

JUNIOR CYCLE LEARNING OUTCOMES

Formative Assessment Self-Evaluation

Earth & Space

Earth & Space LO1: Learning Intentions

ES1. Students should be able to describe the relationships between various celestial objects including moons, asteroids, comets, planets, stars, solar systems, galaxies and space.

Can I...?

1. Describe the relationship between moons, asteroid, comet, planet, star, solar system, galaxy, space, and universe.
 - a. Eg. A moon orbits a planet
 - b. Eg. A planet orbits a star
2. Do I know what a moon, asteroid, comet, planet, star, solar system, galaxy, space, and universe is/are?

Earth & Space LO2: Learning Intentions

ES2. Students should be able to explore a scientific model to illustrate the origin of the universe.

Can I...?

1. Write a paragraph about a scientific model (the big bang theory) to describe the origin of the universe
 - a. Eg. Almost 14 billion years ago the universe was in a hot dense state
 - b. Then expansion started (the universe got bigger)
 - c. The universe cooled
 - d. Stars formed and died...
2. Name one piece of evidence for the big bang theory (existence of cosmic microwave background radiation).
3. Have I watched "The Big Bang, Cosmology part 1: Crash Course Astronomy #42" on youtube

Earth & Space LO3: Learning Intentions

ES3. Students should be able to interpret data to compare the Earth with other planets and moons in the solar system, with respect to properties including mass, gravity, size, and composition.

Can I...?

1. Interpret (understand, find patterns in etc.) data that compares Earth with other planets and moons in the solar system (answer Q6 and Q8 pg 392)

Earth & Space LO4: Learning Intentions

ES4. Students should be able to develop and use a model of the Earth-Sun-Moon system to describe predictable phenomena observable on Earth, including seasons,

lunar phases, and eclipses of the Sun and Moon

Can I...?

1. Explain (and draw) the difference between 'orbit' and 'rotate'
2. State how long an orbit (1 year) and a rotation (24 hours) of the Earth takes
3. Explain the term 'satellite'
4. Explain (and draw) how day and night occur on Earth
5. Explain (and draw) how seasons occur on Earth
6. Explain (and draw) the lunar phases
7. Explain (and draw) what a lunar eclipse is and how it occurs
8. Explain (and draw) what a solar eclipse is and how it occurs

Earth & Space LO5: Water cycle & Carbon cycle

ES5. Students should be able to describe the cycling of matter, including that of carbon and water, associating it with biological and atmospheric phenomena

Can I...?

1. Describe and draw the water cycle – evaporation, transpiration condensation, precipitation.
2. Describe and draw the carbon cycle – respiration, photosynthesis, combustion, decay of organisms, ocean uptake.

Earth & Space LO6: Learning Intentions

ES6. Students should be able to research different energy sources; formulate and communicate an informed view of ways that current and future energy needs on Earth can be met

Can I...?

1. Name different energy sources (solar, wind, nuclear, coal etc.)
2. Distinguish between renewable and non-renewable sources
3. Research the different ways we are meeting our current energy needs on Earth
4. Research the different ways we might meet our future energy needs on Earth
5. Be able to explain the term 'sustainable' and discuss if our energy use is sustainable

Earth & Space LO7: Learning Intentions

ES7. Students should be able to illustrate how Earth processes and human factors influence the Earth's climate, evaluate effects of climate change and initiatives that attempt to address those effects.

Can I...?

1. Use examples to describe Earth processes that influence the Earth's climate, e.g. carbon cycle, the greenhouse effect, gulf stream

2. Use examples to describe human factors that influences the Earth's climate.
E.g. burning fossil fuels.
3. Explain the natural greenhouse effect vs. the enhanced greenhouse effect caused by humans
4. List three effects of climate change and discuss their impact on the earth (e.g. melting ice, rising sea levels, stronger storms.)
5. Name two initiatives that attempt to address climate change (e.g. anything from the Paris agreement (Paris agreement: all countries agree to have zero carbon emissions by 2100) to cycling and walking to school

Earth & Space LO8: Learning Intentions

ES8. Students should be able to examine some of the current hazards and benefits of space exploration and discuss the future role and implications of space exploration in society.

Can I...?

1. List and discuss some of the current hazards of space exploration
2. List and discuss some of the benefits of space exploration
3. Discuss the future role of space exploration in society – where are we going to explore next? What difficulties do we have to overcome to get there?
4. Discuss the implications of space exploration in society – what have we learnt from it? Discoveries made etc.?

Chemical World

Chemical World LO1: Learning Intentions

CW1. Students should be able to investigate whether mass is unchanged when chemical and physical changes take place

Can I ...?

1. Explain what a physical change is
2. Give two examples of a physical change
3. Explain what a chemical change is
4. Give two examples of a chemical change
5. Distinguish between physical and chemical changes (what makes them different?)
6. Describe an experiment that describes whether mass changes during a physical change
7. Describe an experiment that describes whether mass changes during a chemical change
8. State the law of conservation of mass (the mass before a physical or chemical change is the same as after the change)

Chemical World LO2: Learning Intentions

CW2. Students should be able to develop and use models to describe the atomic nature of matter; demonstrate how they provide a simple way to account for the conservation of mass, changes of state, physical change, chemical change, mixtures, and their separation.

Can I...?

1. Define matter (explain what matter is)
2. Name three states of matter
3. Describe the arrangement of particles in a solid, liquid and gas
4. Describe the properties of a solid
5. Describe the properties of a liquid
6. Describe the properties of a gas
7. Explain the term 'changing of state'
8. Define melting
9. Define evaporation
10. Define freezing
11. Define condensing
12. Define evaporation and describe the movement of particles as it occurs.
13. Explain what a mixture is. Give 3 examples
14. Explain filtration. Draw a diagram of a filtration experiment. Name a mixture that can be separated by filtration.
15. Explain evaporation. Draw a diagram of an evaporation experiment. Name a mixture that can be separated by evaporation.
16. Explain distillation. Draw a diagram of a distillation experiment. Name a mixture that can be separated by distillation.
17. Explain chromatography. Draw a diagram of chromatography experiment. Name a mixture that can be separated by chromatography.
18. Use my 'particle spectacles' to describe how particles act during these separation techniques.

Chemical World LO3: Learning Intentions

CW3. Students should be able to describe and model the structure of the atom in terms of the nucleus, protons, neutrons and electrons; comparing mass and charge of protons, neutrons and electrons

Can I...?

1. Compare the charges on electrons, neutrons & protons (table pg 238)
2. Compare the mass of electrons, neutrons & protons (table pg 238)
3. State where electrons, neutrons & protons are found (table pg 238)
4. Be able to define 'atomic number' and 'mass number' and find the atomic number and mass numbers of elements using the periodic Table (pg 239)
5. Be able to draw the Bohr model of an atom

Chemical World LO4: Learning Intentions

CW4. Students should be able to classify substances as elements, compounds, mixtures, metals, non-metals, solids, liquids, gases and solutions

Can ...I?

1. Classify a substance as an element/ compound/ mixture
2. List 3 properties of a metal and a non-metal
3. Give examples of a metal and non-metal
4. Draw the three states of matter – solids, liquids and gases (see CW2)
5. Describe the properties (definite shape? Definite volume? Easily compressed? Can it flow?) of the three states of matter (see CW2)(pg 201)

Chemical World LO5: Learning Intentions

CW5. Students should be able to use the Periodic Table to predict the ratio of atoms in compounds of two elements.

Can I...?

1. Figure out how many electrons an atom wants to gain or lose to be stable
2. Be able to predict the ratio of atoms in compounds of two elements and write their chemical formula

Chemical World LO6: Learning Intentions

CW6. Students should be able to investigate the properties of different materials including solubilities, conductivity, melting points and boiling points

Can I...?

1. Define melting point.
2. Describe how to measure the melting point of a substance
3. Define boiling point.
4. Describe how to measure the boiling point of a substance
5. Describe how to measure the solubility of a substance
6. Describe how to test if a substance will conduct electricity (see PW5)
7. Describe how to test the thermal conductivity of substances
8. Draw a melting/boiling point graph (pg 232)

Chemical World LO7: Learning Intentions

CW7. Students should be able to investigate the effect of a number of variables on the rate of chemical reactions including the production of common gases and biochemical reactions.

Can I...?

1. Distinguish between reactants and products
2. Define activation energy
3. Name four factors that affect the rate of a chemical reaction

4. Explain how each factor affects the rate of a chemical reaction (e.g. the smaller the particle size, the faster the rate of reaction because the greater surface area leads to more collisions between particles)
5. Describe an experiment we carried out to make oxygen gas (pg 273)
6. Describe an experiment we carried out to make carbon dioxide (pg 271)
7. Describe how you would test a gas to see if the gas is oxygen (relights a glowing wooden stick/splint)
8. Describe how you would test a gas to see if it is carbon dioxide (lime water will go from clear to milky if present)

Note: Biochemical reactions are done in BIO LO7

Chemical World LO8: Learning Intentions

CW8. Students should be able to investigate the reactions between acids and bases; use indicators and pH scale.

Can I...?

1. Give two examples of everyday acids
2. Give two examples of everyday bases
3. Give two examples of indicators (litmus and universal indicator)
4. Describe what happens when litmus paper is dipped in an acid
5. Describe what happens when litmus paper is dipped in a base
6. Give an example of acid we use in the lab (hydrochloric acid)
7. Give an examples of base we use in the lab (sodium hydroxide)
8. Define 'indicator' and explain what we use it for
9. Name an indicator
10. Explain what the pH scale is
11. What pH is a acid
12. What pH is a neutral solution
13. What pH is a base
14. Define neutralisation
15. Give an everyday example of neutralisation

Chemical World LO9: Learning Intentions

CW9. Students should be able to consider chemical reactions in terms of energy, using the terms exothermic, endothermic and activation energy, and use simple energy profile diagrams to illustrate energy changes.

Can I...?

1. Explain the term 'exothermic'
2. Describe an exothermic experiment we carried out (pg 276)
3. Explain the term 'endothermic'
4. Describe an endothermic experiment we carried out (baking soda and vinegar)
5. Explain the term 'activation energy' (see CW7 also)

6. Draw energy profile diagrams to explain energy changes e.g. exothermic energy profile & endothermic energy profile (pg 278)

Chemical World LO10: Learning Intentions

CW10. Students should be able to evaluate how humans contribute to sustainability through the extraction, use, disposal, and recycling of materials

Can I...?

1. Explain the term 'sustainable' (pg 366)
2. Name the three pillars of sustainability (pg 367)
3. Explain how plastic is extracted (pg 287), used, disposed (pg 289) of and recycled (pg 290 – 291)
4. Explain how another material (of your choice, e.g. a metal, wood) is extracted, used, disposed of and recycled

Physical World

Physical World LO1 & LO2: Learning Intentions

PART ONE:

PW1 and PW2. Students should be able to select and use appropriate measuring instruments. Students should be able to identify and measure/calculate length, mass, time, temperature, area, volume.

Can I...?

1. Measure the length of a straight line (& give units)
2. Name two instrument used to measure straight lines (short & long)
3. Measure the length of a curved line (& give units)
4. Name an instrument used to measure the length of a curved line
5. Convert between units of length (e.g. mm, cm, m, km)
6. Name an instrument used to measure the diameter of an object
7. Find the area of a regular object (& give units)
8. Find the area of an irregular object (& give units)
9. Find the volume of a regular object (& give units)
10. Find the volume of an irregular object (& give units)
11. Find the volume of an irregular object that floats
12. Name an instrument used to measure the volume of a liquid
13. Define mass (explain what mass is)
14. Measure mass using an electronic balance (& give units)
15. Know the difference between mass and weight
16. Name an instrument used to measure time (& give units)
17. Convert between units of time (seconds, minutes, hours, day etc.)
18. Name an instrument used to measure temperature (& give units)
19. Know to read metersticks, thermometers, graduated cylinders, etc. (measure at **eye level** to avoid errors in measuring (called avoiding the error of parallax).

PART TWO:

PW1 and PW2. Students should be able to identify and measure/calculate density, speed, acceleration, force...

- 20. Give the formula for calculating density (see formula and tables book pg 57)
- 21. Work out the units of density from the mass and volume units used. (eg mass in grams (g) volume in cm^3 then the unit of density is g/cm^3)
- 22. Use the formula to calculate the density/ mass/ volume of an object
- 23. Work out the units of speed from the distance and time units used. (eg distance in meters (m) time in seconds (s) then the unit of speed is m/s)
- 24. Use the formula to calculate the speed/ distance/ time of an object
- 25. Understand the difference between speed and velocity
- 26. Give the formula for calculating acceleration
- 27. Give the unit for acceleration (m/s^2)
- 28. Use the formula to complete acceleration calculations
- 29. Read and use motion graphs to interpret information
- 30. Define force
- 31. Give the unit for force
- 32. Name the instrument used to measure force (newton meter)
- 33. Name four types of force
- 34. Describe the forces at work on an object
- 35. Give the formula for calculating force (formula and tables pg 50)
- 36. Use this formula to calculate force
- 37. Describe the experiment to demonstrate that force is proportional to the extension of a spring (youtube 'hooks law experiment')

PART THREE:

PW1 and PW2. Students should be able to identify and measure/calculate potential difference, current, resistance, electrical power.

- 38. Name the instrument used to measure potential difference (**potential difference** is the same as **voltage**)
- 39. Name the instrument used to measure current
- 40. Define resistance
- 41. Name the instrument used to measure resistance
- 42. Define electrical power
- 43. Give the formula for calculating electrical power
- 44. Use this formula to calculate power/ voltage and current
- 45. State and use Ohm's law (& describe the relationship between variables = directly proportional!) (pg 340)

Physical world LO3: Learning Intentions

PW3. Students should be able to investigate patterns and relationships between

physical observables.

Can I?...?

1. Investigate the relationship between weight and spring extension (youtube Hooks law experiment) (See PW2)

Physical world LO4: Learning Intentions

PW4. Students should be able to research and discuss a technological application of physics in terms of scientific, societal and environmental impact

Can I...?

1. Define technology.
2. Explain the scientific, societal and environmental impact of smartphones (case study pg 355)

Physical world LO5: Learning Intentions

PW5. Students should be able to design and build simple electronic circuits.

Can I...?

1. Use my formula and tables book to give the symbols of the equipment used to create electronic circuits (formula and tables page 72 – 77)
2. Design a circuit to light a bulb
3. Design a circuit with two bulbs in series
4. Design a circuit with two bulbs in parallel
5. Design a circuit that contains an ammeter/ voltmeter
6. Design a circuit to test if a substance will conduct electricity (see CW6)
7. Use the online simulation by googling 'phet Circuit Construction Kit: DC' to design circuits above

Physical world LO6: Learning Intentions

Students should be able to explain energy conservation and analyse processes in terms of energy changes and dissipation.

Can I?...?

1. Define energy (pg 322)
2. State the Law of conservation of energy (pg 324)
3. List and explain at least six different types of energy (pg 323)
4. Explain energy changes (e.g. electric → light in a lightbulb) (pg 325-327)
5. Explain energy dissipation & be able to give an example (pg 328)
6. Be able to understand and draw a Sankey diagram (pg 329)
7. Calculate the efficiency of a device using the formula (pg 329)

Physical world LO7: Learning Intentions

PW7. Students should be able to design, build, and test a device that transforms energy from one form to another in order to perform a function; describe the energy changes and ways of improving efficiency

Can I...?

1. Describe a device you designed, built and tested (eg. Elastic band powered boat)
2. State the energy changes for the device (eg, elastic potential energy to kinetic energy)
3. Describe two ways you could improve the efficiency of the device (eg. More streamlined shape of boat to reduce friction)
4. Draw this device
5. Draw a sample Sankey diagram for this device

Physical world LO8: Learning Intentions

CW8. Students should be able to research and discuss the ethical and sustainability issues that arise from our generation and consumption of electricity

Can I...?

1. Define 'ethics' and 'sustainability' (pg 366)
2. Discuss how electricity is generated (pg 365)
3. Explain how we use electricity –is it sustainable? Is it ethical? (pg 370)
4. Be able to give an example of how we can reduce our consumption of electricity/ make it more sustainable (pg 371)

Biological World

Biological World LO1: Learning Intentions

BW1. Students should be able to investigate the structures of animal and plant cells and relate them to their functions

Can I...?

1. Label the parts of a microscope and understand what each part is used for. (pg 61)
2. Define 'cell'
3. Name the structures of an animal cell (nucleus, cytoplasm, cell membrane, mitochondria) (pg 63)
4. Describe what the function of each cell structure is
5. Draw and label a plant cell
6. Name the parts of a plant cell (same as animal plus vacuole, chloroplasts) (pg 64)
7. Describe what the function of each cell structure is
8. Draw and label an animal and plant cell
9. Compare and contrast animal and plant cells (what is the same about them? What is different?)

Biological World LO2: Learning Intentions

BW2. Students should be able to describe asexual and sexual reproduction; explore patterns in the inheritance and variation of genetically controlled characteristics

Can I...?

1. Tell the difference between asexual and sexual reproduction (pg 126)
2. Describe asexual plant reproduction (pg 127)
3. Describe sexual reproduction in plants and animals (pg 128)
4. Name two genetically controlled characteristics (height, eye colour)
5. Explain why in sexual reproduction the offspring are not identical to parents (because half the DNA comes from the female and half from the male)
6. Explain the difference between dominant and recessive genes (pg130)
7. Use a Punnett square to explore genetically controlled characteristics (eye colour) (pg 132)

Biological World LO3: Learning Intentions

BW3. Students should be able to outline evolution by natural selection and how it explains the diversity of living things

Can I...?

1. Define species, evolution, natural selection, adaptation, variation
2. Explain natural selection (pg 150)
3. Explain how evolution explains the diversity of living things (pg 151)
4. Know that Charles Darwin was the first to describe evolution (pg 149)
5. Describe evolution by natural selection of a species (eg penguins) (pg 152)

Biological World LO4: Learning Intentions

Students should be able to describe the structure, function, and interactions of the organs of the human digestive, circulatory and respiratory systems

Can I...?

1. List and explain the function of the mouth, oesophagus, stomach, liver, small intestine, large intestine, rectum, anus in the digestive system
2. List and explain the function of the mouth/nose, trachea, bronchus, bronchioles, alveoli in the respiratory system
3. List and explain the function of the heart, veins, arteries and capillaries of the circulatory system
4. Describe how the three systems interact and relate to one another

Biological World LO5: Learning Intentions

BW5. Students should be able to conduct a habitat study; research and investigate the adaptation, competition and interdependence of organisms within specific habitats and communities

Can I...?

1. Define habitat (pg 167), adaptation (pg 171), competition (pg 172), interdependence (pg 174)
2. Can I give examples of adaptation (pg 172 read about the Nile crocodile), competition (pg 173 read about ivy growing on a tree), interdependence (pg 174 read about bees and flowers)
3. Name the habitat you studied (grassland)
4. Give examples of adaptation, competition and interdependence in the habitat you studied
5. Explain the term decomposer and give examples (pg 177)
6. List, draw and explain how to use a sweep net, pooter, pitfall trap, beating tray (pg 169)
7. Explain how to use a quadrat (pg 170)
8. Explain how to carry out a study to measure the frequency of plants in a habitat using a quadrat (pg 170)
9. Calculate the frequency of plants in an area using the frequency formula (pg 170)
10. Be able to draw food chains (pg 177)

Biological World LO6: Learning Intentions

BW6. Students should be able to evaluate how human health is affected by: inherited factors and environmental factors including nutrition; lifestyle choices; examine the role of micro-organisms in human health

Can I...?

1. Distinguish between inherited and environmental factors (pg 160)
2. Discuss how lifestyle choices, e.g. diet, alcohol, smoking, and exercise affects human health (pg 162 – 163)
3. Name three types of micro-organisms (bacteria, fungi and viruses)
4. Discuss the benefits & hazards of one of the following to human health
 - a. bacteria (pg 156)
 - b. fungi (pg 158)
 - c. viruses (pg 156)

Biological World LO7: Learning Intentions

BW7. Students should be able to describe respiration and photosynthesis as both chemical and biological processes; investigate factors that affect respiration and photosynthesis.

Can I...?

1. Describe respiration (pg 80)

2. Write the word equation for respiration (pg 80)
3. Describe photosynthesis (pg 74)
4. Write the word equation for photosynthesis (pg 75)
5. Describe an experiment that investigates if light affects photosynthesis (pg 79)
6. Describe an experiment that investigates if the amount of glucose (sugar) affects respiration (pg 82 – 83)

Biological World LO8: Learning Intentions

BW8. Students should be able to explain how matter and energy flow through ecosystems.

Can I...?

1. Explain how matter flows through an ecosystem (pg 174 – 175) (e.g. carbon cycle)
2. Explain how energy flows through an ecosystem (pg 175) (e.g. food chains)
3. Discuss energy transfer in a food chain (pg 178)

Biological World LO9: Learning Intentions

BW9. Students should be able to explain human sexual reproduction; discuss medical, ethical, and societal issues.

Can I...?

1. Name the male and female gametes (pg 137)
2. Label and explain the different parts of the female reproductive system
3. Label and explain the different parts of the male reproductive system
4. Define fertilization (pg 137)
5. Describe the menstrual cycle (pg 139 – 140)
6. Explain the term contraception and give two examples (eg condom, contraceptive pill)
7. Discuss a
 - a. Medical issue that surrounds human reproduction (pg 143)
 - b. ethical issue that surrounds human reproduction (pg 144)
 - c. societal issue that surrounds human reproduction (pg 144)

Biological World LO10: Learning Intentions

BW10. Students should be able to evaluate how humans can successfully conserve ecological biodiversity and contribute to global food production; appreciate the benefits that people obtain from ecosystems.

Can I...?

1. Define biodiversity
2. Name and describe three types of benefits we gain from ecosystems
3. Describe two approaches to conserve biodiversity
 - a. Eg. Hunting (pg 190)

- b. Eg. Fishing (pg 192)
- 4. List 3 benefits people obtain from ecosystems (eg. Fish for food, bees pollinate crops for food)

Nature of Science

Nature of Science LO1: Learning Intentions

NS1. Students should be able to appreciate how scientists work and how scientific ideas are modified over time.

Can I...?

- 1. Explain how a scientist works (pg 28)
 - a. Eg. Hypothesis, experiment, results, conclusion, is hypothesis correct?
- 2. Describe a scientific idea that has been modified over time
 - a. Eg. We once thought the Sun orbited the Earth, but really the Earth orbits the Sun

Nature of Science LO2: Learning Intentions

NS2. Students should be able to recognise questions that are appropriate for scientific investigation, pose testable hypotheses, and evaluate and compare strategies for investigating hypotheses.

Can I...?

- 1. Recognise questions that are able to be tested scientifically (pg 29)
- 2. Examine way to investigate a hypothesis
- 3. Evaluate a given experiment (critique it – strengths, weaknesses?)

Nature of Science LO3: Learning Intentions

Students should be able to design, plan and conduct investigations; explain how reliability, accuracy, precision, fairness, safety, ethics, and selection of suitable equipment have been considered.

Can I...?

- 1. Design, plan and conduct an investigation
- 2. Define reliability, accuracy, precision, fairness, safety, ethics
- 3. Identify safety procedures for working in the lab (pg 22)
- 4. Be able to pick suitable equipment for an experiment (pg 24)

Nature of Science LO4: Learning Intentions

NS4. Students should be able to produce and select data (qualitatively/quantitatively), critically analyse data to identify patterns and relationships, identify anomalous observations, draw and justify conclusions.

Can I...?

1. Distinguish between qualitative and quantitative data (pg 35)
2. Identify a pattern/ relationship in data
3. Identify any data point that doesn't fit in with the rest (anomalous data)
4. Draw a conclusion based on data

Nature of Science LO5: Learning Intentions

NS5. Students should be able to review and reflect on the skills and thinking used in carrying out investigations, and apply their learning and skills to solving problems in unfamiliar contexts.

Can I...?

1. Reflect on the skills I developed during my CBAs
2. Apply my knowledge to new situations

Nature of Science LO6: Learning Intentions

NS6. Students should be able to conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias.

Can I...?

1. Complete my science CBA's
2. Evaluate if a source of information (eg. website) lacks detail or shows bias (pg 48 – 49)

Nature of Science LO7: Learning Intentions

NS7. Students should be able to organise and communicate their research and investigative findings in a variety of ways fit for purpose and audience, using relevant scientific terminology and representations.

Can I...?

1. Organise research in a coherent way
2. Communicate your findings (essay, poster, presentation)
3. Use scientific language to describe experiments
4. Draw data tables and graphs to show data

Nature of Science LO8: Learning Intentions

NS8. Students should be able to evaluate media-based arguments concerning science and technology.

Can I...?

1. Evaluate a media article – is it reliable? Biased? Etc. See NS6

Nature of Science LO9: Learning Intentions

Students should be able to research and present information on the contribution that scientists make to scientific discovery and invention, and its impact on society.

Can I?....

1. Research and present information on one scientist that made a new discovery which benefit society (pg 54 - 55) (eg discovery of the drug penicillin by Alexander Fleming which has saved many lives

Nature of Science LO10: Learning Intentions

Students should be able to appreciate the role of science in society; and its personal, social and global importance; and how society influences scientific research.

Can I?....

1. Appreciate the role of science in society (eg electric cars reducing pollution in cities and towns
2. Appreciate its personal (electric cars will mean better health for you), social (better health for towns and cities) and global importance (reducing the emission of carbon dioxide and helping fight against climate change)