

<b>Subject</b>	Science
<b>Term</b>	Cycle I
<b>Duration (approx.)</b>	10 lessons
<b>Module</b>	Biology—Health and lifestyle

**Factual knowledge to be taught and assessed (including subject specific vocabulary)**

- Nutrients: **Describe** the components of a healthy diet. **Explain** the role of each food group in the body.
- Food tests: **Describe** how to test for starch, lipids, sugar, protein. **Describe** the positive test for each food test.
- Unhealthy diets: **Describe** some health issues caused by an unhealthy diet. **Calculate** the energy requirements of different people
- Digestive system: **Describe** the structure and function of the main parts of the digestive system. **Describe** the process of digestion.
- Bacteria & enzymes in digestion: **Describe** the role of enzymes in digestion. **Describe** the role of bacteria in digestion.
- Drugs & alcohol: **Describe** the effects of drugs and alcohol on health and behaviour. **Describe** the effect alcohol has on conception and pregnancy.

**Skills and concepts to be developed**

Recognise different variables in a variety of experiments.

Drawing and interpreting graphs from data collected

**Formative Assessment one:**

FT1a – Key word spellings/pronunciation + Glossary

FT1b – Use of key words in sentences

**Formative Assessment two:**

FT2 – Health and lifestyle  
(Application of knowledge)

**Summative Assessment:**

End of cycle test

This test will cover questions from this topic and current cycle topics to check understanding.

**Link to prior learning:**

**KS2:**

Describe the simple functions of the basic parts of the digestive system in humans

Identify the different types of teeth in humans and their simple functions

Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

**How will high standards be promoted in this module?**

**Literacy -**

FT1a – spellings, pronunciations and definitions of key terms

FT1b – Use of key words in sentences

FT2 – Extended answer question in final task that requires pupils to apply their knowledge

**Numeracy –**

Graph skills

**Link Forward: Where next for learning?**

KS4 GCSE Biology

- B3 – Organisation and the digestive system
- B7 – Non-communicable diseases

<b>Subject</b>	Science
<b>Term</b>	Cycle I
<b>Duration (approx.)</b>	10 lessons
<b>Module</b>	Chemistry— Reactions

**Factual knowledge to be taught and assessed (including subject specific vocabulary)**

Chemical reactions: **Describe** what happens to atoms in chemical reactions. **Explain** why chemical reactions are useful.

**Compare** chemical reactions to physical changes.

Word equations: **Identify** reactants and products in word equations. **Write** word equations to represent chemical reactions.

Burning fuels: **Predict** products of combustion reactions. **Categorise** oxidation reactions as useful or not.

Thermal decomposition: **Identify** decomposition reactions from word equations. **Use** a pattern to predict products of decomposition reactions.

Conservation of mass: **Explain** conservation of mass in chemical reactions. **Calculate** masses of reactants and products.

**Skills and concepts to be developed**

Present observations and data using appropriate methods, including tables and graphs.

Identify patterns and using observations, measurements and data to draw conclusions.

**Formative Assessment one:**

Use of key words in a synoptic paragraph linked to the module.

**Formative Assessment two:**

Write a method and establish whether a reaction is exothermic or endothermic.

**Summative Assessment:**

End of cycle test.

This test will cover questions from the topic and previous topics to check understanding.

**Link to prior learning:**

explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

**Literacy and Numeracy:  
How will high standards be promoted in this module?**

Literacy -

Formative test 1 – key words and sentences

Formative test 2 – Writing a structured and logical method.

Numeracy –Calculation of temperature change, making measurements using a thermometer.

**Link Forward: Where next for learning?**

KS4 GCSE Chemistry

- Representing chemical reactions using formulae and using equations
- Combustion, thermal decomposition.
- Energy changes on changes of state (qualitative)

<b>Subject</b>	Science
<b>Term</b>	Cycle 1
<b>Duration (approx.)</b>	10 lessons
<b>Module</b>	Physics— Electricity and Magnetism

### **Factual knowledge to be taught and assessed (including subject specific vocabulary)**

Static – **Explain** how objects can become charged. **Describe** how charged objects interact. **Describe** what is meant by an electric field.

Circuits and current – **Describe** what is meant by current. **Describe** how to measure current.

Potential difference – **Describe** what is meant by p.d. **Describe** how to measure p.d. **Describe** what is meant by the rating of a battery or bulb.

Series & Parallel – **Describe** the difference between series and parallel circuits. **Describe** how current and potential difference vary in series and parallel circuits.

Resistance – **Describe** what is meant by resistance. **Calculate** the resistance of a component and of a circuit. **Describe** the difference between conductors and insulators in terms of resistance.

### **Skills and concepts to be developed**

Ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience. They should be encouraged to relate scientific explanations to phenomena in the world around them and start to use

#### **Formative Assessment one:**

Spellings and definitions of subject specific concepts.

#### **Formative Assessment two:**

Write a method for making and testing strength of an electromagnet. Draw a suitable results table with headings and appropriate

range of DV. Identify variables and suggest how the IV might affect the DV.

### **Summative Assessment:**

End of cycle test.

This test will cover questions from the topic and previous topics to check understanding.

### **Link to prior learning:**

KS1 and 2 – Forces and magnets

Observe how magnets attract or repel each other and attract some materials and not others.

Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.

Describe magnets as having two poles.

Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.

Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.

Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.

Recognise some common conductors and insulators, and associate metals with being good conductors.

### **Literacy and Numeracy:**

#### **How will high standards be promoted in this module?**

##### **Literacy -**

Formative test 1 – spellings and descriptions

Formative test 2 – Descriptive and comparative extended answers.

**Numeracy** – Drawing a table for data

#### **Link Forward: Where next for learning?**

KS4 GCSE Physics

Electrical current

Motors