

**Inheritance and selection**

Lesson	Learning Objective	Homework/assessment
Inheritance and selection 1	Pupils learn to Identify Characteristics that are influenced by environmental factors and those that are passed on through inheritance. Identify characteristics as discrete or continuous.	<b>Research Homework-Extinction</b>
Inheritance and selection 2	Pupils will learn to follow the different types of keys in order to identify and name plants, animals and chemicals.	
Inheritance and selection 3	Identify characteristics in an organism that are desirable in particular circumstances. Outline how these characteristics are passed on. Suggest some issues that need to be considered in relation to selective breeding.	<b>Peer Level assessed task</b> 'How can I get more eggs?' Revise for SATs Question test

Lesson	Learning Objective	Homework/assessment
Fit & Healthy 1	Need for a balanced diet  That food is used as a fuel during respiration to maintain the body's activity and as a raw material for growth and repair.	
Fit & Healthy 2	To know why we need a blood transport system. To understand how the differences in structure relate to the function of the 3 main types of vessels.	
Fit & Healthy 3	The role of lung structure in gas exchange	Sats question booklet
Fit & Healthy 4	Role of the skeleton and joints. Principle of antagonistic muscle pairs	
Fit & Healthy 5	<b>The role of lung structure in</b>	

Lesson	Learning Objective	Homework/assessment
	<b>gas exchange, including the effect of smoking</b>	
Fit & Healthy 6	How the abuse of alcohol, solvents, and other drugs affect health.	
Fit & Healthy 7	<b>Pupils describe some of the effects of prescription, illegal and recreational drugs on health.</b>	<b>Teacher Level assessed Homework:</b> How Healthy?
Fit & Healthy 8	<b>Pupils learn to interpret and analyse data from a variety of sources including tables and graphs and use their knowledge of the topic to explain their findings.</b>	Revise for SATs Question test

Chapter 9 Speeding up and Chapter 6 Gravity and Space

Lesson	Learning Objective	Homework/assessment
Speeding up & Gravity and space 1	That speed can be determined by measuring distance travelled and time taken The units in which speed is measured.  To manipulate and apply the quantitative relationship linking distance, time and speed	H/W- C9.1/9.2Winningtimes
Speeding up & Gravity and space 2	To describe trends or relationships in graphs. To compare and evaluate different ways of making measurements That measurements for different purposes may not be equally precise	
Speeding up & Gravity and space 3	To use distance –time graphs to represent journeys. Using gradients. To distinguish between average and instantaneous speeds.	
Speeding up & Gravity and space 4	That a force produces a change in speed (an acceleration) That in the absence of force, objects move at a steady speed, or remain stationary	<b>Afl Homework</b> Teacher level assessed task-Explain the flight of an aeroplane

Lesson	Learning Objective	Homework/assessment
	To make generalisations how forces affect speed About the forces on moving objects. That objects can	
Speeding up & Gravity and space 5	That objects can continue at steady speeds with no force acting in the direction of movement That air resistance and water resistance are forces that oppose motion How the effects of air resistance and water resistance can be reduced by streamlining.	
Speeding up & Gravity and space 6	That when the upward force of air resistance balances the downward force of weight, the speed remains constant To interpret speed–time graphs and relate them to the situation from which data was obtained	Revise for SATs question test.
Speeding up & Gravity and space 7 & 8	That gravity is an attractive force which acts on the Earth towards the centre of the planet That gravity is an attractive force between objects with mass How the idea of gravity was related to empirical observations That where the gravitational force is lower than on the Earth, the mass of an object remains the same, but its weight is less	SATs question Test on Speeding up (30mins)
Speeding up & Gravity and space 9	That our ideas about the solar system have changed over time To consider and evaluate conflicting evidence to arrive at a view	
Speeding up & Gravity and space 10	Pupils relate the movement of heavenly bodies to observations.	
Speeding up & Gravity and space 11	Investigation on the effect of mass on the rate of freefall	
Speeding up & Gravity and space 12	Chapter 6 Revision	Revise for SATs Question test
Speeding up &	Test on Gravity and Space	Test on Gravity and

Lesson	Learning Objective	Homework/assessment
Gravity and space 13		Space

Energy and electricity

Lesson	Learning Objective	Homework/assessment
Energy and Electricity 1	<p>Pupils learn to Identify series and parallel circuits including from circuit diagrams</p> <p>Draw simple circuit diagrams of circuits that work</p> <p>Predict and describe the brightness of bulbs in some simple series and parallel circuits</p> <p>Describe current as not being used up in a circuit and as dividing along the different branches in a parallel circuit</p> <p>Identify that an ammeter measures flow of current</p>	
Energy and Electricity 2	<p>pupils should be able to:</p> <p>Identify series and parallel circuits including from circuit diagrams</p> <p>Draw simple circuit diagrams of circuits that work</p> <p>Predict and describe the brightness of bulbs in some simple series and parallel circuits</p>	SATs Question Booklet on Electricity.
Energy and Electricity 3	<p>How to measure voltage in a circuit</p> <p>A simple model of energy transfer from batteries to components in circuits</p> <p>A simple model of potential difference making a current flow in a circuit</p> <p>To work with others to simulate energy transfer around a circuit</p>	
Energy and Electricity 4 &5	<p>Fruit Cell Investigation</p> <p>Pupil should be able to: describe energy transformation from a cell/battery to a circuit</p> <ul style="list-style-type: none"> <li>• identify and describe patterns in data</li> <li>• draw conclusions from their data</li> </ul>	Fruit Cell Investigation

<p>Energy and Electricity 6</p>	<p>Recognise that energy is routinely converted from one form to another in order to be useful Categorise devices on the basis of type of energy input or output Explain why electricity is used widely as a source of energy Describe energy transfers in everyday changes Describe the energy transfers and/or transformations in several toys or devices Recognise that electricity is a useful means of transforming energy Give examples of ways in which energy can be stored</p>	<p>Homework Sheet C3.1 Domestic Power</p>
<p>Energy and Electricity 7 &amp; 8</p>	<p>Name several fossil fuels and explain why they are described as fossil Explain that fossil fuel reserves are limited because they are non-renewable Identify the main renewable energy resources Explain the term 'renewable energy resource' Describe the operation of a device driven by a renewable energy source, <i>eg solar cell to generate electricity</i>• identify a range of energy resources used to generate electricity Describe a simple electrical generator</p>	
<p>Energy and Electricity 9</p>	<p>Distinguish between useful energy and wasted or dissipated energy Make comparisons between appliances and devices concerning their efficient use of energy Recognise environmental impacts of electricity generation. Make considered suggestions for reduction of environmental impacts</p>	<p>Revise for SATs Question test</p>

### Chemistry Topics-Reactions of metals and the reactivity series & Using Chemistry

Lesson	Learning Objective	Homework/assessment
<p>Chemistry 1</p>	<ul style="list-style-type: none"> <li>❖ that metals are good conductors of heat and electricity</li> <li>❖ that most non-metallic elements are poor conductors of heat and electricity</li> <li>❖ about the range of metals, their uses and where they are found</li> </ul>	<p>Homework sheet 2.1 - Which metal for the job</p>
<p>Chemistry 2</p>	<ul style="list-style-type: none"> <li>❖ that some metals react with dilute acids to form salts and release hydrogen</li> <li>❖ to carry out a test for hydrogen</li> <li>❖ to represent the reactions of metals with</li> </ul>	

Lesson	Learning Objective	Homework/assessment
	<p>dilute acids by word equations</p> <ul style="list-style-type: none"> <li>❖ to identify patterns in reactions between metals and dilute acids</li> </ul>	
Chemistry 3	<ul style="list-style-type: none"> <li>❖ that some metals react with dilute acids to form salts and release hydrogen</li> <li>❖ to carry out a test for hydrogen</li> <li>❖ to represent the reactions of metals with dilute acids by word equations</li> <li>❖ to identify patterns in reactions between metals and dilute acids</li> </ul>	<b>Homework sheet 2.2</b> - KS3 questions on acids and bases
Chemistry 4 & 5	<ul style="list-style-type: none"> <li>❖ that acids react with metal carbonates, producing carbon dioxide and a salt</li> <li>❖ that production of new materials and energy changes are evidence of chemical reactions</li> <li>❖ that when an alkali is added to an acid, neutralisation takes place</li> <li>❖ how to obtain a neutral solution from an acid and an alkali</li> </ul> <p>the hazards associated with alkalis</p>	Lesson 5 AfL Peer Level assessed task Acid Fizz
Chemistry 6	<ul style="list-style-type: none"> <li>❖ How metals react with oxygen, water, acids and what the products of these reactions are.</li> </ul>	
Chemistry 7	<p>The Earth's crusts contains metals and metal compounds</p> <p>How a metal is extracted from its ore depends on how reactive it is.</p> <p>Know about the extraction of iron and aluminium</p>	Homework sheet 2.5 Rusting
Chemistry 8 & 9	<ul style="list-style-type: none"> <li>❖ Alkali metals are so reactive they are stored under oil</li> <li>❖ Predict and observe the reaction and order of reactivity of the alkali metal with water</li> <li>❖ Write word equations for the reaction of alkali metals with water</li> </ul> <p>Displacement reactions take place between metals and solutions of salts of other metals.</p>	
Chemistry 10	<p>that some metals react with dilute acids to form salts and release hydrogen</p> <ul style="list-style-type: none"> <li>• to carry out a test for hydrogen</li> <li>• to represent the reactions of metals with dilute acids by word equations</li> <li>• to identify patterns in reactions between metals and dilute acids</li> </ul>	Homework sheet 2.6 ABC quiz

Lesson	Learning Objective	Homework/assessment
Chemistry 11	<ul style="list-style-type: none"> <li>• that displacement reactions involving metals produce energy</li> <li>• that the energy from these reactions can be used</li> <li>• to link energy produced in displacement reactions to differences of reactivity of metals</li> </ul>	
Chemistry 12	Review	Homework - Revision for KS3 SATs question test.

### Chemistry and the Environment

Lesson	Learning Objective	Homework/assessment
Chemistry and the Environment 1	Review of the rock Cycle	
Chemistry and the Environment 2 & 3	The cause of acid rain Environmental consequences of acid rain Review of the pH scale Investigating components of soil	SATs question booklet
Chemistry and the Environment 4 & 5	Investigating the effects of acid rain on rocks and plants	
Chemistry and the Environment 5	The factors that contribute to the greenhouse effect. The cause and consequences of global warming	Level assessed task Explaining the greenhouse effect

### Chapter 7 Plants, photosynthesis and food.

Lesson	Learning Objective	Homework/assessment
Plants photosynthesis and food 1&2	That Green plants do not absorb 'food' from the soil That green plants use carbon dioxide and water to produce biomass The meaning of the terms 'photosynthesis' and 'biomass' To represent photosynthesis by a word equation That light is needed for photosynthesis That the raw materials for photosynthesis are taken from the	

Lesson	Learning Objective	Homework/assessment
	environment around the plant	
Plants photosynthesis and food 3	What we currently know about photosynthesis was discovered over a long period of time and by experiments. Scientists work by hypothesising, experimenting, concluding then evaluating what they have found out this is a continuous process. To look at the events that each scientist did and identify predictions, experiments and conclusions from it	<b>Homework task</b> Photosynthesis Ideas and evidence activity and Sats question
Plants photosynthesis and food 4	To test for the presence of starch in a leaf That chlorophyll and light are necessary for photosynthesis	
Plants photosynthesis and food 5	How leaf cells close to the upper surface are adapted for photosynthesis That roots re adapted to take in water and this is used in photosynthesis That plants use water in many ways That plants need sources of nitrogen and other elements in the form of minerals That mineral deficiency hinders plant growth	
Plants photosynthesis and food 6	That photosynthesis removes carbon dioxide from the air and produces oxygen To consider issues of environmental protection from several perspectives To compare the word equations for respiration and photosynthesis	Homework task- How does a plant grow
Plants photosynthesis and food 7	Plants are living things and as part of MRS GREN they need Nutrients  Plants play an important part of the food chain and we are consumers.	
Plants photosynthesis and food 8	About food webs composed of several food chains, and how food chains can be quantified using pyramids of numbers How toxic materials can accumulate in food chains	<b>AfL Homework</b> - Level assessed task –Farming and Food webs Peer assessment next lesson
Plants photosynthesis	Explain how food chains within a habitat can be combined into	

Lesson	Learning Objective	Homework/assessment
and food 9	food webs. <ul style="list-style-type: none"> <li>• Describe ways in which organisms are adapted to daily or seasonal changes in their environment and to their mode of feeding; use this idea to explain why some organisms can live more successfully than others in different habitats.</li> <li>• Explain that energy is transferred between organisms in food chains and webs; use this to:                             <ul style="list-style-type: none"> <li>- relate the abundance and distribution of organisms to the resources available within a habitat;</li> <li>- begin representation of this using pyramids of numbers.</li> </ul> </li> <li>• Describe relationships of organisms in a food web and use this</li> </ul>	