Unit Award Scheme

SCIENCE

Science coverage at UAS

Published: Spring 2022

## H:\UAS\4. Marketing and Publicity\Images\AQA and UAS logos\Tree of knowledge 25.jpg

### Contents

|  |  |
| --- | --- |
| Contents | Page |
| Introduction | 4 |
| Practical units | 5 |
| Physics units | 6 |
| Biology units | 7 |
| Chemistry units | 8 |
| Enrichment units | 9 |

## Introduction

### What is the Unit Award Scheme (UAS)

## 

AQA’s Unit Award Scheme (UAS) is a recording of achievement scheme centres can use with students of all ages and abilities. Established in 1984, it is a tried and tested means of creating a culture of success.

Every single unit a student completes is rewarded with an AQA-branded UAS certificate which details what they have achieved. Certificates are issued within 5-10 days of a claim being received and claims can be made year round. This rapid reward for achievement builds student confidence and increases engagement. It also allows students to create a portfolio evidencing their skills, knowledge and experience.

For further information, please see our [Join](https://www.aqa.org.uk/programmes/unit-award-scheme/join) and [How UAS works](https://www.aqa.org.uk/programmes/unit-award-scheme/a-brief-history-of-the-aqa-unit-award-scheme-uas) pages and [UAS fees](https://www.aqa.org.uk/programmes/unit-award-scheme/fees-202122). You can also speak directly to our Registrations team on 01423 534235, [enquire online](https://analytics.clickdimensions.com/cn/acja4/UASEnquiry) or email us at [UASRegistration@aqa.org.uk](mailto:UASRegistration@aqa.org.uk).

## Unit Award Scheme: Science

## To complement the almost 800 Science units written by teachers that are already available via the unit search engine on the website ([AQA | Programmes | Unit Award Scheme | Units](https://www.aqa.org.uk/programmes/unit-award-scheme/units)), the Science curriculum team have written a suite of units mapped to the ELC and the core skills and knowledge of GCSE Combined Science. These units can be found here: [AQA | Unit Award Scheme | Units | Science](https://www.aqa.org.uk/programmes/unit-award-scheme/units/science) and include:

## units covering practical skills

## units which address the ELC outcomes covered in each of the six components

## units matched to key ideas covered in our science GCSE Combined specification.

The practical skill units relate to the GCSE Apparatus and Techniques (AT) and are mapped to some of the Required Practicals (RPs). The aim of the units is to provide students with an opportunity to master the basic skills needed to carry out investigations and to then apply them in the context of some practical investigations.

These units can be used with students in either Key Stage 3 or 4 and provide a means of rewarding students for their practical work outside of their GCSEs or other KS4 qualifications.

The specification-linked units can act as a stepping stone towards accessing the qualification, breaking the content down into manageable, bite-size chunks of learning for those students who find the size of the ELC or GCSE overwhelming.

The UAS certificates can help disengaged students to feel their studying is valued and has a purpose.

## Owing to the breadth of the Combined specification we have deliberately not covered every aspect.

## Practical Units

#### Taking and recording measurements in science

Unit: 115007 Taking and recording measurements in science

This unit is based on AT1 which is common for all three sciences   
The unit covers selecting the appropriate measuring apparatus and constructing and recording measuring in a results table.

Working safely in a science lab   
  
Unit: 115009 Safe use of heating devices in a science lab

This unit is based on Biology and Chemistry AT2 and aspects of RP3 RP4.

The unit covers how to heat substances safely using either a Bunsen or a water bath.

Unit: 115010 Purify dirty sea water safely   
This unit is based on Chemistry AT 4 and aspects of RP 13.

The unit covers safely using the techniques of filtering, evaporating and distillation to separate a mixture and relating the methods to the physical properties of different components of a mixture.

Unit: 115011 Safely investigating the resistance of a wire   
This unit is based on Physics AT6 and aspects of RP15.

The unit covers using a circuit diagram to select the appropriate equipment and set up circuit to safely measure and calculate resistance of a wire as its length is changed.

Practical skills in a context of a RP

Unit: 115098 Using a light Microscope

This unit is based on Biology RP 1 and covers AT1 & 7

Unit: 115111 Random sampling

This unit is based on Biology RP 7 and covers AT1 , 3 & 4

Unit: 115112 Chromatography

This unit is based on Chemistry RP12 and covers AT1 & 4

Unit: 115113 Rates of reactions

This unit is based on Chemistry RP 11 and covers AT1, 3 , 5 & 6

Unit: 115114 Investigating density

This unit is based on Physics RP 17 and covers AT1

## Physics Units

Unit: 115824 Energy transfers

This unit covers changes in the way that energy is stored and how energy might be wasted.

Unit: 115825 Energy resources

This unit covers some of the main energy resources available for use on Earth.

Unit: 116504 Investigating friction

This unit covers the use of a Newton meter in an experiment to find how surface texture affects the force needed to pull a mass along.

Unit: 115826 Types of forces  
This unit covers contact and non-contact forces, the consequences of friction.

Unit: 116507 Investigating speed

This unit covers the use of a ruler and a stopwatch to calculate the speed of a car rolling down a ramp.

Unit: 116505 Investigating reaction times

This unit covers an investigation into how caffeine affects our reflexes.

Unit: 115827 Speed and stopping distances

This unit covers measuring speed and factors that affect the stopping distance of a car.

Unit: 116098 Radioactivity  
This unit covers the names, uses and dangers of the three types of radioactivity.

Unit: 116506 Investigating resistance

This unit covers how to make and change a simple circuit and introduces the terms current, potential difference and resistance.

Unit: 116090 Electricity

This unit covers how to set up and measure different properties in a circuit.

Unit: 116085 Domestic electricity

This unit covers how to wire a 3-pin plug, the relationship between power, energy and time is also covered.

Unit: 116503 Investigating electromagnets

This unit covers how to make an electromagnet and requires numerical results to be collected using a fair test.

Unit: 116093 Magnets and electromagnets

This unit covers attraction and repulsion of magnets and the construction and uses of an electromagnet.

Unit: 116101 Waves

#### This unit covers types of waves , drawing waves and calculating wave speed. The names and uses of electromagnetic waves.

Unit: 116100 Space

This unit covers day and night and the seasons. It also covers the names of different the bodies in the solar system.

## Biology Units

Unit: 116508 Cells

This unit covers the names and functions of the parts of animal and plant cells. Types of specialised cells and how the structure of the cells links to function.

Unit: 116134 The order of structures that make up an organism

This unit covers the labelling of the organs and the basic functions of the digestive, circulatory and nervous systems. Links between cells, tissues, organs and organ systems.

Unit: 116135 The structure of the heart and composition of blood

This unit covers the structure and function of the heart and the composition of blood.

Unit: 116136 The Digestive system

This unit covers structure and function of the digestive system. It also covers digestive enzymes.

Unit: 116509 Respiration

This unit covers the role of respiration and the respiration equation. It also covers the lime water test for carbon dioxide.

Unit: 116510 The effects of lifestyle on health

This unit covers risk factors for non-communicable diseases and the health benefits of a good diet and exercise.

Unit: 116511 How the body fights disease

This unit covers the pathogens that cause communicable diseases and how the immune system defends the body against disease. It also cover the roles of vaccinations and antibiotics.

Unit: 116512 Coordinating the body

This unit covers the role of the nervous system and hormones in body coordination.

Unit: 116513 Natural and artificial selection

This unit covers evolution by natural selection and evidence for evolution. It also covers artificial selection.

Unit: 116514 Genetics: Inheritance and engineering

This unit covers genes as a segment of DNA that store heritable, genetic information. It also covers sex determination and genetic engineering.

Unit: 116515 Biodiversity

This unit covers a visit to a local nature area to observe the interaction between the living and non-living factors in the area.

Unit: 116516 Photosynthesis

This unit covers photosynthesis and the importance of plants as producers.

Unit: 116517 Ecosystems

This unit covers the definition of an ecosystem and construction of a food web. It also covers competition for resources by plants and animals.

Unit: 116518 Decay and the water cycle

This unit covers the causes of decay and the resulting release of carbon dioxide to show a simple carbon cycle. It also covers the water cycle.

## Chemistry Units

Unit: 116378 States of matter- solids, liquids and gases

This unit covers the three states of matter and how chemicals change state. It also covers the particle model to explain the changes of state.

Unit: 116133 What is everything made of? Atoms and elements

This unit covers the most common elements on earth; their observable features, properties and uses.

Unit: 116379 Joining elements together: Elements and compounds

This unit covers the most common compounds on earth; their observable features, properties and uses. It also looks at how compounds are formed, including some simple word equations.

Unit: 116380 Mixtures and separating mixtures

This unit covers what is in common mixtures such as air. It also covers a range of techniques that can be used to separate the components of mixtures.

Unit: 116381 Extracting and using metals

This unit covers properties and uses of some common metals and how we extract and purify these metals from their ores. It also covers what alloys are and why are they so useful.

Unit: 116382 Acid reactions

This unit covers how acid reacts with metals, including simple word equations. It also covers how acids react with alkali, including simple word equations.

Unit: 116383 Rates of chemical reactions

This unit covers how the rate of reactions can be controlled in various ways.

Unit: 116384 Polymers - the good and bad side of plastics

This unit covers how polymers are made, why they are so useful and what environmental issues they cause.

Unit: 116388: The Earths atmosphere and global warming

This unit covers the current composition of our atmosphere; what influences its composition, and how humans are affecting it, including carbon dioxide released from burning fossil fuels, and methane from landfill and meat production. It also covers Global Warming and its potential consequences.

Unit: 116390 Pollution and the human impact on our world

This unit covers how humans are affecting the earth on land, in the air and in the water. It looks at the problems humans are causing and the potential solutions to these problems.

## Enrichment Units

The Unit Award Scheme supports, encourages and rewards all students on theireducational journey. As part of this approach you will find lots of units written by teachers that focus on science related topics which aren’t formally covered in the specification .These topics could be used in science clubs, during science week or just to enrich the overall coverage of wider science issues. Below are just a taster of some that are available:

Unit: 11184 Crime scene investigations (CSI) Murder mystery

Unit: 112057 Medicine in the ancient world

Unit: 111715 The solar system

Unit: 108921 Investigation skills for STEM based projects

Contact us  
  
Our friendly team will be happy to support you between 8am and 5pm, Monday to Friday.

Science

Tel: 01483 477 756

Email: gcsescience@aqa.org.uk

Twitter: @AQA

Unit award scheme

Tel: 01423 534 235

Email: unitawardscheme@aqa.org.uk

Twitter: @AQA

[aqa.org.uk](https://www.aqa.org.uk/)