

## CCEA Entry Level Specification in Science

For first teaching from September 2015  
For first award in Summer 2016

Subject Code: E1080

# science



## Foreword

This booklet contains the specification for CCEA's Entry Level in Science for first teaching from September 2015. We have designed this qualification to meet the requirements for Entry Level 1, 2 and 3.

We will make the first award at unit and at qualification level in Summer 2016.

We will notify centres in writing of any major changes to this specification. We will also publish changes on our website at [www.ccea.org.uk](http://www.ccea.org.uk)

You will find the most up-to-date version of this specification on our website [www.ccea.org.uk](http://www.ccea.org.uk)

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## 1 Introduction

This specification sets out the content and assessment arrangements for our Entry Level Science course. First teaching begins in September 2015. We will make the first award at unit and at qualification level in Summer 2016.

There are 120 guided learning hours (GLH) for this qualification. This indicates the approximate number of hours needed for teacher-directed learning time and assessment.

### 1.1 Aims

This specification gives learners the opportunity to:

- develop literacy, numeracy and ICT skills where appropriate;
- become aware of the importance of accurate experimental work to scientific methods;
- apply their learning in a practical context;
- develop an understanding of the social and economic contribution of science to everyday life;
- discover that applications of science may be both beneficial and detrimental to the individual, the community and the environment; and
- develop employability skills.

### 1.2 Key features

The key features of the specification appear below:

- There are four mandatory units and three optional units at each level; learners must complete a total of six units to achieve a full qualification.
- Learners can gain a qualification at Entry 1, Entry 2 or Entry 3, depending on the level of the units they achieve. Refer to Section 4.7 for the combination of units required to achieve each Entry Level qualification.
- The specification provides learners with opportunities to build on knowledge, skills and capabilities developed in Science at Key Stage 3.
- Teachers carry out the assessment, and we carry out external moderation.
- The specification provides a progression route to further learning.
- It develops skills that prepare learners for working and adult life.

### 1.3 Prior learning and progression

Learners do not need to have prior knowledge of any of the subject areas. Those who successfully complete this qualification can progress to other qualifications at Entry Level, Level 1 or Level 2, GCSE qualifications, or other related training courses.

### 1.4 Qualification Accreditation Number

Every qualification listed on the Register of Regulated Qualifications is assigned a Qualification Accreditation Number (QAN). Since the QAN identifies the qualification, it is required for registration and entry purposes. The QAN for this qualification is 601/5586/3.

## 2 Specification at a Glance

The following table summarises the structure of this qualification. At each level, **Unit 2, 3, 4 and 5 are mandatory** and **Unit 1, 6 and 7 are optional**. Learners must study two out of the three optional units. Learners can achieve Entry 1, 2, or 3 in each unit.

### Entry 1, 2 and 3

Content	GLH	Assessment and Availability
<b>Unit 1: Human Biology and Keeping Healthy (Optional Unit)</b>	20	Learners must complete a portfolio of evidence.
<b>Unit 2: Plants and Ecology (Mandatory Unit)</b>	20	Teachers assess the work, and we carry out external moderation.  Centres can submit unit assessment outcomes in Summer, beginning in Summer 2016.
<b>Unit 3: Chemical Products and Working Safely (Mandatory Unit)</b>	20	
<b>Unit 4: Materials and Recycling (Mandatory Unit)</b>	20	
<b>Unit 5: Electricity and Renewable Energy (Mandatory Unit)</b>	20	
<b>Unit 6: Light and Sound (Optional Unit)</b>	20	
<b>Unit 7: Space Science (Optional Unit)</b>	20	

## 3 Qualification Content

### 3.1 Unit structure of the qualification

To achieve a CCEA Entry Level in Science at Entry 1, Entry 2 or Entry 3, learners must complete six units from the seven available:

- **four** mandatory units:
  - Unit 2: Plants and Ecology;
  - Unit 3: Chemical Products and Working Safely;
  - Unit 4: Materials and Recycling; and
  - Unit 5: Electricity and Renewable Energy;
- **two** of the following optional units:
  - Unit 1: Human Biology and Keeping Healthy;
  - Unit 6: Light and Sound; and/or
  - Unit 7: Space Science.

The details that follow include:

- unit titles; and
- learning outcomes and assessment criteria for each level.

The learning outcomes for each unit set out what learners are expected to know, understand or be able to do at the end of their learning experience. The assessment criteria specify the standard that learners must meet to demonstrate that they have achieved the learning outcomes at that level within the unit.

### 3.2 Unit 1: Human Biology and Keeping Healthy

**Unit purpose and aim:** This unit aims to give learners an understanding of the human body, the importance of looking after our health and what can happen if we become ill.

This is an optional unit.

#### Entry 1

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
<b>1. Understand that the main human body systems are necessary for the maintenance of life</b>	1.1 identify at least two of the basic life processes; 1.2 name at least two of the main systems of the body;
<b>2. Understand how the human body reproduces</b>	2.1 label two of the external and internal parts of the male and female human reproductive systems; 2.2 state two of the main physical and emotional changes that take place during puberty; 2.3 recognise the processes of ovulation, fertilisation and menstruation in the female reproductive system; 2.4 identify two of the features of a healthy maternal lifestyle during pregnancy;
<b>3. Understand the factors that are important in maintaining a healthy body</b>	3.1 identify two examples of lifestyle factors that can affect health; 3.2 outline two of the effects of recreational drugs on the body's health (smoking, drugs and alcohol); 3.3 identify two of the components of a healthy human diet;
<b>4. Understand what happens when you become ill</b>	4.1 recall that some common infections are caused by bacteria and viruses; 4.2 identify two medicines that are used to treat illnesses; and 4.3 name two of the types of medical tests used in hospitals.

**Entry 2**

<b>Learning outcomes</b>	<b>Assessment criteria</b>
<b>The learner will:</b>	<b>The learner can:</b>
<b>1. Understand that the main human body systems are necessary for the maintenance of life</b>	1.1 list the basic life processes; 1.2 name the main systems of the body; 1.3 observe and identify a range of cell types in different organisms;
<b>2. Understand how the human body reproduces</b>	2.1 label the male and female human reproductive systems; 2.2 state the physical and emotional changes that take place during puberty; 2.3 recognise the cyclical nature of the female reproductive cycle and the processes of ovulation, fertilisation and menstruation; 2.4 outline the development of the baby during pregnancy; 2.5 list the features of a healthy maternal lifestyle during pregnancy;
<b>3. Understand the factors that are important in maintaining a healthy body</b>	3.1 identify four examples of lifestyle factors that can affect health; 3.2 outline four effects of recreational drugs on the body's health (smoking, drugs and alcohol); 3.3 define the components of a healthy human diet; and 3.4 identify two environmental factors that can have an impact on health.
<b>4. Understand what happens when you become ill</b>	4.1 recall that infections are caused by bacteria, viruses and fungi; 4.2 list three medicines that are used to treat illnesses; 4.3 list three types of medical tests used in hospitals; and 4.4 identify two common types of cancer and possible symptoms.

**Entry 3**

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Understand that the main human body systems are necessary for the maintenance of life</b>	1.1 name four of the major organs associated with the basic life processes in the human body; 1.2 label the parts of the main systems of the body and recall their function; 1.3 compare the differences between plant and animal cells;
<b>2. Understand how the human body reproduces</b>	2.1 label and state the function of the main parts of the male and female human reproductive systems; 2.2 explain the physical and emotional changes that take place during puberty; 2.3 describe the menstrual cycle and process of fertilisation; 2.4 describe what happens during gestation and birth; 2.5 explain the importance of a healthy maternal lifestyle during pregnancy;
<b>3. Understand the factors that are important in maintaining a healthy body</b>	3.1 recall how four different lifestyle factors can affect the body's systems; 3.2 link the use of recreational drugs to health; 3.3 explain the seven components of a healthy human diet; and 3.4 describe three environmental factors that can impact on health.

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>4. Understand what happens when you become ill</b>	4.1 outline five infections or diseases that are caused by bacteria, viruses and fungi; 4.2 describe the importance of medicines and vaccines in preventing and treating disease; 4.3 explain the purpose of three medical tests used in hospitals; and 4.4 outline the preventative measures and treatments available for two common types of cancer.

### 3.3 Unit 2: Plants and Ecology

**Unit purpose and aim:** This unit aims to give learners an understanding of the structure and lifecycle of plants and the requirements for their healthy growth. Learners also have the opportunity to explore how organisms are adapted to live and interact in particular environments.

**This is a mandatory unit.**

#### Entry 1

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
<b>1. Know the basic conditions a green plant needs to grow</b>	1.1 name and locate two of the main external parts of flowering plants; 1.2 identify and investigate two things that plants need to make their own food; 1.3 show that water and a suitable temperature are needed for germination;
<b>2. Understand that there is a variety of living organisms in an environment</b>	2.1 sort a selection of vertebrates into groups based on observable external features;
<b>3. Know how organisms are adapted to survive within their environment</b>	3.1 observe two features of a local habitat;
<b>4. Understand that plants are a source of food and that living organisms interact with each other to feed</b>	4.1 identify two plant parts that can be eaten as foods; and 4.2 sort a sample of living things into simple food chain.

## Entry 2

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know the basic conditions a green plant needs to grow</b>	1.1 name and locate the main external parts of flowering plants; 1.2 identify what plants need to make their own food; 1.3 illustrate how water moves through a plant from the roots through the stem to the leaf; 1.4 recall that plants can be grown from seeds or cuttings; 1.5 show that oxygen, water and a suitable temperature are needed for germination;
<b>2. Understand that there is a variety of living organisms in an environment</b>	2.1 sort living things into groups based on observable external features; 2.2 explain how variation in humans has both genetic and environmental causes;
<b>3. Know how organisms are adapted to survive within their environment</b>	3.1 name two different environments in which organisms live; 3.2 observe a local habitat;
<b>4. Understand that plants are a source of food and that living organisms interact with each other to feed</b>	4.1 describe two examples of when plant parts are eaten as foods; 4.2 write a simple food chain; and 4.3 describe a simple feeding relationship as a flow of energy (predator–prey).

**Entry 3**

<b>Learning outcomes</b>	<b>Assessment criteria</b>
<b>The learner will:</b>	The learner can:
<b>1. Know the basic conditions a green plant needs to grow</b>	1.1 label the main external parts of flowering plants and describe their function; 1.2 explain, using a word equation, how plants need carbon dioxide, water and light for photosynthesis to produce glucose and oxygen; 1.3 investigate the movement of water through a plant; 1.4 grow plants from seeds and cuttings; 1.5 describe how a seed germinates, forming roots and a shoot;
<b>2. Understand that there is a variety of living organisms in an environment</b>	2.1 classify living organisms into groups using simple keys; 2.2 recall that characteristics can be passed on from one generation to the next and that this information is carried in genes; 2.3 research the types of living things that inhabited the Earth millions of years ago;
<b>3. Know how organisms are adapted to survive within their environment</b>	3.1 describe two ways in which living organisms are suited to living in different environments; 3.2 describe a local habitat and identify the organisms present; 3.3 measure two non-living conditions in a local habitat;
<b>4. Understand that plants are a source of food and that living organisms interact with each other to feed</b>	4.1 test different foods from plants for starch and glucose; 4.2 construct a simple food web made from several food chains and state how changes may impact on a food web; and 4.3 explain the feeding relationships and interactions between herbivores, carnivores and omnivores.

### 3.4 Unit 3: Chemicals Products and Working Safely

**Unit purpose and aim:** This unit aims to make learners aware of the hazards of using materials/equipment at home, in the workplace, and when testing and preparing chemicals in the laboratory. By safely carrying out investigations in the laboratory, they can also gain an understanding of the chemistry behind some chemical reactions.

**This is a mandatory unit.**

#### Entry 1

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know about different types of hazards and how to work safely in the laboratory</b>	1.1 recognise what a hazard symbol is; 1.2 name basic scientific apparatus;
<b>2. Know about different types of chemical substances used in the home</b>	2.1 identify two household solutions; 2.2 research four foods, drinks or fruits that taste bitter; 2.3 identify household solutions as acidic, alkaline or neutral using simple tests; and
<b>3. Know that chemical reactions make new products</b>	3.1 name two chemical changes that take place at home.

#### Entry 2

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know about different types of hazards and how to work safely in a laboratory, in a workplace and at home</b>	1.1 identify four different hazard symbols; 1.2 identify hazards when using equipment in a workplace; 1.3 identify how risks can be reduced when using equipment or hazardous substances; and 1.4 use basic scientific apparatus safely.

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>2. Know about different types of chemical substances used in the home</b>	2.1 identify two chemical substances used in the home; 2.2 identify household solutions as acidic, alkaline or neutral using simple tests; 2.3 identify household uses of acids and bases;
<b>3. Know that chemical reactions make new products</b>	3.1 identify the changes that may take place during a chemical reaction; 3.2 identify one way to speed up a chemical reaction; 3.3 classify whether chemical reactions give out or take in heat; and 3.4 understand that when acids and bases react, neutralisation occurs.

### Entry 3

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know about different types of hazards and how to work safely in a laboratory, in a workplace and at home</b>	1.1 describe the hazards associated with four hazard symbols; 1.2 describe how to avoid hazards when using equipment in a workplace; 1.3 produce a simple risk assessment for a basic experiment; 1.4 use a range of scientific apparatus and chemicals safely;
<b>2. Know about different types of chemical substances used in the home</b>	2.1 classify four chemical substances used in the home as hazardous or non-hazardous; 2.2 identify the pH of four chemicals found in the home; and 2.3 link the properties of chemical substances to their uses.

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>3. Understand that chemical reactions make new products</b>	3.1 classify changes as being temporary or permanent; 3.2 explain how a chemical reaction can be speeded up; 3.3 measure the temperature change in chemical reactions safely; 3.4 understand that when acids and bases react, a salt and water are produced; and 3.5 identify two common uses of neutralisation reactions.

### 3.5 Unit 4: Materials and Recycling

**Unit purpose and aim:** This unit aims to help learners to classify materials, identify uses associated with their properties, recognise the need to use raw materials sustainably and understand the importance of recycling.

**This is a mandatory unit.**

#### Entry 1

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
<b>1. Be able to classify materials</b>	1.1 name two hard and two soft materials;
<b>2. Understand that the properties of materials determine their use</b>	2.1 identify the materials that are used to make two different household goods; 2.2 name two objects made from iron; 2.3 give two everyday examples of rusting;
<b>3. Understand that some materials are natural</b>	3.1 identify two natural materials;
<b>4. Know that the production and disposal of chemical products can affect the environment</b>	4.1 name one part of the environment that has been damaged by the disposal of chemicals and household waste; and 4.2 name one material that can be recycled.

## Entry 2

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Be able to classify materials and their properties</b>	1.1 recognise the different groups that three different materials can be classified in; 1.2 describe the properties of two different materials;
<b>2. Understand that the properties of materials determine their use</b>	2.1 identify some uses of each group of materials; 2.2 carry out simple experiments to test which materials are most suitable for their purpose; 2.3 give three everyday examples of rusting; 2.4 identify the methods for preventing rust;
<b>3. Know that there are elements, compounds and mixtures</b>	3.1 Identify four natural materials; 3.2 define the term 'element' and list examples; 3.3 identify substances as being elements, compounds or mixtures;
<b>4. Know that the production and disposal of chemical products can affect the environment</b>	4.1 list two harmful effects that different chemicals can have on the environment; 4.2 identify four materials from household or school waste that can be recycled; 4.3 state two methods used to dispose of waste; and 4.4 understand that there are finite natural materials.

## Entry 3

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Be able to classify materials and their properties</b>	1.1 classify four materials into different groups; 1.2 test materials for their properties;
<b>2. Understand that the properties of materials determine their use</b>	2.1 explain why certain materials are used in two specific situations; 2.2 investigate which materials are most suitable for their purpose; 2.3 explore the conditions necessary for rusting; 2.4 describe how rust prevention works;
<b>3. Know that there are elements, compounds and mixtures</b>	3.1 explain how natural materials can be used to manufacture products; 3.2 use the Periodic Table to identify eight common elements as being metals or non-metals; 3.3 describe how mixtures can be easily separated and compounds can't;
<b>4. Know that the production and disposal of chemical products can affect the environment</b>	4.1 describe how three different chemicals can cause damage to the environment; 4.2 explain two advantages of recycling household or school waste; 4.3 describe two different methods used to dispose of waste; and 4.4 discuss the need to use natural materials sustainably.

### 3.6 Unit 5: Electricity and Renewable Energy

**Unit purpose and aim:** This unit aims to help learners to construct electrical circuits, be aware of the dangers associated with electricity, understand how electricity is produced and understand the need to produce electricity from renewable sources.

**This is a mandatory unit.**

#### Entry 1

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know the basic principles of electrical circuits</b>	1.1 name two electrical appliances found at home, in school and/or in the workplace; 1.2 list the parts used to construct simple electrical circuits and give their symbols; 1.3 know the difference between an electrical conductor and an insulator;
<b>2. Know how to work safely with electricity</b>	2.1 demonstrate awareness of the dangers associated with using electricity;
<b>3. Know how we get our electricity</b>	3.1 list two different types of energy; 3.2 name two fossil fuels; and 3.3 name two types of renewable energy.

## Entry 2

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know the basic principles of electrical circuits</b>	1.1 list the parts used to construct simple electrical circuits and give their symbols; 1.2 identify simple electrical circuits as either series or parallel; 1.3 recognise that materials can be electrical conductors or insulators; 1.4 list quantities and units associated with electricity; 1.5 rank five domestic electrical devices in order of power consumption; 1.6 recall that some electrical appliances are more costly to run than others;
<b>2. Know how to work safely with electricity</b>	2.1 identify two hazards associated with using electricity; 2.2 recognise how electrical circuits in the home can be made safer;
<b>3. Know how we get our electricity</b>	3.1 recognise that energy can be changed from one form into another; 3.2 identify two different fossil fuels used to generate electricity; and 3.3 identify two renewable energy sources for generating electricity.

### Entry 3

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know the basic principles of electrical circuits</b>	1.1 state the purpose of the parts in an electrical circuit; 1.2 build simple series and parallel circuits from circuit diagrams; 1.3 build simple circuits to test if materials are conductors or insulators; 1.4 measure and record current and voltage in electrical circuits with accuracy; 1.5 compare and analyse power consumption for different electrical devices; 1.6 calculate the cost of using electricity (with the cost per unit restricted to whole numbers less than 10 and the number of units of electricity used restricted to numbers less than 1000);
<b>2. Know how to work safely with electricity</b>	2.1 identify and explain two situations that are hazardous when using electricity and explain how the risks can be reduced; 2.2 explain and demonstrate how fuses in home electrical circuits make using electricity safer;
<b>3. Know how we get our electricity</b>	3.1 describe the energy changes taking place in electrical circuits and two appliances; 3.2 describe how electricity is generated in a power station; 3.3 investigate the production of electricity from renewable energy sources; and 3.4 describe two advantages and two disadvantages of using renewable energy to generate electricity.

### 3.7 Unit 6: Light and Sound

**Unit purpose and aim:** This unit aims to enable learners to discover some of the properties and uses of light and sound, and to develop this understanding through practical investigation.

**This is an optional unit.**

#### Entry 1

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
<b>1. Know some of the properties of light</b>	1.1 understand that light travels in straight lines; 1.2 recall that luminous objects produce their own light; 1.3 recall that white light can be split into several colours; 1.4 recall that some objects allow light to pass through while others do not;
<b>2. Know some of the properties of sound</b>	2.1 generate a sound by causing an object to vibrate; 2.2 use equipment to produce sounds of differing loudness; 2.3 use equipment to produce sounds of different pitch;
<b>3. Know some of the dangers and uses of sound</b>	3.1 understand that loud sounds can damage hearing; and 3.2 name a use of sound.

## Entry 2

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know some of the properties of light</b>	1.1 understand that light travels in straight lines and can be reflected; 1.2 identify two objects that are luminous and two that are illuminated; 1.3 identify the different colours that make up white light; 1.4 identify materials as transparent, translucent or opaque;
<b>2. Know some of the properties of sound</b>	2.1 state that sound waves are made when an object vibrates; 2.2 rank five different sounds in order of loudness; 2.3 understand that sounds have different pitch;
<b>3. Know some of the dangers and uses of sound</b>	3.1 understand that loud sounds can damage hearing; 3.2 state that animals have different hearing ranges; 3.3 demonstrate how musical instruments can make sound; and 3.4 state the meaning of the term ‘ultrasound’ and identify two situations where it can be used.

**Entry 3**

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know some of the properties of light</b>	1.1 investigate how light is reflected from a plane mirror; 1.2 explain how we see luminous and illuminated objects; 1.3 investigate the component colours of white light using prisms; 1.4 investigate how opaque objects form shadows;
<b>2. Know some of the properties of sound</b>	2.1 describe how sound waves require a medium to travel; 2.2 identify the features of a simple wave diagram; 2.3 identify sounds of different loudness and pitch, using wave diagrams;
<b>3. Know some of the dangers and uses of sound</b>	3.1 describe two different ways of reducing the risk of hearing damage; 3.2 investigate the human hearing range; 3.3 explain how to change the pitch and loudness of musical instruments; and 3.4 describe a medical and two industrial uses of ultrasound.

### 3.8 Unit 7: Space Science

**Unit purpose and aim:** This unit aims to give learners an understanding of the scale of the Universe, the place of our Solar System within the Universe and how we explore what lies beyond our Solar System.

**This is an optional unit.**

#### Entry 1

Learning outcomes	Assessment criteria
<b>The learner will:</b>	<b>The learner can:</b>
<b>1. Know about galaxies and our Solar System</b>	1.1 state that the Sun is the centre of the Solar System; 1.2 name four planets; 1.3 recall that galaxies are collections of stars; 1.4 investigate how the Earth moves round the Sun;
<b>2. Know about satellites including the Moon</b>	2.1 investigate how the Moon orbits the Earth, using models; 2.2 recall that artificial satellites orbit the Earth and be able to name two of their uses; 2.3 recall that an astronaut weighs less on the Moon than on Earth;
<b>3. Be aware of the scale of the Universe</b>	3.1 recall that light takes a long time to reach us from distant stars; 3.2 investigate how telescopes and binoculars can be used to view distant objects; and 3.3 recall that space probes have reached other planets.

**Entry 2**

<b>Learning outcomes</b>	<b>Assessment criteria</b>
<b>The learner will:</b>	The learner can:
<b>1. Know about galaxies and our Solar System</b>	1.1 identify the key parts of the Solar System (Sun, planets and moons); 1.2 investigate, using role play or models, the order of distance of the planets from the Sun; 1.3 identify spiral galaxies; 1.4 investigate why there is day and night;
<b>2. Know about satellites including the Moon</b>	2.1 identify the Moon as a natural satellite; 2.2 describe how artificial satellites are put into space; 2.3 describe what gravity is;
<b>3. Be aware of the scale of the Universe</b>	3.1 describe the Universe as being composed of billions of galaxies; 3.2 recognise that different types of telescopes are used to explore the Universe; and 3.3 explain aspects of exploration of the Solar System.

## Entry 3

Learning outcomes	Assessment criteria
<b>The learner will:</b>	The learner can:
<b>1. Know about galaxies and our Solar System</b>	1.1 describe the Solar System (Sun, planets, dwarf planet, asteroid belt and moons); 1.2 understand that distance from the Sun affects the temperature of planets; 1.3 identify the position of our Solar System in relation to the Milky Way; 1.4 investigate why the number of daylight hours changes throughout the year;
<b>2. Know about satellites including the Moon</b>	2.1 describe two features of the Moon and investigate how different asteroid impacts shaped the surface of the Moon; 2.2 describe two uses of artificial satellites; 2.3 explain why different planets have different gravities;
<b>3. Be aware of the scale of the Universe</b>	3.1 research how long it takes a space craft to reach the Moon; 3.2 research two advantages and two disadvantages of different types of telescopes; and 3.3 describe two difficulties associated with exploring space.

## 4 Scheme of Assessment

### 4.1 Availability of assessment

Assessment can take place as and when the learner is ready. Centres may submit assessment outcomes to us for external moderation in Summer each year, beginning in Summer 2016.

We will make the first unit and full qualification awards based on this specification in Summer 2016.

### 4.2 Methods of assessment

For this Entry Level in Science, learners must complete a portfolio of work to show how they have met the assessment criteria for each unit.

Teachers can choose any assessment method or combination of methods that clearly demonstrates the learner has met the assessment criteria and achieved the learning outcomes. These methods may include, for example:

- photographs;
- written evidence;
- posters;
- mind maps;
- presentations;
- storyboards; and/or
- screenshots.

There may be pieces of assessment evidence in a learner's portfolio that cover criteria for more than one unit, but teachers must assess each unit independently.

### 4.3 Assessment guidance

Teachers assessing the outcomes must have the appropriate skills and knowledge to assess learners' work for a unit. They must also:

- be able to authenticate the work as the learners' own;
- ensure that learners have met **all** the assessment criteria in a unit in order to achieve a level; and
- keep accurate records of all assessment decisions.

Learners will require different levels of guidance to complete the tasks and activities for their portfolio. The table below provides a general guide to demonstrate the amount of guidance learners might need:

<b>Level</b>	<b>Guidance</b>
<b>Entry 1</b>	Learners at Entry 1 are beginning to use their skills, knowledge or understanding. They may need significant guidance.
<b>Entry 2</b>	Learners at Entry 2 use their skills, knowledge and understanding to carry out simple, familiar tasks and activities. They may need some guidance.
<b>Entry 3</b>	Learners at Entry 3 use their skills, knowledge and understanding to carry out structured tasks and activities. They may need little or no guidance.

It is the assessor's responsibility to ensure that the work presented for assessment is the learner's own. The work should demonstrate what the individual learner knows, understands and can do.

The table below provides guidance on the different areas of control within internally assessed units.

Areas of Control	Detail of Control
<b>Authenticity</b>	<p>Learners should complete most of the work under the teacher's direct supervision.</p> <p>Teachers must be able to authenticate the work.</p> <p>Authentication can be for an individual piece of work, or for a learner's contribution to a piece of work.</p> <p>For up-to-date advice on plagiarism, or any other incident where malpractice is suspected, please refer to the Joint Council for Qualifications' document <i>Suspected Malpractice in Examinations and Assessments</i>, available at <a href="http://www.jcq.org.uk">www.jcq.org.uk</a></p>
<b>Feedback</b>	<p>Unless otherwise specified, teachers can guide and support a learner to achieve the assessment criteria; however, the level of support must be reflected in the overall level achieved.</p> <p>Teachers should annotate the work, indicating the nature of guidance and support they have given.</p> <p>Teacher's advice to the learner on how to achieve the assessment criteria should be general rather specific.</p>
<b>Time limit</b>	There are 20 GLH for each unit.
<b>Collaboration</b>	<p>Learners can work in groups, but it is essential that:</p> <ul style="list-style-type: none"> <li>• a teacher is able to identify individual contributions; and</li> <li>• learners provide an individual response, unless otherwise stipulated.</li> </ul>
<b>Resources</b>	Learners' access to resources is determined by those available to the centre.

#### 4.4 Task marking

Teachers must mark the portfolios using the assessment criteria provided in each unit. To achieve a level in each unit, learners must meet all the criteria.

Teachers must annotate all evidence within the portfolio to ensure fairness to learners and to assist with the moderation process. Annotation should take the form of:

- summative comments on the work, usually at the end, and on the learner's record sheet; and
- identification of key pieces of evidence throughout the work.

## 4.5 Internal Standardisation

Centres must have arrangements in place for quality assurance of their assessment outcomes. Centres with more than one teacher assessing the outcomes for this specification must carry out internal standardisation before external moderation takes place. This is to ensure that, as far as possible, each teacher has applied the assessment criteria accurately.

The internal standardisation process may include meetings to discuss assessment decisions and feedback from previous submissions to us. As a result of internal standardisation, it may be necessary to adjust an individual teacher's marking. Where this happens, centres should make sure that they update their assessment documentation.

It is essential that all centres complete a Declaration of Internal Standardisation form and submit it to us with their samples of learners' work.

## 4.6 External moderation

Centres must submit assessment outcomes and samples to us according to the calendar of events set out in our Qualifications Administration Handbook, which you can access at [www.ccea.org.uk](http://www.ccea.org.uk). Moderators may adjust a centre's assessments in order to bring outcomes into line with their agreed standards.

We issue full instructions at the appropriate time on:

- the details of moderation procedures;
- the nature of sampling; and
- the dates by which centres must submit assessments and samples.

Centre staff may contact our officers (see Section 5) at any stage if they require advice, assistance or support regarding any aspect of assessment. We provide support to groups of centres, and also to individual centres, to discuss issues arising from the assessment and moderation processes.

## 4.7 Reporting outcomes

The learner must meet all the assessment criteria within a unit at a specified level for us to award a unit outcome at that level. We award each unit separately and report attainment in each unit on the learner's certificate. Where a learner achieves a pass in all six units, we also report an overall level of achievement on the certificate based on the criteria explained in the table below.

Overall Level	Criteria
<b>Entry 3</b>	A learner must achieve a minimum of four units (80 GLHs) awarded at Entry Level 3, with the other units awarded at Entry 1 or Entry 2. If there is a unit where the learner does not achieve a level, then we cannot award an overall level.
<b>Entry 2</b>	Where a learner has not met the requirements for the award of an overall Entry Level 3, then they must have achieved a minimum of four units (80 GLHs) at Entry 2 (or above) with the other two units awarded at Entry 1. If there is a unit where the learner does not achieve a level, then we cannot award an overall level.
<b>Entry 1</b>	Where a learner has not met the requirements for the award of an overall Entry Level 2, but has achieved a level in all six units (120 GLHs), we will award an overall Entry Level 1.

## 5 Links, Resources and Support

### 5.1 Support

We provide the following resources to support this specification:

- our website at [www.ccea.org.uk](http://www.ccea.org.uk); and
- a subject microsite within our website.

We intend to expand our range of support to include the following:

- Principal Moderator's report;
- schemes of work;
- centre support visits;
- support days for teachers;
- agreement trials; and
- a resource list.

### 5.2 Curriculum objectives

This specification builds upon the broad objectives of the Northern Ireland Curriculum. In particular, it enables learners to:

- develop as individuals and contributors to the economy, society and environment by providing opportunities to explore topics such as electricity, recycling and renewables;
- develop personal skills in areas such as:
  - self-awareness, personal health and relationships (Personal Development);
  - diversity and inclusion, human rights and social responsibility, and equality and social justice (Citizenship); and
  - work in the local and global economy, and career management (Employability);
- develop an understanding of moral, ethical, social, legislative (including equality and disability discrimination), economic and cultural issues by providing opportunities to explore topics such as effects of medicine, smoking and drugs, human reproduction and variation;
- investigate sustainable development, health and safety considerations, and European developments, by providing opportunities to explore topics such as safe practice in the laboratory and hazard symbols;
- develop skills that will enhance employability by providing opportunities to communicate, make decisions and informed judgements, apply scientific principles and knowledge to familiar and unfamiliar situations, and develop abilities and skills that encourage safe practice; and
- make effective use of technology by providing opportunities to measure, record and process scientific data.

### 5.3 Skills development

This specification provides opportunities for learners to develop the following skills:

- application of number;
- communication;
- improving own learning and performance;
- information and communication technology;
- problem-solving; and
- working with others.

You can find details of the current standards and guidance for each of these skills on our website at [www.ccea.org.uk](http://www.ccea.org.uk)

### 5.4 Entries and registration

Entry codes for this subject and details on how to register are available in our Qualifications Administration Handbook, which you can access at [www.ccea.org.uk](http://www.ccea.org.uk)

Alternatively, you can telephone our Entries, Results and Certification team using the contact details provided in this section.

### 5.5 Equality and inclusion

We have considered the requirements of equality legislation in developing this specification and have designed it to be as free as possible from ethnic, gender, religious, political or other forms of bias.

Reasonable adjustments are made for learners with disabilities in order to reduce barriers to accessing assessments. For this reason, very few learners will have a complete barrier to any part of the assessment.

It is important to note that where access arrangements are permitted, they must not be used in any way that undermines the integrity of the assessment. You can find information on reasonable adjustments in the Joint Council for Qualifications' document *Access Arrangements and Reasonable Adjustments: General and Vocational Qualifications*, available at [www.jcq.org.uk](http://www.jcq.org.uk)

### 5.6 Health and safety

Centres must ensure compliance with all relevant health and safety legislation with regard to facilities, equipment and staff training. Learners' use of apparatus and other equipment must be supervised at all times.

## 5.7 Contact details

The following list provides contact details for relevant staff members and departments:

- Specification Support Officer: Nuala Tierney  
(telephone: (028) 9026 1200, extension 2292, email: [ntierney@ccea.org.uk](mailto:ntierney@ccea.org.uk))
- Education Manager for the Qualification: Elaine Lennox  
(telephone: (028) 9026 1200, email: [elennox@ccea.org.uk](mailto:elennox@ccea.org.uk))
- Entries, Results and Certification  
(telephone: (028) 9026 1262, email: [entriesandresults@ccea.org.uk](mailto:entriesandresults@ccea.org.uk))
- Distribution  
(telephone: (028) 9026 1242, email: [cceadistribution@ccea.org.uk](mailto:cceadistribution@ccea.org.uk))
- Support Events Administration  
(telephone: (028) 9026 1401, email: [events@ccea.org.uk](mailto:events@ccea.org.uk))
- Information Section (including Freedom of Information requests)  
(telephone: (028) 9026 1200, email: [info@ccea.org.uk](mailto:info@ccea.org.uk))
- Business Assurance (appeals)  
(telephone: (028) 9026 1244, email: [appealsmanager@ccea.org.uk](mailto:appealsmanager@ccea.org.uk))
- Assessment Administration Team  
(telephone: (028) 9026 1200, extension 2377, email: [jo'reilly@ccea.org.uk](mailto:jo'reilly@ccea.org.uk)).

## 6 Summary of Changes since First Issue

(Most recent changes are indicated in red on the latest version)

<b>Revision History Number</b>	<b>Date of Change</b>	<b>Page Number</b>	<b>Change Made</b>
<b>Version 1</b>	N/A	N/A	N/A
<b>Version 2</b>	18 May 2016	30	Amendments to text
		34	Amendments and deletions of text
		35	Amendments to text