

Area of Experience: Science

Science

At Junior Certificate level the student can:

- | | | |
|----|--|--|
| 1 | The Non-Living Environment
Describe the characteristics and structures of different materials and explain how they change under different conditions | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 | The Living Environment
Describe a range of plant and animal life and explain their connection with the wider environment | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 | The Human Body
Describe some of the major systems of the human body and explain their links with health | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 | Energy and Control
Name sources of energy and describe ways in which energy can be transferred and used | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 | Human Biology
Describe some of the major systems of the human body and have an understanding of food and health | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 | Physics 1
Understand the concept of measurement of Force, Energy and Heat | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 | Chemistry 1
Recognise different substances and carry out separation techniques | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 | Chemistry 2
Understand some of the key principles of the chemistry of air and water | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 | Plant Biology
Understand and identify the structure, functions and processes of a typical flowering plant | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 | Physics 2
Understand the concepts of magnetism, electrical conduction and the main properties of light | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Work begun ☒☐☐ | Work in progress ☒☒☐ | Work completed ☒☒☒

Area of Experience: Science

Science

At Junior Certificate level I can:

11 Chemistry 3

Recognise different substances and carry out separation techniques

☐☐☐

12. Chemistry 4

Recognise different substances and carry out separation techniques

☐☐☐

13. Chemistry 5

Recognise different substances and carry out separation techniques

☐☐☐

14 Environmental Biology

Describe a range of plant and animal life and explain their connection with the wider environment

☐☐☐

15 Human Biology 2

Describe some of the major systems of the human body and explain their links with health

☐☐☐

16 Human Biology 3

Describe some of the major systems of the human body and explain their links with health

☐☐☐

17 Human Biology 4

Describe some of the major systems of the human body and explain their links with health

☐☐☐

18 Plant Biology

Understand and identify the structure, functions and processes of a typical flowering plant

☐☐☐

19 Physics 3

Understand the concepts of Energy and Energy Conversions

☐☐☐

20 Physics 4

Understand the concepts of Heat, Light and Sound

☐☐☐

21 Physics 5

Understand the concepts of Magnetism , Electricity and Electronics

☐☐☐

Work begun

☒☐☐

Work in progress

☒☒☐

Work completed

☒☒☒

The Non-Living Environment

Science

Statement Code no: 1

Student:

Class:

At Junior Certificate level the student can:

Describe the characteristics and structures of different materials and explain how they change under different conditions

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | |
|--|--|
| 1 Follow instructions promptly and carefully | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Do an experiment to change ice to water, water to ice, water to steam and steam to water | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Draw a labelled diagram of a thermometer. Use a thermometer to measure and record | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Do an experiment to find suitable liquids which will dissolve different solids | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Separate mixtures using filtration, evaporation and distillation | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Name some common acids, alkalis and neutral substances and use simple indicators to show the difference between them | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Place some household liquids correctly on a pH chart | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Name six different metals. Describe them and say how each one is used in everyday life | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Draw the fire triangle. Name the different fire types and say how to extinguish each type. List the safety rules for dealing with fire | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Draw and label a diagram of the water cycle. Describe how water is treated to make it safe for drinking | |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

The Living Environment

Science

Statement Code no: 2

Student:

Class:

At Junior Certificate level the student can:

Describe a range of plant and animal life and explain their connection with the wider environment

Date Commenced: / /

Date Awarded: / /

Learning Targets: Select any 10 objectives to work on

- This has been demonstrated by your ability to:

- | | | |
|----|--|--|
| 1 | Name and recognise the leaves of five common Irish trees and five common flowers | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 | Draw and label the parts on a simple plant: stem, root, leaf and flower | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 | Describe the functions of a stem, root, leaf and flower | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 | Explain how leaves make food and discuss the importance of this | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 | Germinate some seeds and describe what happens during the germination | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 | Name and identify five common creatures from any two of the following groups: birds, insects, domestic animals and wild animals | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 | Name the different types of habitat of three different Irish plants and animals, giving examples of each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 | Explain how a plant or animal is adapted to its habitat | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 | Name some of the plants and animals which provide food for humans and are important in agriculture, business, medicine and leisure | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 | Explain the idea of food chains, giving examples of where different animals and plants fit in | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 11 | List and give the function of different soil parts. Do two simple experiments on soil | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 12 | Suggest ways in which humans can improve or harm the environment and suggest some ways of protecting it | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 13 | Name the three types of micro-organism. State the main uses and/or harmful effects of bacteria, viruses and fungi to living things | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 14 | Discuss risks and benefits of vaccination on small babies | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 15 | Visit a habitat, make observations and measurements, collect samples and report your findings | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 16 | Use the microscope correctly to examine a number of samples | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 17 | Do one experiment to show how micro-organisms are used in the making of foods such as: yoghurt, beer, bread, cheese etc. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

The Human Body

Science

Statement Code no: 3

Student:

Class:

At Junior Certificate level the student can:

Describe some of the major systems of the human body and explain their links with health

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- 1 Measure one of the following: heartbeat, lung capacity, body temperature, pulse before and after activity; or show the presence of carbon dioxide in exhaled breath ☐ ☐ ☐
- 2 Name each of the five sense organs and give their functions ☐ ☐ ☐
- 3 Describe how the skeleton and muscles support, protect and move the body ☐ ☐ ☐
- 4 Understand the importance of the breathing system, its parts and their functions ☐ ☐ ☐
- 5 Name the major parts of the breathing system ☐ ☐ ☐
- 6 Label a diagram of the heart and say how it works ☐ ☐ ☐
- 7 Explain the functions of blood and blood vessels ☐ ☐ ☐
- 8 Label a diagram of the kidneys and explain how they work ☐ ☐ ☐
- 9 Explain what a balanced diet is and its importance for physical health ☐ ☐ ☐
- 10 Name and list some good sources of the five food types ☐ ☐ ☐
- 11 Explain the effects of lifestyle on physical health (smoking, drugs etc.) ☐ ☐ ☐
- 12 Discuss risks and benefits of vaccination on small babies against diseases such as polio, whooping cough, measles etc. ☐ ☐ ☐

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Energy and Control

Science

Statement Code no: 4

Student:

Class:

At Junior Certificate level the student can:

Name sources of energy and describe ways in which energy can be transferred and used

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | | |
|----|---|--|
| 1 | Explain the difference between renewable and non-renewable sources of energy. Give three examples of each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 | Identify ways in which energy is used in the home, explain how they work and say which (if any) is used in your home for heating | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 | Name three ways in which heat can be transferred, explain how they work and give examples of each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 | Suggest ways of conserving energy in the home. Describe the different methods of using insulation | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 | Study a copy of an ESB bill and show how to calculate the total bill amount | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 | Set a simple circuit showing the flow of electricity | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 | Wire a plug. Make a labelled sketch of the inside of a wired plug showing the correct colours of wire | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 | Name two metals that are attracted by magnets and two that are not. Describe what happens when two magnets are brought near each other. Draw a compass and explain how it works | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 | Do an experiment to show that light travels in a straight line | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 | Recognise and understand the dangers shown by the basic hazard warning symbols | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 11 | Handle safely all equipment and substances | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Human Biology

Science

Statement Code no: 5

Student:

Class:

At Junior Certificate level the student can:

Describe some of the major systems of the human body and have an understanding of food and health

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | |
|--|--|
| 1 Recall that a balanced diet has six nutrients: carbohydrates, fats, proteins, vitamins, minerals and water | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Describe a food pyramid and give examples of each type of food recommended in a balanced diet | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Carry out food tests for starch, sugar and fat | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Read and interpret the energy values indicated on food product labels and compare the energy content per 100g of a number of foods | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Identify and locate the major parts of the digestive system including the mouth, food pipe, stomach, small intestine, large intestine and know their functions | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Identify molars, premolars, canines and incisors and describe their functions | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Investigate the action of the enzyme in saliva on starch | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Understand the release of energy from food | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Describe the function and composition of blood | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Demonstrate the effect of exercise and rest on pulse and breathing rate and understand that a balance of each promotes good health | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 11 Recall that the average pulse rate for an adult at rest is 70 b.p.m., and explain why exercise results in increased pulse and breathing rates | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 12 Recall that the normal temperature of the human body is 37 degrees centigrade, and understand that illness may cause a change in body temperature | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Physics 1

Science

Statement Code no: 6

Student:

Class:

At Junior Certificate level the student can:

Understand the concept of measurement of Force, Energy and Heat

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | | |
|----|--|--|
| 1 | Measure length, area, mass and time using the correct instruments | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 | Measure the volume of regular and irregular objects | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 | Perform an experiment to show that the air has mass and occupies space | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 | Investigate examples of friction and the effects of lubricants using practical everyday examples | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 | Name six sources of energy | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 | Classify sources of energy into renewable and non-renewable | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 | Investigate experimentally the expansion of solids, liquids and gases when heated | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 | Use a thermometer to measure and record different temperatures | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 | Carry out experiments that involve changes of state: from solid to liquid and liquid to solid, and from liquid to gas and gas to liquid. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 | Identify six examples of energy conversion from everyday experience | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Chemistry 1

Science

Statement Code no: 7

Student:

Class:

At Junior Certificate level the student can:

Recognise different substances and carry out separation techniques

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | | |
|----|--|--|
| 1 | Follow instructions with accuracy and care | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 | Perform an experiment to demonstrate knowledge of the three states of matter | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 | Perform an experiment to show the solubility of substances in water | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 | Separate mixtures using filtration | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 | Separate mixtures using evaporation | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 | Separate mixtures using distillation | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 | Separate colours using paper chromatography | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 | Grow crystals using alum or copper sulphate | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 | Use litmus or a universal indicator to test a variety of solutions and classify these as acidic, base or neutral | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 | Investigate the pH of a variety of materials using the pH scale | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Chemistry 2

Science

Statement Code no: 8

Student:

Class:

At Junior Certificate level the student can:

Understand some of the key principles of the chemistry of air and water

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | |
|--|--|
| 1 Understand that air is a mixture of gases and show some knowledge of it's make-up | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Demonstrate and describe what happens when (i) a wooden splint and (ii) a piece of magnesium are burned in air | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Investigate the ability of oxygen to support combustion | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Describe how a sample of oxygen is prepared, naming chemicals and apparatus used | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Describe how a sample of carbon dioxide is prepared, naming chemicals and apparatus used | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Carry out simple tests to show the presence of carbon dioxide using limewater or candles | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Test a sample of water for hardness | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Test a sample to show the presence of dissolved substances in water | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Draw the water cycle and describe the key stages in the treatment of water to make it suitable for drinking | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Carry out an experiment to show that oxygen and water are required for rusting | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Plant Biology

Science

Statement Code no: 9

Student:

Class:

At Junior Certificate level the student can:

Understand and identify the structure, functions and processes of a typical flowering plant

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | |
|---|--|
| 1 Draw one example of a plant cell, identifying the nucleus, cytoplasm and cell wall and indicate the position of the cell membrane | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Identify and understand the functions of the main parts of a microscope and use it to examine a plant cell | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Prepare a slide from plant tissue and sketch the cells under magnification | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Identify the main parts of a typical flowering plant and their functions; the root, stem, leaf and flower | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Locate and identify the main parts of the flower: sepals, petals, carpel and stamen | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Understand how to use a simple key to identify plants | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Describe, using a word equation, how plants make their own food through photosynthesis | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Show that starch is produced by a photosynthesising plant | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Investigate the growth response of plants to light | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Investigate the conditions necessary for germination | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Physics 2

Science

Statement Code no: 10

Student:

Class:

At Junior Certificate level the student can:

Understand the concepts of magnetism, electrical conduction and the main properties of light

Date Commenced: / /

Date Awarded: / /

Learning Targets - This has been demonstrated by your ability to:

- | | | |
|----|--|--|
| 1 | Identify north and south poles of a magnet by simple experiments | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 | Carry out experiments to show attraction and repulsion between magnets | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 | Test a variety of materials for magnetism | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 | Show understanding of the term magnetic field and plot the magnetic field of a bar magnet | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 | Test electrical conduction in a variety of materials, and classify each material as a conductor or an insulator | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 | Describe how to wire a plug correctly and explain the safety role of a fuse or circuit breaker in domestic electric circuits | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 | Understand that light is a form of energy, which can be converted to other forms of energy | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 | Show that light travels in straight lines and explain how shadows are formed | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 | Investigate the reflection of light by plane mirrors | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 | Demonstrate and explain the operation of a simple periscope | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 11 | Understand that white light is made up of different colours, by producing a spectrum of white light using appropriate apparatus and list the colours of the spectrum | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education.

Work begun ☒ ☐ ☐ | Work in progress ☒ ☒ ☐ | Work completed ☒ ☒ ☒

Chemistry 3

Science

Statement code no. 11

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of substances

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|---|--|
| 1 Name the 3 states of matter | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Perform simple experiments to investigate changes of state | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Separate mixtures using at least 3 of the following techniques
Filtration
Evaporation
Distillation
Chromatography | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Grow crystals using alum or copper sulphate | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Draw a solubility curve | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Classify materials as elements or compounds using the periodic table | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Use the periodic table to identify metals and non-metals | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 List two properties of a metal and of a non-metal | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Investigate the conditions necessary for rusting and prevention of rusting | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Name two alloys and give one use for each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Chemistry 4

Science

Statement code no. 12

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of the applications of Chemistry

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|---|--|
| 1 Test solutions and classify these as acidic, basic or neutral | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Investigate the pH of a variety of materials using a pH indicator | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 State the names and formulae of three laboratory strong acids and bases | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Carry out an experiment to show that salt and water are produced when an acid neutralises a base | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Name the compounds that cause hardness in water and outline a simple test for hardness in water | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Describe the process of water treatment and give a reason for each step | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Recall the formula for water and investigate this using electrolysis | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Draw the structure of an atom | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Complete a table describing protons, neutrons and electrons under the following headings: charge, location and mass | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Give two differences between ionic and covalent bonding | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Chemistry 5

Science

Statement code no. 13

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Atmosphere and Gases

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|--|--|
| 1 Name the different gases present in air | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Show that one fifth of the air is made up of oxygen | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Prepare a sample of oxygen and draw a labelled diagram of the test for Oxygen using a glowing splint | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Prepare a sample of Carbon Dioxide and draw a labelled diagram of the process | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Test for Carbon Dioxide using limewater | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Show that CO ₂ does not support combustion | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Name 2 fossil fuels and name two products of burning fossil fuels | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Describe the effect of acid rain | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Describe two advantages and two disadvantages of non-biodegradable plastics | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Environmental Biology

Science

Statement code no. 14

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Environmental Biology

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|---|--|
| 1 List the seven characteristics of living things | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Draw a labelled diagram of an animal cell and a plant cell as seen under the light microscope | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Identify the main parts of a microscope and give the function of each part | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Prepare a slide from plant tissue and draw a sketch of the cells under magnification | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Use a simple key to identify plants and animals | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Use a quadrat to estimate the frequency of a named plant in a habitat | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 List three pieces of equipment used to collect small animals /insects. Draw a sketch of each piece and describe briefly, how each can be used | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Identify a producer, a consumer and a decomposer in a food chain | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Investigate the presence of micro-organisms in soil and air | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Give one use of biotechnology in industry and medicine | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Human Biology 2

Science

Statement code no. 15

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Food Digestion and Excretion

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|---|--|
| 1 Identify three foods that are a good source of each of the following: carbohydrate, fat and protein | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Carry out tests for fat, reducing glucose, starch and protein | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Use the food pyramid as a guide to a balanced diet | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Read the energy values of food levels and compare the energy content Per 100g of a number of foods | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Investigate the simple conversion of chemical energy in food to heat energy | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Identify and label the major parts of the digestive system and give a function to each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Identify and give the function of incisors, canines, premolars and molars | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Investigate the action of amylase on starch | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Explain excretion. List the main organs and products of excretion | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Label the major parts of the urinary system on a diagram and give the functions of each part | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Human Biology 3

Science

Statement code no. 16

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Breathing , Respiration and Circulation

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|--|--|
| 1 Label the major parts of the breathing system | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Describe the exchange of gases between the lungs and the blood | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Carry out an experiment to compare the amount of carbon dioxide in inhaled and exhaled air | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Give a word equation for aerobic respiration | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Name four parts of the blood and give a function of each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Label and give the function of the blood vessels carrying blood to and from the heart | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Name the parts of the heart and explain the function of each part | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Describe one cause of heart disease and one way of preventing it | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Recall the average pulse rate for an adult at rest | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Investigate the effect of exercise on pulse rate and /or breathing rate | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Human Biology 4

Science

Statement code no. 17

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Movement, Sensitivity,
Reproduction and Genetics

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|---|--|
| 1 List the functions of the skeleton | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Identify and locate the major bones of the skeleton: the skull, vertebrae, ribs, collar bone, shoulder blade and pelvis | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Name the three types of joint and describe the type of movement they allow | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 List the five senses and name the organs associated with each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Label a diagram of the human eye and give a function of each part | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Give one difference between a sensory nerve and a motor nerve | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Label the main parts of the male and female reproductive and give the function of each parts | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Describe the menstrual cycle | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Define fertilisation and say where it normally occurs | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 List two genetic characteristics | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Plant Biology 2

Science

Statement code no. 18

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of flowering plants

Date Commenced: /

Date Awarded: /

Learning Targets I can...

- | | |
|---|--|
| 1 Label the main parts of a flowering plant on a diagram and give the function of each part | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Investigate the transport of water in plants and show the path of water through the plant | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Investigate the transpiration stream in plants | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Describe the process of photosynthesis | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Give a word equation for photosynthesis | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Show that starch is produced by a photosynthesising plant | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Investigate the growth responses of plants to light | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Identify and name the main parts of a flower | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 List two methods of seed dispersal and give an example of each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Investigate the conditions necessary for germination | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Physics 3

Science

Statement code no. 19

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Energy and Energy Conversions

Date Commenced: /

Date Awarded: /

Learning Targets I can...

- | | |
|---|--|
| 1 Define work in scientific terms and state its unit of measurement | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 State the difference between work and power and name the unit of measurement of power | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 List 7 different types of energy and give an everyday example in each case | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Give 3 examples of energy conversions in the home and name the energy types involved | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Trace energy conversions back to their primary source | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Show by experiment the conversion of chemical energy to electrical energy to heat energy | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Show by experiment the conversion of electrical energy to magnetic energy to kinetic energy | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Show by experiment the conversion of light energy to electrical energy to kinetic energy | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 List three energy sources and give one advantage and disadvantage of each | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Give 3 examples of how energy could be conserved in the home | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Physics 4

Science

Statement code no. 20

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Heat, Light and Sound

Date Commenced: /

Date Awarded: /

Learning Targets I can...

- | | |
|---|--|
| 1 Investigate the effect of heating and cooling on solids, liquids and gases | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Determine the temperatures at which ice melts and water boils | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Carry out experiments that involve changes of state | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Investigate how heat is transferred by conduction, convection and radiation | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Compare the insulating properties of different material | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Demonstrate that light travels in straight lines | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Disperse white light into its different colours and name the colours of the viable spectrum | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Demonstrate the reflection of light using mirrors | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Show that sound is a form of energy and is caused by vibrations | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Tell which is faster, the speed of sound or the speed of light and explain the time difference between seeing and hearing the same event | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed



Physics 5

Science

Statement code no. 21

Student:

Class:

At Junior Certificate level I can:

Apply my knowledge of Magnetism, Electricity and Electronics

Date Commenced:

Date Awarded:

Learning Targets I can...

- | | |
|--|--|
| 1 Show the attraction and repulsion between magnets and test different materials for magnetism | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 2 Create a static electricity charge using simple materials and demonstrate the effect of earthing charged objects | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 3 Perform a test to see if an object is an insulator or conductor of electricity using an electrical circuit | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 4 Distinguish between direct current (DC) and alternating current (AC) and state the type of current and the voltage of the mains electricity supply | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 5 Calculate the cost in euros of running an electrical appliance using the power rating of the appliance, the duration of use and the price of mains electricity | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 6 Wire the plug of an electrical device correctly and identify the locations of the live, neutral and earth wires | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 7 Describe how a fuse in an electrical circuit works as a safety measure against overheating | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 8 Explain the importance of a circuit breaker or fuse board in the home | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 9 Set up a simple circuit using switches, LEDs, resistors and buzzers | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 10 Give an example of the use of LEDs and LDRs in everyday life | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Refer also to: Art, Home Economics, Personal and Social Development, Physical Education, Maths

Work begun



Work in progress



Work completed

