

OCR

Specific Reference & Topic	How Science Works Objective	Specific Learning Object	ASE Reference	Comments
B1: Understanding Ourselves B1a: Fit for Life	2b 2c	This item provides the opportunity to collect and analyse scientific data from primary and secondary sources, including the use of ICT sources and tasks when assessing and monitoring fitness. Students can gain the skills of working accurately and safely, individually and with others to collect first-hand data when investigating pulse recovery times.	Investigations 'Developing Understanding', p82 Investigations 'Developing Understanding', p57	Describing a pattern using pulse versus breaths per minute secondary data. Sample size selection through pulse rate.
B1: Understanding Ourselves B1b: What's for Lunch?	2b	This item provides the opportunity to collect and analyse scientific data from primary and secondary sources.	SATIS 102 Food from Fungus	Useful starting point for food production from alternative sources.
B1: Understanding Ourselves B1b: What's for Lunch?	2b	Use ICT tasks, including video clips, to research countries having food emergencies and people facing starvation.		
B1: Understanding Ourselves B1b: What's for Lunch?	4a	Recall that diets in many parts of the world are deficient in protein.		
B1: Understanding Ourselves B1b: What's for Lunch?	2b	Describe why a high protein diet is necessary for growing teenagers.		
B1: Understanding Ourselves B1b: What's for Lunch?	2b 4c	Interpret simple data on diet.	SATIS 208 The Price of Food SATIS 14–16 Unit 606 SATIS 14-16 Unit 901 The Cancer Detectives The Tristan da Chunha Dental Surveys	Based on an actual case study on the causes of cancer of the oesophagus in Lin Xian. Role play to analyse and produce actions based on the research. Useful data on tooth decay relating to changing diet on an isolated island.
B1: Understanding Ourselves	4b	Discuss the influences of religion, personal choice (e.g. vegetarians, vegans) and medical reasons	SATIS 102 Food from Fungus	Useful starting point for food production from alternative

B1b: What's for Lunch?		(e.g. food allergies) on a person's diet.	SATIS 703 Vegetarianism	sources.
B1: Understanding Ourselves B1b: What's for Lunch?	4b	Explain how a desire for perfection, low self-esteem and poor self-image can lead to a poor diet, and the increased risks involved.		
B1: Understanding Ourselves B1c: Keeping Healthy	3a 4b 4c	This item provides the opportunity to analyse, interpret, apply and question scientific information and ideas, including some questions that science cannot currently answer, in cancer treatment and drug testing. These topics also allow the discussion of the ethical issues raised and develop the skills of scientific argument and presentation of data.	SATIS 508 Risks SATIS 509 Homeopathy SATIS 402 DDT and Malaria SATIS 909 AIDS	Useful exploration of the concept of risk. Testing homeopathy treatment for medical effectiveness. Information and group discussion of pros and cons.
B1: Understanding Ourselves B1c: Keeping Healthy	4a	Chart the immunisation programme recommended for children up to the age of 16.	SATIS 9 The Chinese Cancer Detectives SATIS 90? SATIS 508 Homeopathy	Role-playing exercise and data analysis. Testing homeopathy treatment for medical effectiveness.
B1: Understanding Ourselves B1c: Keeping Healthy	4a	Use a world map to plan holidays and estimate the risk of exposure to diseases such as malaria, cholera, hepatitis, polio and typhoid.	SATIS 304/5 A Medicine to Control Bilharzia	Useful, relevant extension supporting How Science Works.
B1: Understanding Ourselves B1c: Keeping Healthy	3a	Interpret data on the incidence of disease around the world to show links with climate and socio-economic factors.		
B1: Understanding Ourselves B1c: Keeping Healthy	4a	State that new medical treatments/drugs are tested before use.	SATIS 304/5 A Medicine to Control Bilharzia	Useful, relevant extension supporting How Science Works.
B1: Understanding Ourselves B1c: Keeping Healthy	2b	Can collect data from various sources for a named disease and identify danger sites on a world map.		
B1: Understanding Ourselves B1c: Keeping Healthy	4b 4c	Explain why new treatments are tested using animals, human tissue and computer models, and understand objections to such tests.		
B1: Understanding Ourselves B1c: Keeping Healthy	3a	Interpret data on types of cancer and survival/mortality rates.	SATIS 508 Homeopathy	Testing homeopathy treatment for medical effectiveness.

B1: Understanding Ourselves B1d: Keeping in Touch	1b	Theories and ideas can be tested in the investigation of binocular vision.	SATIS 209 Spectacles & Contact Lenses	Factual information plus questions to answer and a sight survey.
B1: Understanding Ourselves B1d: Keeping in Touch	4b	Research allowable reaction times in races.		
B1: Understanding Ourselves B1e: Drugs and You	3a 3b 4c	This item provides the opportunity to find out about the use of contemporary scientific and technological developments in the detection and analysis of difference drugs used in sport. Data from secondary sources can be collected and analysed using ICT tools. There is the opportunity to discuss how scientific knowledge and ideas change over time when investigating the link between smoking and lung cancer. Discussion of anti-smoking laws allows the development of an argument using scientific and technical terms.	SATIS 508 Homeopathy	Testing homeopathy treatment for medical effectiveness.
B1: Understanding Ourselves B1e: Drugs and You	3c	Can collect scientific information from a variety of sources to show the effects of drugs or smoking on the body, and display or present the information.		
B1: Understanding Ourselves B1e: Drugs and You	4b	Explain the basis of the legal classification of drugs.		
B1: Understanding Ourselves B1e: Drugs and You	1b	Interpret data on the alcohol content (measured in units of alcohol) of difference alcoholic drinks.	SATIS 203 Drinking Alcohol	Relevant data. Guidelines need updating.
B1: Understanding Ourselves B1e: Drugs and You	4b 4c	Discuss the consequences of the legal classification of drugs in the context of both school and national policy.		
B1: Understanding Ourselves B1f: Staying in Balance	4a	Discuss automatic control systems in students' lives, e.g. central heating, air conditioning, cruise control in cars, incubators.		
B1: Understanding Ourselves B1f: Staying in Balance	4a	Discuss the use of thermal blankets after such activities as marathons.	SATIS 802 Hypothermia	Relevant press cuttings and information.
B1: Understanding Ourselves B1f: Staying in Balance	3c	Use ICT to produce a poster warning old people about hypothermia and telling them how to prevent it.	SATIS 802 Hypothermia	Relevant press cuttings and information.

B1: Understanding Ourselves B1g: Gene Control	4b	Recent developments in genetics have contributed to the increasing public interest in science and raised awareness of the issues involved.	SATIS 309 Microbes make Human Insulin	Relevant discussion material.
B1: Understanding Ourselves B1g: Gene Control	4a	Research the Human Genome Project.		
B1: Understanding Ourselves B1g: Gene Control	1c	Research the roles of Watson, Crick and others in increasing our understanding of the structure of DNA.		
B1: Understanding Ourselves B1h: Who am I?	4b	Debate the arguments for and against parents knowing a baby's gender before birth.		
B1: Understanding Ourselves B1h: Who am I?	4c	Recognise that there is a debate over the relative importance of genetic and environmental factors in determining some human attributes, e.g. intelligence, sporting ability, health.		
B1: Understanding Ourselves B1h: Who am I?	4b	Discuss the issues raised by knowledge of inherited 'diseases' in a family.		
B2: Understanding our Environment B2a: Ecology in our School Grounds	1a	Use variety of sampling techniques, e.g. pooters, nets, pitfall traps, quadrats, tullgren funnel, belt transects.	Investigating the Environment at KS3 and 4	Introduction and pages 28–30 for ideas.
B2: Understanding our Environment B2a: Ecology in our School Grounds	1a	Use sensors and data-loggers to collect data such as temperature, light intensity, soil PH; link this with the animals and plants found in different places.	Investigating the Environment at KS3 and 4	Pages 33 and 39 for ideas.
B2: Understanding our Environment B2b: Grouping Organisms	1b	Research the work of John Ray and Carl Linnaeus in developing a modern classification system.		
B2: Understanding our Environment B2c: The Food Factory	4a	Research how commercial greenhouses maximise the growth of crops by maximising the rate of photosynthesis.	SATIS 210 The Pesticide Problem SATIS 906 IT in the Greenhouse SATIS 906 IT in Greenhouses	Useful decision-taking discussion activity. Basic information on conditions needed by growing plants. Probably a beginning activity in conjunction with some work on electronic control systems.

B2: Understanding our Environment B2d: Compete or Die	4a 3a	Interpret data on the distribution and population size that shows that animals and plants can be affected by competition for limited resources.	Investigating the Environment at KS3 and 4	Pages 10, 26, 40, 43 and 53.
B2: Understanding our Environment B2e: Adapt to Fit	4c	Discuss possible climate changes and predict which animals and plants will successfully adapt to survive in the new conditions.		
B2: Understanding our Environment B2f: Survival of the Fittest	1b	Research the role of Alfred Russell Wallace in developing the theory of natural selection.		
B2: Understanding our Environment B2g: Population out of Control?	4a 4b	Young people are aware of the increasing human population and how this is related to an increase in pollution levels. The use of living and non-living indicators of pollution is considered.	SATIS 801 The Water Pollution Mystery	Good data analysis.
B2: Understanding our Environment B2h: Sustainability	4a 4b	Sustainable development is a term that is becoming more widely used and refers to the economic exploitation of the environment in a way that can be maintained without causing permanent damage. We are also conscious of the damage that has already been done and are trying to protect endangered habitats and species. This item develops ideas about our choices and responsibilities with particular reference to whales.	SATIS 107 Ashton Island SATIS 201 Energy from Biomass SATIS 505 Making Fertilisers SATIS 702 The Gas Supply Problem	Useful decision-making discussion/role-play activity on energy resources and use. Relevant activity.
B2: Understanding our Environment B2h: Sustainability	2b	Web search for whale information as an example of an endangered species.		
B2: Understanding our Environment B2h: Sustainability	4b	Class discussion on 'Why save the whales?'		
B2: Understanding our Environment B2h: Sustainability	4c	'Class discussion on 'Why should we have zoos/marine parks?'		
B2: Understanding our Environment B2h: Sustainability	4b	Describe how endangered species can be helped: <ul style="list-style-type: none"> protecting habitats 		

		<ul style="list-style-type: none"> • legal protection • education programmes • captive breeding programmes • creating artificial ecosystems. 		
B2: Understanding our Environment B2h: Sustainability	4b	Consider issues arising from keeping whales in captivity for entertainment, research, captive breeding programmes, and their lack of freedom.		
B2: Understanding our Environment B2h: Sustainability	4b	Discuss reasons for conservation programmes for: <ul style="list-style-type: none"> • protecting human food supply • ensuring minimal damage to food chains • future identification of plants for medical purposes • cultural aspects. 	SATIS 102 Food from Fungus	Useful starting point for activity relating to alternative food sources.
B2: Understanding our Environment B2h: Sustainability	4b	Discuss the problems of whaling getting international agreement, policing laws and culling for research.		
B2: Understanding our Environment B2h: Sustainability	4a	Discuss the importance of population size, waste products and food and energy demands to sustainable development.	Investigating the Environment at KS3 and 4	Practical exercise page 45, suitable if a garden area is available.
B2: Understanding our Environment B2h: Sustainability	4b	Recognise that sustainability requires planning and operation at local, national and international levels.	SATIS 908 Why not Combined Heat and Power? SATIS 702 The Gas Supply Problem	
B2: Understanding our Environment B2h: Sustainability	4a	Describe how sustainable development may protect endangered species.		
C1: Carbon Chemistry C1b: Food Additives	2b 3a	<p>This item provides the opportunity to collect and analyse secondary data using ICT tools when researching food additives.</p> <p>Active and intelligent packaging involves finding out about contemporary scientific and technological developments and provides opportunities for interpreting and applying science data.</p>		

C1: Carbon Chemistry C1c: Smells	4b	This item provides the opportunity to explore how and why decisions about science and technology are made, including ethical issues on the testing of cosmetics on animals.		
C1: Carbon Chemistry C1c: Smells	2c	The investigation on nail varnish removal provides the opportunity to collect and analyse primary scientific data, working accurately and safely.		
C1: Carbon Chemistry C1c: Smells	4b	Debate: 'Is the testing of cosmetics on animals justified?'		
C1: Carbon Chemistry C1c: Smells	2c	Can test whether a substance dissolves in a solvent.	School Chemistry Experiments 3.2 Testing the solubility of a variety of substances in various solvents	Whilst the chemistry behind this is beyond the scope of GCSE the experiment could still be useful. Some solvents may not be suitable for use at year 10/11 level and would need to be demonstrated.
C1: Carbon Chemistry C1c: Smells	1b	Interpret information on the effectiveness of solvents (no recall expected).		
C1: Carbon Chemistry C1c: Smells	4b	Explain why new cosmetic products need to be thoroughly tested before they are permitted to be used. Describe one advantage and one disadvantage of testing cosmetics on animals.		
C1: Carbon Chemistry C1d: Making Crude Oil Useful	4b	This item provides the opportunity to illustrate the use of ICT in science and technology when researching exploitation and the industrial production of products from crude oil. The discussion about exploitation of oil raises ethical issues and allows consideration of some questions that science cannot currently answer.	School Chemistry Experiments 15.2 Fractional distillation of crude oil SATIS 702 The Gas Supply Problem	This demonstration uses synthetic 'crude oil' (recipe provided). It could be used to illustrate practically the production of products from crude oil or to fulfil HSW objective 2b.
C1: Carbon Chemistry C1d: Making Crude Oil Useful	4a 4b	Research the problems of oil exploitation and possible solutions.	SATIS 105 The Bigger the Better	Activity related to ethane production.
C1: Carbon Chemistry	4a	Explain some of the environmental problems involved in the exploitation of crude oil.		

C1d: Making Crude Oil Useful	4b			
C1: Carbon Chemistry C1d: Making Crude Oil Useful	4a 4b	Discuss in simple terms the political problems associated with the exploitation of crude oil.		
C1: Carbon Chemistry C1f: Designer polymers	4a 4b	Students may be familiar with the idea that everyday items such as supermarket bags are made from polymers. This item explores why technology moves forward with the development of materials, focusing on the very wide range of uses that polymers have, including health care, in the 21 st century. Issues of disposal of polymers are also considered.	SATIS 1104 Materials to Repair Teeth SATIS 910 Disposable Nappies	Information on the advantages and disadvantages of teeth filing using polymers.
C1: Carbon Chemistry C1f: Designer polymers	4a	Activity interpreting information and researching personal interests in the context of why technology moves forward with the development of materials precisely matched to need (using a variety of contexts to capture different interests, e.g. CDs, sports equipment, health contexts etc).	SATIS 910 Disposable Nappies	
C1: Carbon Chemistry C1f: Designer polymers	2b	Data search about waterproof clothing, i.e. using appropriate ICT.		
C1: Carbon Chemistry C1f: Designer polymers	4a	Explain why the discovery of Gore-Tex® type materials has been of great help to active outdoor people to cope with perspiration wetness.		
C1: Carbon Chemistry C1f: Designer polymers	4b	Explain why chemists are developing additional polymers that are biodegradable. Explain some of the environmental and economic issues related to the use of polymers.	SATIS 910 Disposable Nappies	
C1: Carbon Chemistry C1g: Using carbon fuels	2b	Look at the products of complete and incomplete combustion by experiment and/or data search.	School Chemistry Experiments 15.4 Products of combustion	Reducing the gap between the candle and the funnel will result in incomplete combustion.
C1: Carbon Chemistry C1g: Using carbon fuels	3a	Interpret data about fuels in order to choose the best fuel for a particular purpose (no recall expected).		
C2: Rocks and Metals C2a: Paints and Pigments	2b	Data search, using the internet, about paints and the ingredients in paints.		
C2: Rocks and Metals	2d	Survey some advertisement leaflets about		

C2a: Paints and Pigments		different types of paints.		
C2: Rocks and Metals C2a: Paints and Pigments	4c	Historical survey into the history of dyeing fabrics.	SATIS 510 Perkin's Mauve	Includes the story of Perkin's discovery.
C2: Rocks and Metals C2a: Paints and Pigments	2b	Investigating thermochromic pigments using material, e.g. material from Middlesex University Teaching Resources.		
C2: Rocks and Metals C2a: Paints and Pigments	2b	Investigating phosphorescent pigments using material, e.g. material from Middlesex University Teaching Resources.		
C2: Rocks and Metals C2a: Paints and Pigments	2b	Apply data search to show ingredients of paint: solvent, binding medium and pigment.		
C2: Rocks and Metals C2a: Paints and Pigments	1b	Interpret the uses and properties of different paints given relevant information.		
C2: Rocks and Metals C2b: Construction materials	2b	Data search about construction materials and their sources.	SATIS 101 Sulphurcrete	
C2: Rocks and Metals C2c: Does the Earth Move?	1c	Create a model of the Earth's structure.		
C2: Rocks and Metals C2c: Does the Earth Move?	2b	Use ICT and/or other material to construct a map of where volcanoes and earthquakes occur on the Earth's surface.		
C2: Rocks and Metals C2c: Does the Earth Move?	2b	Model a volcano using the candle wax experiment http://www.jesei.org		
C2: Rocks and Metals C2c: Does the Earth Move?	4b	Look at examples of people who live near volcanoes and those who choose to study them.	SATIS 1107 Mount St. Helens	Information about eruption and measurements made.
C2: Rocks and Metals C2c: Does the Earth Move?	4b	Describe that some people choose to live near volcanoes because volcanic soil is very fertile		
C2: Rocks and Metals C2d: Metals and Alloys	2b	Research alloys – their uses and composition.		
C2: Rocks and Metals C2d: Metals and Alloys	2b	Internet research about smart alloys and their uses.		
C2: Rocks and Metals	1b	Interpret data about the properties of metals including alloys, e.g. hardness, density, boiling	SATIS 103 Controlling Rust	Relevant to community decision

C2d: Metals and Alloys		point and strength.	SATIS 1106 Tin Cans	making. Discussion activity. Comparison between aluminium and steel cans.
C2: Rocks and Metals C2e: Cars for Scrap	3c	Write a promotional leaflet for a car made from aluminium, illustrating the advantages of such a car over one made from iron or steel.		
C2: Rocks and Metals C2e: Cars for Scrap	1b	Interpret data about the rate of corrosion of different metals in different conditions (no recall is expected).	SATIS 103 Controlling Rust Investigations 'Developing Understanding', p21	Relevant to community decision making. Discussion activity. Adaptation needed of nail rusting experiment.
C2: Rocks and Metals C2e: Cars for Scrap	1b	Interpret data about the rate of corrosion of different metals in different conditions (no recall is expected).		
C2: Rocks and Metals C2e: Cars for Scrap	3c	Explain why a material used in a car is suited to a given use given appropriate data (no recall expected). Explain the advantages and disadvantages of recycling the materials used to make cars. Explain that new laws will soon specify that a minimum percentage of all materials used to manufacture cars must be recyclable.	SATIS 205 Looking at Motor Oil	Potential link.
C2: Rocks and Metals C2f: Clean Air	2b	Research (e.g. using the internet) the increase in occurrences of asthma in the UK and possible links with air pollution.		
C2: Rocks and Metals C2f: Clean Air	3c	Write a leaflet describing the main forms of atmospheric pollution, their effects and origins.		
C2: Rocks and Metals C2f: Clean Air	2b	Research the methods of preventing atmospheric pollution.		
C2: Rocks and Metals C2f: Clean Air	1c	Relate the common pollutants found in air to the environmental problem the pollutant causes: <ul style="list-style-type: none"> • carbon monoxide – a poisonous gas • oxides of nitrogen – photochemical smog and acid rain • sulphur dioxide – acid rain that will kill plants, 	SATIS 901 Acid Rain Investigations 'Developing Understanding', p104–106	Some data about who is affected and how. Role-play discussion. Sample size discussion using acid rain secondary data.

		kill aquatic life, erode stonework and corrode metals.		
C2: Rocks and Metals C2f: Clean Air	4b	Explain why it is important that atmospheric pollution is controlled.	SATIS 101 Sulphurcrete	Investigation/experiment linked to preventing corrosion of buildings by acid rain.
C2: Rocks and Metals C2f: Clean Air	4b	Evaluate the effects of human influences on the composition of air: <ul style="list-style-type: none"> • deforestation • increased energy consumption (burning of fossil fuels) • population. 		
C2: Rocks and Metals C2f: Clean Air	4c	Describe one possible theory for how the atmosphere evolved: <ul style="list-style-type: none"> • degassing from the Earth's crust • initial atmosphere of ammonia and carbon dioxide • formation of water • development of photosynthetic organisms. 		
C2: Rocks and Metals C2g: Faster or Slower (1)	2a	Investigate the rate of reaction using magnesium ribbon or calcium carbonate and dilute hydrochloric acid. Or: Investigate the rate of reaction using magnesium ribbon or calcium carbonate and dilute hydrochloric acid using a gas syringe to collect gas.	School Chemistry Experiments 13.4 Reaction between hydrochloric acid and marble chips	
C2: Rocks and Metals C2g: Faster or Slower (1)	3a	Interpret data in table, graphical and written form involving the effect of temperature and concentration on the rate of reaction, e.g.: <ul style="list-style-type: none"> • reading off values from graph • recognising the fastest reaction by comparing gradients of graphs • recognising the shortest reaction time and hence the fastest reaction. 	School Chemistry Experiments 13.3, 13.3.1 and 13.3.2 Reaction between sodium thiosulfate and hydrochloric acid (effect of changing concentration and temperature)	Sample results give the time for a cross to disappear.
C2: Rocks and Metals	1b	Interpret data in table, graphical and written form	School Chemistry Experiments	Very useful sample results are

C2g: Faster or Slower (1)		<p>involving the effect of concentration and temperature on the rate of reaction, e.g.:</p> <ul style="list-style-type: none"> • deciding when a reaction has finished • comparing the rate of reaction during a reaction • deciding when the rate of reactions is the greatest. 	<p>13.4, 13.4.1 and 13.4.2 Reaction between hydrochloric acid and marble chips (effect of changing concentration and temperature)</p>	<p>provided for a loss-of-mass version of the investigation.</p>
C2: Rocks and Metals C2g: Faster or Slower (1)	1b	<p>Interpret data in table, graphical and written form involving temperature and concentration on the rate of reaction, e.g.:</p> <ul style="list-style-type: none"> • calculating the rate of reaction from the slope of an appropriate graph • extrapolation • interpolation. 	<p>School Chemistry Experiments 13.4, 13.4.1 and 13.4.2 Reaction between hydrochloric acid and marble chips (effect of changing concentration and temperature)</p>	<p>Useful sample results are provided.</p>
C2: Rocks and Metals C2h: Faster or Slower (2)	2a 2b	<p>Class practical to investigate catalysis using hydrogen peroxide and metal oxide catalysts, or zinc and dilute hydrochloric acid with a variety of possible catalysts including copper and copper compounds.</p>	<p>SATIS 207 The Story of Fritz Haber School Chemistry Experiments 13.2 Catalytic decomposition of hydrogen peroxide 13.2.1 Which of a range of compounds is the best catalyst?</p>	<p>Possible link. Sample results are provided for 13.2.1.</p>
C2: Rocks and Metals C2h: Faster or Slower (2)	2a 2b	<p>Investigate surface area using magnesium powder and ribbon with acid or marble chips, or powder with acid.</p>	<p>School Chemistry Experiments 13.4.3 Reaction between hydrochloric acid and marble chips (effect of size of marble chips)</p>	<p>Sample results are provided for small, medium and large marble chips.</p>
C2: Rocks and Metals C2h: Faster or Slower (2)	1b	<p>Interpret data in table, graphical and written form involving the effect of surface area and the addition of a catalyst on the rate of reaction, e.g.:</p> <ul style="list-style-type: none"> • reading off values from a graph • recognising the fastest reaction by comparing gradients of graphs • recognising the shortest reaction time and hence the fastest reaction. 	<p>School Chemistry Experiments 13.4.3 Reaction between hydrochloric acid and marble chips (effect of size of marble chips)</p>	<p>Sample results are provided for small, medium and large marble chips</p>

C2: Rocks and Metals C2h: Faster or Slower (2)	1b	Interpret data in table, graphical and written form involving the effect of surface area and the addition of a catalyst on the rate of reaction, e.g.: <ul style="list-style-type: none"> deciding when a reaction has finished comparing the rate of reaction during a reaction deciding when the rate of reaction is the greatest. 	School Chemistry Experiments 13.4.3 Reaction between hydrochloric acid and marble chips (effect of size of marble chips)	Sample results are provided for small, medium and large marble chips.
C2: Rocks and Metals C2h: Faster or Slower (2)	1b	Interpret data in table, graphical and written form involving surface area and the addition of a catalyst on the rate of reaction, e.g.: <ul style="list-style-type: none"> calculating the rate of reaction from the slope of an appropriate graph extrapolation interpolation. 		
P1: Energy for the Home P1b: Keeping homes warm	3a	Survey to compare the effectiveness of different building materials using information from the internet and builders' merchants.	SATIS 1006 Safe as Houses	Information and questions to allow selection of materials. Comparison of homes around the world.
P1: Energy for the Home P1b: Keeping homes warm	2b	Can use secondary sources, e.g. the internet, to compare the effectiveness of different insulating methods of different combinations of insulating materials.	SATIS 106 The Design Game	Idea is good though needs updating – planning buildings for insulation.
P1: Energy for the Home P1d: Cooking with waves	1b	Interpret given information about the use and safety of mobile phone technology, e.g. using internet searches.		
P1: Energy for the Home P1d: Cooking with waves	4a 4b	Survey of opinions about the positioning of mobile phone masts.		
P2: Living for the Future P2a: Collecting Energy from the Sun	2b	Investigate how the voltage and current from a photocell varies with distance from the light source. Research the use of photocells for providing electricity in remote locations. Investigate how the power of a photocell depends on its surface area. Investigate how photocells can be connected to	SATIS 107 Ashton Island	Group discussion/decision-taking activity based on energy production – includes wind and solar energy.

		increase their voltage.		
P2: Living for the Future P2a: Collecting Energy from the Sun	4a	Describe the advantages and disadvantages of wind turbines.		
P2: Living for the Future P2b: Power Station (1)	3c	Describe and recognise that there is a significant waste of energy in a conventional power station.	SATIS 403 Britain's Energy Sources SATIS 908 Why not Combined Heat and Power?	Calculations based on energy wasted in thermal electricity production.
P2: Living for the Future P2c: Power Station (2)	2b	Use software to find out how a nuclear power station operates.	SATIS 109 Nuclear Power	Relevant discussion/decision-taking activity. Could do with updated data on some briefing sheets.
P2: Living for the Future P2c: Power Station (2)	1a	Survey the efficiency rating of fridges, freezers and light bulbs.	SATIS 704 Electric Lights	
P2: Living for the Future P2c: Power Station (2)	4c	Find out about the evidence for global warming in the last 200 years.	SATIS 1206 Green House Effect	Evidence to consider. Good role-play discussion starter.
P2: Living for the Future P2c: Power Station (2)	4b 4c	Discuss the possible consequences of global warming.		
P2: Living for the Future P2c: Power Station (2)	3c	Discuss the advantages and disadvantages of using fossil fuels for making electricity.	SATIS 201 Energy from Biomass SATIS 502 The Coal Mine Project	For comparison. Good materials for general debate.
P2: Living for the Future P2e: Our Magnetic Field	1a	Survey the sources of background radiation.	SATIS 807 Radiation – How much do you get? SATIS 1105a Radon SATIS 1105b Radon	Excellent table to calculate personal dose received. Information. Investigation to measure Radon levels.
P2: Living for the Future P2e: Our Magnetic Field	1d 2b	Discuss the evidence for the presence of the moon as a result of a collision between the Earth and another planet.		
P2: Living for the Future	2b	Survey the various uses of satellites around the		

P2e: Our Magnetic Field		Earth.		
P2: Living for the Future P2e: Our Magnetic Field	2b	Survey the electricity and communications blackouts caused by solar flares.		
P2: Living for the Future P2g: Threats to Earth	2b	Survey the evidence for the destruction of the dinosaurs by an asteroid.		
P2: Living for the Future P2g: Threats to Earth	2b	Discuss how the surface of the moon provides evidence for the continual bombardment of the Earth by asteroids.		
P2: Living for the Future P2g: Threats to Earth	2b	Survey the history of Halley's comet.		
P2: Living for the Future P2g: Threats to Earth	2b	Survey the exploration of comets by robot spacecraft.		
P2: Living for the Future P2g: Threats to Earth	2b	Discuss the collision of a comet with Jupiter.		
P2: Living for the Future P2g: Threats to Earth	2b	Debate the importance of funding telescopes to search for Near Earth Objects.		
P2: Living for the Future P2g: Threats to Earth	1c	Describe some of the evidence for past asteroid collisions: <ul style="list-style-type: none"> • craters • layers of unusual elements in rocks • sudden changes of fossil numbers between adjacent layers of rock. 		
P2: Living for the Future P2h: The Big Bang	1b	The Big Bang theory is considered. Describe some ideas about the Big Bang theory for the origin of the universe: <ul style="list-style-type: none"> • started with an explosion • the universe is still expanding. 		
P1: Energy for the Home P1f: Wireless signals	3a	Interpret simple information on digital and analogue signals.		
P1: Energy for the Home P1h: Stable Earth	4a 4b	Global Warming. The incidents of skin cancer are rising, even in the UK. Develop ideas surrounding these and other observations. It also examines how climate is being affected by natural and		

		human activity.		
P1: Energy for the Home P1g: Light	4a	Describe how, historically, the use of light greatly increased the speed of communication but that it requires the use of a code.	SATIS 306 Fibre Optics and Communication	Historically interesting data.
P1: Energy for the Home P1g: Light	3a	Interpret given information about sun protection factor (no recall is expected).		
P1: Energy for the Home P1g: Light	3a 4c	Interpret given information about climate change as a result of natural or human activity (no recall is expected).	SATIS 1206 Green House Effect	Evidence to consider. Good role-play discussion starter.