

# AQA Additional Applied Science

## Unit 1: Science in the Workplace

Unit 1: Science in the Workplace			
	Syllabus point (text abridged)	Boardworks presentations	
Unit 1: Science in the Workplace	10.2 Investigating how Science is Used	Identify local, national and international business and service providers that use science	<b>Investigating How Science is Used</b>
		Identify and describe the types of scientific activity that are carried out	<b>Investigating How Science is Used</b> <b>Video Case Study – G&amp;D's</b> <b>Video Case Study – Sportstest</b>
		Describe the importance of the activity to society or the community	<b>Investigating How Science is Used</b> <b>Creating Your Portfolio</b>
		Find out where organizations are located and why	<b>Investigating How Science is Used</b> <b>Creating Your Portfolio</b> <b>Video Case Study – G&amp;D's</b> <b>Video Case Study – Sportstest</b>
		Put the employees into one of three classes; major, significant and small users of science	<b>Investigating How Science is Used</b>
		Identify the job titles and qualifications of the people who perform them	<b>Investigating How Science is Used</b> <b>Creating Your Portfolio</b> <b>Video Case Study – G&amp;D's</b> <b>Video Case Study – Sportstest</b>
		Find out what skills are used by the people employed	<b>Investigating How Science is Used</b> <b>Video Case Study – G&amp;D's</b> <b>Video Case Study – Sportstest</b>
		Find out what skills scientists need in addition to their qualifications	<b>Investigating How Science is Used</b> <b>Video Case Study – G&amp;D's</b> <b>Video Case Study – Sportstest</b>
		Find out what careers are available in science and science-related areas	<b>Investigating How Science is Used</b> <b>Video Case Study – G&amp;D's</b> <b>Video Case Study – Sportstest</b>
		Health and safety checks in the workplace	<b>Working Safely in Science</b>
		Risk assessments for activities performed in the workplace	<b>Working Safely in Science</b>
		What can be done to prevent accidents from hazards in a scientific workplace	<b>Working Safely in Science</b>
		Emergency procedures to be followed if an accident from these hazards happens	<b>Working Safely in Science</b>

# AQA Additional Applied Science

Unit 1: Science in the Workplace		
	Syllabus point (text abridged)	Boardworks presentations
Unit 1: Science in the Workplace  10.3 Working Safely in Science	Identify hazard warning signs	<b>Working Safely in Science</b>
	Identify biological, chemical and physical hazards, including radioactive substances and their associated risks	<b>Working Safely in Science</b>
	Follow health and safety procedures	<b>Working Safely in Science</b>
	Understand the use of risk assessments	<b>Working Safely in Science</b>
	About the safety measures employed for handling radioactive materials and the procedures adopted to ensure that people who work with radioactive materials are not exposed to unacceptable risk	<b>Working Safely in Science Creating Your Portfolio</b>
	About how unwanted or waste materials, including radioactive substances, are disposed of safely	<b>Working Safely in Science Creating Your Portfolio</b>
	The basic first aid to give	<b>Working Safely in Science</b>
	The situations in which it would be dangerous to give first aid	<b>Working Safely in Science</b>
	Why it is useful to have a first aid qualification	<b>Working Safely in Science</b>
	The names of organisations that give training for first aid qualifications and how to contact these organisations	<b>Working Safely in Science</b>
	What must be done if they hear a fire alarm or smoke alarm	<b>Working Safely in Science</b>
	What must be done if they find a fire	<b>Working Safely in Science</b>
	How fire doors function	<b>Working Safely in Science</b>
	Why different types of fire extinguisher are used on different types of fire	<b>Working Safely in Science</b>
	About the use of automatic sprinkler systems	<b>Working Safely in Science</b>

# AQA Additional Applied Science

Unit 1: Science in the Workplace		
	Syllabus point (text abridged)	Boardworks presentations
Unit 1: Science in the Workplace 10.4 Assessment Evidence for Unit 1: Science in the Workplace	<p>A candidate's portfolio of evidence should include: A report of an investigation on workplaces that use scientific skills, describing the work of scientists or those who use scientific skills and how science is important in a wide variety of jobs</p>	<p><b>Creating Your Portfolio</b></p>
	<p>A candidate's portfolio of evidence should include: A report of an investigation carried out into working safely in a scientific workplace and a comparison with the health and safety precautions in their school or college</p>	<p><b>Creating Your Portfolio</b></p>

# AQA Additional Applied Science

Unit 2: Science at Work		
	Syllabus point (text abridged)	Boardworks presentations
Unit 2: Science at Work  11.2 Food Science	Candidates need to know: That the human body requires a variety of nutrients in order to carry out the vital functions of life: respiration, movement, growth and repair of body tissue	<b>Nutrition</b>
	Candidates need to know: The function of the following nutrients: Carbohydrates: energy providers Saturated and unsaturated fats: insulation, energy provision, a viable source of the fat-soluble vitamins (A,D,E and K), protection of vital organs (e.g. kidneys) Proteins: repair of body tissues, growth and energy	<b>Nutrition</b>
	Candidates need to know: The function of the following vitamins: A: healthy eyesight, keeps mucous membranes free from infection B: release of energy from carbohydrate foods, nerve functions D: healthy teeth and bones, absorption of calcium and phosphorus K: aids the clotting of blood C: maintenance of the immune system, absorption of iron, maintenance of skin and linings of the digestive system	<b>Nutrition</b>
	Candidates need to know: the function of the following minerals: iron: helps the body to manufacture haemoglobin, which is responsible for transporting oxygen around the body calcium: for healthy teeth and bones phosphorus: aids release of energy from food zinc: for enzyme action and wound healing	<b>Nutrition</b>
	Candidates need to know: the symptoms of any deficiencies of vitamins within the human body: A: inability to adjust to dim light, dry skin and mucous membrane B: anaemia, mouth sores, nerve cell degeneration C: bleeding gums, poor healing of cuts and wounds, weakening of blood vessels D: weak teeth and bones, which may deform through excess body weight	<b>Diet and Health</b>
	Candidates need to know: examples of foods that are good sources of these nutrients	<b>Nutrition</b> <b>Diet and Health</b>
	Candidates need to know: the health risks of eating too much saturated fat, sugar and salt (heart disease, diabetes and high blood pressure in later life)	<b>Diet and Health</b>

Candidates need to know: the importance of fibre in the diet	<b>Nutrition Diet and Health</b>
Candidates need to know: the importance of controlling the overall energy intake (energy requirements of different individuals, dieting)	<b>Nutrition Diet and Health</b>
Candidates should be able to use data, theories and explanations to: comment on the nutritional value of food	<b>Nutrition Diet and Health</b>
Candidates should be able to use data, theories and explanations to: consider the impact of marketing, fast food and lifestyle on diet and health	<b>Food Manufacturing</b>
Candidates need to know and understand: the function of and examples of the following additives: antioxidants (vitamin C) flavouring and flavour enhancers (monosodium glutamate) colourings (tartrazine) preservatives (benzoic acid) sweeteners (aspartame) thickeners (starch)	<b>Food Manufacturing</b>
Candidates need to know and understand: some advantages of using additives (improved taste, appearance and shelf life)	<b>Food Manufacturing</b>
Candidates need to know and understand: some disadvantages of using additives (toxic nature of some preservatives, hyperactivity linked to tartrazine).	<b>Food Manufacturing</b>
Candidates need to be able to: interpret food labels, including .sell by. dates, quantities and energy values of nutrients and other components of food including food additives	<b>Food Manufacturing</b>
Candidates need to be able to: carry out qualitative food tests for starch, fat, protein, reducing sugar and acidity	<b>Food Testing</b>
Candidates need to be able to: carry out quantitative tests on food and food supplements: – moisture content by evaporation – suspended matter by filtration – acidity of a product by titration – vitamin C content of food – iron content of food supplements.	<b>Food Testing</b>
Candidates should be able to use data, theories and explanations to: evaluate qualitative and quantitative analysis of food	<b>Food Testing</b>
Candidates should be able to use data, theories and explanations to: consider the social and economic impact of information about the long-term harmful effects of eating certain types of food or food containing certain types of additive.	<b>Food Testing Food Manufacturing</b>
Candidates need to be able to: describe the use of bacteria, yeast and other fungi in food production (bread, wine, beer, yoghurt and cheese).	<b>Micro-organisms and Food</b>

Candidates need to know: examples of bacteria that cause food poisoning (campylobacter, E. coli, salmonella)	<b>Micro-organisms and Food</b>
Candidates need to know: optimum conditions for the growth of bacteria (warmth, moisture, food source)	<b>Micro-organisms and Food</b>
Candidates need to know: the common symptoms of food poisoning (stomach pains, vomiting, diarrhoea)	<b>Micro-organisms and Food</b>
Candidates need to know: how food preparation areas are kept free of bacteria (personal hygiene, disinfectants, detergents, sterilisation, disposal of waste, control of pests eg insects, mice)	<b>Micro-organisms and Food</b>
Candidates need to know: some examples of the ways in which the growth of bacteria is slowed down or stopped (refrigeration, freezing, heating, drying, salting, pickling).	<b>Micro-organisms and Food</b>
Candidates should be able, when provided with appropriate information, to: consider the problems of contamination of food products which have led to product recalls or health scares.	<b>Micro-organisms and Food</b>
Candidates need to be able to: carry out tests on food products to determine the level of bacteria in the food	<b>Microbiology Methods</b>
Candidates need to be able to: use aseptic techniques to swab areas to detect the presence of bacteria	<b>Microbiology Methods</b>
Candidates need to be able to: complete serial dilutions to do an accurate bacterial count	<b>Microbiology Methods</b>
Candidates need to be able to: make streak plates to identify the types of bacteria present.	<b>Microbiology Methods</b>
Candidates need to: understand that as crops grow they remove essential nutrients from the soil and that these nutrients need to be replaced	<b>Farming</b>
Candidates need to: know that plants need the minerals nitrates, phosphates, potassium and magnesium, which they obtain from soil, for healthy growth	<b>Farming</b>
Candidates need to: describe how intensive farming increases crop yields by using artificial fertilisers, pesticides, herbicides and fungicides	<b>Farming</b>
Candidates need to: describe how intensive farming increases meat production by using controlled environments (eg hens, pigs)	<b>Farming</b>
Candidates need to: describe how organic farming uses the alternative methods of natural fertilisers, natural pesticides and mechanical methods of eliminating weeds in crop production	<b>Farming</b>

	Candidates need to: describe how organic farming keeps animals under more natural conditions.	<b>Farming</b>
	Candidates should be able to assess the applications and implications of science when: comparing the advantages and disadvantages of both types of farming (food quality, cost, animal welfare, effect on environment).	<b>Farming</b>
	Candidates need to be able to: plan and assess how well a plant has grown under various conditions.	<b>Farming</b>

# AQA Additional Applied Science

## Unit 2: Science at Work

Unit 2: Science at Work			
	Syllabus point (text abridged)	Boardworks presentations	
Unit 2: Science at Work	11.3 Forensic Science		
		Candidates need to be able to: describe how to avoid the contamination of evidence at a crime scene by: restricting access wearing protective clothing using appropriate methods of sampling, storage and recording	<b>Collecting Evidence</b>
		Candidates need to be able to: describe how to take appropriate samples from large quantities of materials	<b>Collecting Evidence</b>
		Candidates need to be able to: describe how to collect and record the following types of forensic samples: broken glass fibres soil fingerprints blood.	<b>Collecting Evidence</b>
		Candidates should be able to use data, theories and explanations to: suggest why an inappropriate collection or sampling technique may lead to uncertainty about the validity and reliability of evidence.	<b>Collecting Evidence</b>
		Candidates need to be able to: describe a suitable technique to make a permanent record of a mark or impression found at the scene of a crime	<b>Collecting Evidence</b>
		Candidates need to be able to: describe a suitable technique to reveal, lift and store a fingerprint left by a suspect at the scene of a crime	<b>Collecting Evidence</b>
		Candidates need to be able to: recognise the three distinctive types of fingerprint pattern (loop, arch, whorl)	<b>Collecting Evidence</b>
		Candidates need to be able to: make measurements to enable a comparison of crime scene marks and impressions with real objects.	<b>Collecting Evidence</b>
		Candidates should be able to use data, theories and explanations to: suggest which measurements or distinctive features could be used to make a comparison	<b>Collecting Evidence</b>
	Candidates should be able to use data, theories and explanations to: state whether there is a possible match between two different samples using distinctive marks or impressions.	<b>Collecting Evidence</b>	

# AQA Additional Applied Science

Unit 2: Science at Work		
	Syllabus point (text abridged)	Boardworks presentations
Unit 2: Science at Work	11.3 Forensic Science	
	Candidates need to be able to: describe the structure of ionic compounds as consisting of a giant lattice held together by strong forces of attraction between positively charged and negatively charged ions (eg sodium chloride)	<b>Ionic and Covalent Substances</b>
	Candidates need to be able to: explain why ionic compounds have high melting points.	<b>Ionic and Covalent Substances</b>
	Candidates should be able to use data, theories and explanations to: state whether an ionic compound is soluble in water	<b>Ionic and Covalent Substances</b>
	Candidates should be able to use data, theories and explanations to: write the formula for an ionic compound.	<b>Ionic and Covalent Substances</b>
	Candidates need to be able to: recall that many substances that are obtained from living materials are organic compounds with covalent bonding	<b>Ionic and Covalent Substances</b>
	Candidates need to be able to: name some simple covalent compounds, given their formulae, and state the formula, given the name of the compound (carbon dioxide, CO <sub>2</sub> , water, H <sub>2</sub> O, ethanol, C <sub>2</sub> H <sub>5</sub> OH, glucose, C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> )	<b>Ionic and Covalent Substances</b>
	Candidates need to be able to: understand that, although the covalent bonds between the atoms in a molecule are strong, the forces between the molecules are weak	<b>Ionic and Covalent Substances</b>
	Candidates need to be able to: explain why covalent compounds have low melting points and boiling points	<b>Ionic and Covalent Substances</b>
	Candidates need to be able to: describe how to detect the presence of Na <sup>+</sup> , K <sup>+</sup> , Ca <sup>2+</sup> and Cu <sup>2+</sup> ions using flame tests	<b>Analysing Substances</b>
	Candidates need to be able to: describe how to test the solubility of a compound in water	<b>Analysing Substances</b>
	Candidates need to be able to: describe how to obtain a clear solution for use in further tests	<b>Analysing Substances</b>
Candidates need to be able to: describe the use of universal indicator paper to measure the pH of a solution	<b>Analysing Substances</b>	

# AQA Additional Applied Science

Unit 2: Science at Work		
	Syllabus point (text abridged)	Boardworks presentations
Unit 2: Science at Work  11.3 Forensic Science	Candidates need to be able to: describe the use of precipitation reactions to detect the presence of $\text{Ca}^{2+}$ , $\text{Cu}^{2+}$ , $\text{Fe}^{2+}$ , $\text{Fe}^{3+}$ , $\text{Pb}^{2+}$ $\text{Cl}^-$ and $\text{SO}_4^{2-}$	<b>Analysing Substances</b>
	Candidates need to be able to: describe the reaction of $\text{CO}_3^{2-}$ ions with dilute acid	<b>Analysing Substances</b>
	Candidates need to be able to: describe the test for carbon dioxide using limewater	<b>Analysing Substances</b>
	Candidates need to be able to: describe the test for ethanol using acidified potassium dichromate solution and outline the use of this reaction in the original breathalyser	<b>Analysing Substances</b>
	Candidates need to be able to: describe the test for glucose using Benedict's solution.	<b>Analysing Substances</b>
	Candidates should be able to use data, theories and explanations to: name the product of a precipitation reaction	<b>Analysing Substances</b>
	Candidates should be able to use data, theories and explanations to: draw conclusions about the identity of substances when given the results of a series of chemical tests	<b>Analysing Substances</b>
	Candidates should be able to assess the applications of science when: suggesting ways to improve the accuracy and reliability of the evidence being collected.	<b>Analysing Substances Analysing Other Evidence Analysing Blood</b>
	Candidates need to be able to: describe the separation of coloured mixtures using thin layer and paper chromatography with both water and non-aqueous solvents	<b>Analysing Substances</b>
	Candidates need to be able to: explain why different colours in a mixture are carried different distances by the solvent and how this observation can be used to match the mixture with known samples or identify the substances present in the mixture.	<b>Analysing Substances</b>
	Candidates need to be able to: describe the distinctive features of fibres, bullets, seeds and soil that enable samples to be matched.	<b>Analysing Other Evidence</b>
	Candidates should be able to use data, theories and explanations to: describe the distinctive features of pollen grains and layers of paint	<b>Analysing Other Evidence</b>

# AQA Additional Applied Science

Unit 2: Science at Work		
	Syllabus point (text abridged)	Boardworks presentations
Unit 2: Science at Work  11.3 Forensic Science	Candidates should be able to use data, theories and explanations to: suggest why instrumental techniques provide more precise and reliable evidence than that obtained from simple laboratory experiments	<b>Analysing Other Evidence</b>
	Candidates should be able to use data, theories and explanations to: state whether observable features indicate a link between a suspect and the scene of a crime	<b>Analysing Blood Analysing Substances Analysing Other Evidence Using Databases</b>
	Candidates should be able to use data, theories and explanations to: interpret data and state whether there is a high probability that a suspect is linked to the scene of a crime.	<b>Analysing Blood Analysing Substances Analysing Other Evidence Using Databases</b>
	Candidates need to know and understand: the composition of blood (red blood cells, white blood cells, platelets, plasma)	<b>Analysing Blood</b>
	Candidates need to know and understand: the four main blood groups: A, B, AB and O	<b>Analysing Blood</b>
	Candidates need to know and understand: that DNA is located in the nucleus of the cell	<b>Analysing Blood</b>
	Candidates need to know and understand: that DNA is unique to the individual (except identical twins)	<b>Analysing Blood</b>
	Candidates need to know and understand: that children inherit their DNA from their parents	<b>Analysing Blood</b>
	Candidates need to know and understand: how charged particles move in an electric field and how this movement can be used to separate them (eg in order to produce a DNA profile).	<b>Analysing Blood</b>
	Candidates should be able to use data, theories and explanations to: draw conclusions from the results of blood tests and DNA profiling.	<b>Analysing Blood</b>
	Candidates need to be able to: describe how light is refracted at a glass surface	<b>Analysing Other Evidence</b>
	Candidates should be able to use data, theories and explanations to: describe the distinctive features of pollen grains and layers of paint	<b>Analysing Other Evidence</b>

# AQA Additional Applied Science

Unit 2: Science at Work		
	Syllabus point (text abridged)	Boardworks presentations
Unit 2: Science at Work	11.3 Forensic Science	
	Candidates need to be able to: describe the procedure to measure the refractive index of a glass block	<b>Analysing Other Evidence</b>
	Candidates need to be able to: describe how the refractive index of a glass fragment is determined.	<b>Analysing Other Evidence</b>
	Candidates need to be able to: give a method to record a witness description (artist impression, identikit)	<b>Using Databases</b>
	Candidates need to be able to: describe the type of information stored in the databases used in forensic investigations	<b>Using Databases</b>
	Candidates need to be able to: explain how databases can be searched to find possible matches or to exclude a suspect from an investigation.	<b>Using Databases</b>
	Candidates should be able to use data, theories and explanations to: draw conclusions based on the facts and state whether, on the basis of the evidence, a suspect may have been present at a crime scene or may have committed a crime.	<b>Using Databases</b> <b>Analysing Substances</b> <b>Analysing Other Evidence</b> <b>Analysing Blood</b> <b>Collecting Evidence</b>

# AQA Additional Applied Science

Unit 2: Science at Work		
	Syllabus point (text abridged)	Boardworks presentations
Unit 2: Science at Work	11.4 Sports Science	
	Candidates need to be able to: describe the structure of the human cardiovascular system	<b>The Cardiovascular System</b>
	Candidates need to be able to: describe the function of the heart and lungs in providing glucose and oxygen to the muscles	<b>The Cardiovascular System</b>
	Candidates need to be able to: describe the physiological changes that occur during exercise (linked to breathing and heart rate)	<b>The Cardiovascular System</b>
	Candidates need to be able to: describe how the structure of the thorax enables ventilation of the lungs	<b>The Cardiovascular System</b>
	Candidates need to be able to: describe how respiration may be aerobic or anaerobic depending on the availability of oxygen, and that .oxygen debt. may occur in muscles	<b>The Cardiovascular System</b>
	Candidates need to be able to: describe how humans maintain a constant body temperature (by sweating and changing the diameter of capillaries)	<b>The Cardiovascular System</b>
	Candidates need to be able to: explain why humans need to maintain the correct amount of water in the body (water loss through urine and sweat)	<b>The Cardiovascular System</b>
	Candidates need to be able to: describe how the blood glucose levels are controlled (by the hormones insulin and glucagon)	<b>The Cardiovascular System</b>
	Candidates need to be able to: describe the antagonistic action of muscles (biceps and triceps).	<b>Testing Fitness</b>
	Candidates should be able to take baseline measurements of: the heart rate (pulse) and the breathing rate at rest/during exercise and how to monitor the recovery rate immediately after exercise	<b>Testing Fitness</b>
	Candidates should be able to take baseline measurements of: the vital capacity and tidal volume of the lungs using a spirometer	<b>Testing Fitness</b>
Candidates should be able to take baseline measurements of: the glucose content of blood and urine using a dip-stick method	<b>Testing Fitness</b>	

# AQA Additional Applied Science

## Unit 2: Science at Work

Unit 2: Science at Work			
	Syllabus point (text abridged)	Boardworks presentations	
Unit 2: Science at Work	11.4 Sports Science	Candidates should be able to take baseline measurements of: the strength of a muscle using the grip test method.	Testing Fitness
		Candidates should be able to use data, theories and explanations to: suggest suitable measurements to take in order to monitor physiological changes during exercise	Testing Fitness
		Candidates should be able to use data, theories and explanations to: explain the importance of taking accurate and reliable measurements	Testing Fitness
		Candidates should be able to use data, theories and explanations to: calculate pulse and breathing rate.	Testing Fitness
		Candidates need to be able to: describe how the daily energy requirements for an individual depend on the mass of the individual (weight) and that these requirements increase during exercise	Sports Nutrition Sporting Success
		Candidates need to be able to: explain that Body Mass Index is an indicator of ideal weight	Sports Nutrition Testing Fitness Sporting Success
		Candidates need to be able to: describe methods used to record dietary habits of individuals (24 hour dietary recall and diet diaries)	Sports Nutrition
		Candidates need to be able to: calculate: basic daily energy requirements (BER) (for every kg of body mass 1.3 Kcal are required every hour) Body Mass Index: $\text{weight}/\text{height}^2$	Sports Nutrition
		Candidates need to be able to: explain why athletes increase their intake of complex carbohydrates (bread, pasta, rice) before competing (increase glycogen stores in the muscles)	Sports Nutrition Sporting Success
		Candidates need to be able to: explain why some athletes eat a diet high in protein (build muscles)	Sports Nutrition Sporting Success
		Candidates need to be able to: describe the composition of isotonic sports drinks (water, glucose and electrolytes).	Sports Nutrition
Candidates should be able to assess the applications and implications of science when: comparing and contrasting a normally balanced diet with that for a person competing in sport	Sports Nutrition		

# AQA Additional Applied Science

Unit 2: Science at Work		
	Syllabus point (text abridged)	Boardworks presentations
Unit 2: Science at Work	11.4 Sports Science	
	Candidates should be able to assess the applications and implications of science when: comparing and contrasting a range of different diets and suggest their suitability for an athlete.	<b>Sports Nutrition</b>
	Candidates need to be able to: explain why sports clothing (including footwear) needs to be lightweight, durable and comfortable	<b>Materials for Sport</b>
	Candidates need to be able to: explain why friction is important in the design of sports equipment (grip on soles of shoes, aerodynamics of cycle helmet)	<b>Materials for Sport</b>
	Candidates need to be able to: give examples of materials (wood, metal, polymer, ceramic, composite) used to make sports equipment (eg clubs, racquets, bicycle frames, protective equipment)	<b>Materials for Sport</b>
	Candidates need to be able to: give the characteristic properties of metals (high tensile strength, thermal conductivity, flexibility, hardness)	<b>Materials for Sport</b>
	Candidates need to be able to: give the characteristic properties of polymers (low density, flexibility, low thermal conductivity)	<b>Materials for Sport</b>
	Candidates need to be able to: give the characteristic properties of ceramics (high melting point, low thermal conductivity)	<b>Materials for Sport</b>
	Candidates need to be able to: explain the properties of composites in terms of the properties of their components	<b>Materials for Sport</b>
	Candidates need to be able to: give examples of different types of materials (natural: cotton, leather) (synthetic: polyester, lycra) used for sports clothing	<b>Materials for Sport</b>
	Candidates need to be able to: describe the advantages and disadvantages of synthetic materials compared with natural materials	<b>Materials for Sport</b>
Candidates need to be able to: describe how different properties of materials are desirable for different clothing and equipment: low density for increasing speed smooth for aerodynamic shapes high tensile strength for materials providing support thermal insulation to help maintain body temperature large surface area for cooling flexibility for comfortable equipment and clothing shock absorbent materials for footwear.	<b>Materials for Sport</b>	

# AQA Additional Applied Science

Unit 3: Using Scientific Skills		
	Syllabus point (text abridged)	Boardworks presentations
Unit 3: Using Scientific Skills  12.2 Food Science	In this vocational option, candidates need to: carry out one investigation which relates to food or components that may be found in food or food supplements.	<b>Using Scientific Skills: Food Report 1</b> <b>Using Scientific Skills: Food Report 2</b>
	Candidates should produce a report of their investigation which: describes the purpose of the investigation	<b>Using Scientific Skills: Food Report 1</b> <b>Using Scientific Skills: Food Report 2</b>
	Candidates should produce a report of their investigation which: includes a plan and risk assessment for the investigation	<b>Using Scientific Skills: Food Report 1</b> <b>Using Scientific Skills: Food Report 2</b>
	Candidates should produce a report of their investigation which: draws conclusions from, and evaluates, the investigation	<b>Using Scientific Skills: Food Report 1</b> <b>Using Scientific Skills: Food Report 2</b>
	Candidates should produce a report of their investigation which: explains how a food scientist might use the results of the investigation.	<b>Using Scientific Skills: Food Report 1</b> <b>Using Scientific Skills: Food Report 2</b>

# AQA Additional Applied Science

Unit 3: Using Scientific Skills		
	Syllabus point (text abridged)	Boardworks presentations
Unit 3: Using Scientific Skills  12.3 Forensic Science	In this vocational option, candidates need to: carry out a forensic investigation, which will include a number of tests and techniques for comparing and matching samples in order to indicate the probability of a suspect being linked to a crime. Candidates should remember that a match does not necessarily prove that a suspect has committed a crime.	<b>Using Scientific Skills: Forensic Report 1</b> <b>Using Scientific Skills: Forensic Report 2</b>
	Candidates should produce a report of their investigation which: describes the purpose of the tests	<b>Using Scientific Skills: Forensic Report 1</b> <b>Using Scientific Skills: Forensic Report 2</b>
	Candidates should produce a report of their investigation which: includes a plan and risk assessment for the tests	<b>Using Scientific Skills: Forensic Report 1</b> <b>Using Scientific Skills: Forensic Report 2</b>
	Candidates should produce a report of their investigation which: draws conclusions from, and evaluates, the complete investigation	<b>Using Scientific Skills: Forensic Report 1</b> <b>Using Scientific Skills: Forensic Report 2</b>
	Candidates should produce a report of their investigation which: explains how a forensic scientist might use the results of the investigation to indicate the probability of a .suspect. being linked to a crime.	<b>Using Scientific Skills: Forensic Report 1</b> <b>Using Scientific Skills: Forensic Report 2</b>

# AQA Additional Applied Science

## Unit 3: Using Scientific Skills

Unit 3: Using Scientific Skills		
	Syllabus point (text abridged)	Boardworks presentations
Unit 3: Using Scientific Skills 12.5 Sports Science	In this vocational option, candidates need to: carry out <b>one</b> scientific investigation in which they: <b>either</b> devise, apply, monitor and evaluate a personal fitness plan for a particular sport or purpose <b>or</b> investigate the appropriateness of materials that could be used in sport for a particular purpose.	<b>Using Scientific Skills: Sports Report 1</b> <b>Using Scientific Skills: Sports Report 2</b>
	Candidates should produce a report of their investigation which: describes the purpose of the investigation	<b>Using Scientific Skills: Sports Report 1</b> <b>Using Scientific Skills: Sports Report 2</b>
	Candidates should produce a report of their investigation which: describes how the investigation is connected with a particular sport	<b>Using Scientific Skills: Sports Report 1</b> <b>Using Scientific Skills: Sports Report 2</b>
	Candidates should produce a report of their investigation which: includes a plan and risk assessment for the investigation	<b>Using Scientific Skills: Sports Report 1</b> <b>Using Scientific Skills: Sports Report 2</b>
	Candidates should produce a report of their investigation which: draws conclusions from, and evaluates, the investigation	<b>Using Scientific Skills: Sports Report 1</b> <b>Using Scientific Skills: Sports Report 2</b>
	Candidates should produce a report of their investigation which: explains how a sports scientist might use the results of the investigation.	<b>Using Scientific Skills: Sports Report 1</b> <b>Using Scientific Skills: Sports Report 2</b>