unit 5 – Chemistry – Chemical Bonding, Reactions and Resources

The purpose of this unit is to:

- explore phenomena scientifically to explain how matter defines the universe
- apply knowledge, understanding and skills from the chemistry content to real life contexts
- interpret scientific data and evidence critically
- evaluate scientific information to make informed decisions
- use existing knowledge to make connections and relationships between different topics in Chemistry

This unit will focus on:



The unit will be assessed via an examination available in the summer series of the final year of study. The question types will target all Assessment Objectives. The assessment will also include a small number of questions that assess connections and relationships of content that learners will have studied in Unit 2 (the content will be clearly identified in the specification).

There will be no optionality in this unit.

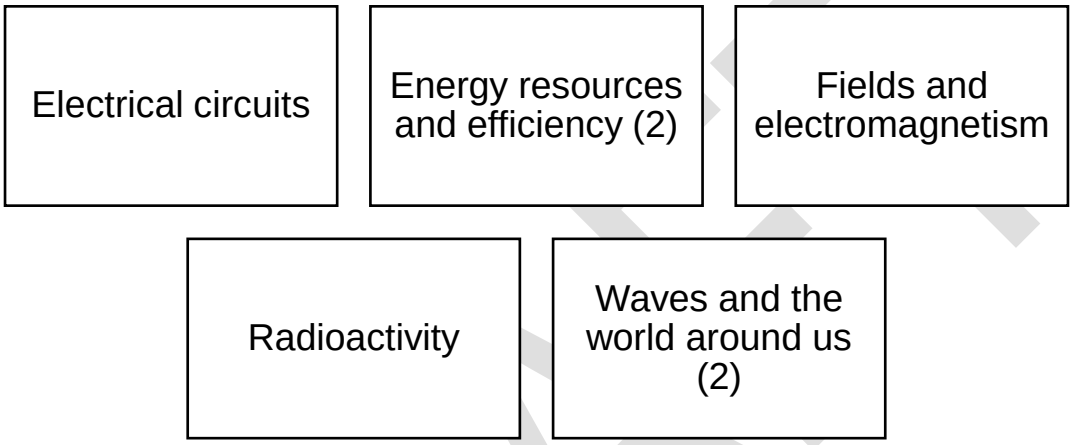
The examination will be tiered – higher tier and foundation tier.

Unit 6 – Physics - Waves, Electricity and Energy

The purpose of this unit is to:

- explore phenomena scientifically to explain forces and energy
- apply knowledge, understanding and skills from the physics content to real life contexts
- interpret scientific data and evidence critically
- evaluate scientific information to make informed decisions
- use existing knowledge to make connections and relationships between different topics in Physics

This unit will focus on:



The unit will be assessed via an examination available in the summer series of the first year of study. The question types will target all Assessment Objectives. The assessment will also include a small number of questions that assess connections and relationships of content that learners will have studied in Unit 3 (the content will be clearly identified in the specification).

There will be no optionality in this unit.

The examination will be tiered – higher tier and foundation tier.

Unit 7 – Scientific Enquiry

The purpose of this unit is to:

- undertake practical science experiments
- interpret scientific data and evidence
- inquire into and apply scientific knowledge
- plan and evaluate designs for scientific enquiry.

Scientific enquiry is an integral element of the qualification. The undertaking of practical science experiments and enquiry engages learners throughout the qualification by bringing their learning to life and encouraging curiosity. This unit assesses the skills developed throughout the qualification.

The assessment will include subject content from across The Sciences.

The assessment requires candidates to sit two out of a possible three tasks (the choice will be from a task from biology, chemistry and physics) and will be assessed in January/February of the final year of study.

Consideration of manageability, engagement, validity and reliability

In developing this proposed qualification outline, we have considered manageability, engagement, reliability and validity, and how to balance these considerations in the context of the requirements of the Approval Criteria.

The size of the qualification is 240-280 GLH. The content selected for each unit will be considered in line with the GLH, to ensure that it is manageable to teach within the time. This will also consider the scientific enquiry skills that should be taught across the qualification.

The Approval Criteria require that the first examination in each discipline is available to be taken at the end of Year 10. It also requires that the second examination in each discipline has a higher weighting than the first of the qualification, to be assessed in the final year of the qualification. The content will be distributed across the two units in each discipline, considering the weighting of the unit and the available teaching time in Y10 and Y11. This will support progression and cyclical learning, with learners revisiting existing knowledge from Y10 and linking this with new learning within each discipline in Y11. The requirement that the second examination in each discipline must contain questions that enable learners to demonstrate their knowledge and understanding of relationships and connections between different topics within that discipline will be carefully considered in co-construction with teachers and other scientific education professionals.

As the Approval Criteria state that the qualification must be unitised, we propose making the Assessment of Scientific Enquiry available to learners during a window at the start of the Spring term. This will allow learners to gain experience of practical skills after undertaking a number of practical scientific enquiries during the first year of study and the Autumn term of the second year of study. This window will be outside examination periods for GCSE The Sciences and other practical science assessments for GCE qualifications. During the Autumn term of the second year of study, centres will be issued with an equipment list for the practical assessments to aid preparation. Providing three tasks gives centres flexibility to consider equipment and staff availability.

Although we acknowledge that practical science has an impact on manageability, with access to equipment and scheduling often difficult for centres, we have concluded that it is the most appropriate period to assess the practical science skills. We believe that the examinations and scientific enquiry assessment are a valid approach to assessing the purpose and content because they allow students to demonstrate their skills and apply their learning in science to appropriate contexts beyond the classroom. To ensure the reliability of all units, we will ensure each unit will target the same assessment objective weightings over time.

We believe that the purpose and content of the biology, chemistry, and physics units will be engaging and can be validly assessed by examination, and a mix of question types can help us maximise validity. When we develop assessments, we will ensure that all tasks target the relevant construct, that there is an appropriate balance of content covered over time and that there is alignment between assessment items and learning outcomes. The assessment of the scientific enquiry will be set in engaging contexts for learners that relates to at least two of the science disciplines. Where appropriate, we will use data available to us on how an assessment has functioned. To ensure reliability, we will make sure that the examined units target the same assessment objective weightings and have a consistent level of demand each series, marking criteria will be developed and assessors will be trained on how to apply them consistently.

We will continue to consider the balance of manageability, engagement, reliability and validity, at each stage of qualification development.

APPENDIX

Key information from Approval Criteria

The following information has come directly from Qualifications Wales's (Approval Criteria GCSE The Sciences (Double Award)) - our qualification must meet these requirements.

Purpose

1. **GCSE The Sciences (Double Award)** must:
   1.1. be designed primarily for *Learners* between the ages of 14 and 16
   1.2. build on the conceptual understanding *Learners* have developed through their learning from ages 3–14
   1.3. support teaching and learning by providing appropriately broad, demanding, relevant and engaging content and assessment that relates to and supports the Curriculum for Wales, including its four purposes
   1.4. allow *Learners* to develop a strong foundation of knowledge, skills and understanding which supports progression to post-16 study (including GCE Science qualifications in Biology, Chemistry and Physics) and prepares them for life, learning and work
   1.5. provide meaningful, fair and accurate information on *Learner* achievement within a subject that highlights what *Learners* know, understand and can do

2. The specification for **GCSE The Sciences (Double Award)** must clearly articulate that, although this qualification has been designed to support direct progression to GCE Science qualifications, it will also provide an appropriate and engaging programme of study for *Learners* who may not choose to progress to further study in science.

Aims

3. **GCSE The Sciences (Double Award)** must:
   3.1. allow *Learners* to explore a range of knowledge, skills and understanding in relation to the sciences
   3.2. provide opportunities for *Learners* to be assessed in a variety of relevant and engaging contexts

4. **GCSE The Sciences (Double Award)** must support *Learners* to:
   4.1. demonstrate knowledge and understanding from a range of sciences, including biology, chemistry, and physics
   4.2. understand how different areas of science relate to them personally, locally, nationally, and internationally
   4.3. explore the connections between different topics of learning within and between each discipline
   4.4. develop the skills to question scientific ideas, using critical and creative thinking to solve problems
   4.5. develop a variety of enquiry skills, enabling them to successfully refine ways of working
   4.6. understand relationships between data, evidence and conclusions through quantitative and qualitative analysis and research
   4.7. understand and evaluate scientific models
   4.8. understand, evaluate and challenge scientific methods, evidence, and conclusions
   4.9. apply mathematical, communication and digital skills and tools when developing scientific knowledge and skills

4.10. appreciate the role played by morals, ethics, sustainability, and other aspects of decision-making in the application of science

Assessment objectives

18. The assessment of the knowledge, understanding and skills required in the qualification must target the following assessment objectives in line with the indicated weightings, within a tolerance of +/- 5 percentage points.

AO1	Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures.	25%
AO2	Apply knowledge and understanding of scientific ideas, processes, techniques and procedures	50%
AO3	Analyse, interpret and evaluate scientific information, processes, techniques and procedures	25%

Scheme of assessment

19. The **GCSE The Sciences (Double Award)** qualification must be unitised.

20. The **GCSE The Sciences (Double Award)** qualification must show the range in the proportion of marks allocated to each assessment objective and to each unit.

21. The examination assessments for **GCSE The Sciences (Double Award)** qualification must be tiered.

22. The examination assessments for the **GCSE The Sciences (Double Award)** qualification must allow *Learners* to achieve the following grades in each tier:
    22.1. higher tier – A*-D
    22.2. foundation tier – C-G

23. The awarding body must specify if the assessment on scientific enquiry will be tiered.

24. **GCSE The Sciences (Double Award)** must include the following assessment arrangements:
    24.1. six examinations that account for 90% of the qualification:
        24.1.1. there must be two examinations for each of the science disciplines of biology, chemistry and physics
        24.1.2. where appropriate, questions must be based on relevant and engaging real-life contexts
        24.1.3. where appropriate, the awarding body must include contexts that relate to more than one science discipline. The knowledge, understanding and skills required to answer the question must only relate to the discipline being assessed
        24.1.4. overall, the two examinations for each of the science disciplines must contribute 30% to the overall qualification grade
        24.1.5. the first examination in each discipline must be available to be taken at the end of Year 10

24.1.6. the second examination in each discipline must contain questions that enable *Learners* to demonstrate their knowledge and understanding of the relationships and connections between different topics within that discipline. These questions must only draw on the topics identified in the specification for this purpose
24.1.7. the second examination in each discipline must have a higher weighting than the first examination in each discipline
24.1.8. each examination must be set and marked by the awarding body

24.2. An assessment of scientific enquiry that accounts for 10% of the qualification:
24.2.1. this assessment must require *Learners* to complete at least one practical task
24.2.2. this assessment must assess the scientific enquiry skills relating to practical work, as well as a range of the other scientific enquiry skills specified in section 9
24.2.3. every year, the awarding body must offer a minimum of one task for each of biology, chemistry and physics from which *Centres* can choose
24.2.4. each task must be based on a relevant and engaging context that relates to at least two of the science disciplines
24.2.5. the awarding body must specify how many tasks each *Learner* must complete
24.2.6. this assessment must be set and marked by the awarding body
24.2.7. the awarding body must specify the duration of the assessment and the period in which it must be taken by *Learners*

25. Scientific enquiry skills must be a feature of the assessment for each unit.

26. The awarding body must specify its rules in regard to resits and resubmissions for **GCSE The Sciences (Double Award)** in accordance with the *National GCSE Conditions and Requirements*.