



Department	Biology	Year Group	8	Assessment	
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Level	Breathing	Digestion	Respiration	Photosynthesis	Evolution	Inheritance
Level 1	I can explain what breathing is.	I can explain the role of the digestive system.	I can state that all living things respire to produce energy.	I can state what photosynthesis is.	I can state that evolution is a theory that animal and plant species have descended from species that lived in the past.	I know that inherited characteristics are the result of genetic information carried in sections of DNA.
Level 2	I can name the parts of the lung and their role in breathing.	I can name the nutrients needed for a balanced diet.	I can explain why all living things need to respire.	I can use a word equation to describe photosynthesis in plants and algae.	I can use evidence to explain why a species has become extinct or has adapted to changing conditions.	I can use a diagram to show the relationship between DNA, chromosomes and genes.
Level 3	I can explain how exercise and smoking affect the respiratory system.	I can explain the events that take place in order to break down a meal into simple food molecules.	I can use word equations to describe aerobic and anaerobic respiration.	I can explain why other organisms are dependent on photosynthesis.	I can explain the stages of natural selection.	I can use a diagram to show how genes are inherited.
Level 4	I can explain how changes in volume and pressure inside the chest move gases in and out of the lungs.	I can describe how the organs of the digestive system are adapted to their role.	I can explain how specific activities involve aerobic and anaerobic respiration.	I can describe the ways in which plants obtain resources for photosynthesis.	I can explain how a lack of biodiversity affects an ecosystem.	I can explain why offspring from the same parents look similar but are not usually identical.
Level 5	I can predict how a change in the gas exchange system could affect other processes in the body.	I can design a diet for somebody with specific dietary needs.	I can describe the similarities and differences between aerobic and anaerobic respiration.	I can suggest how particular conditions could affect plant growth.	I can predict and explain the changes in a population over time due to natural selection.	I can suggest some of the benefits of scientists knowing all the genes in the human genome.



Department	Chemistry	Year Group	8	Assessment	
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Level	Periodic Table	Chemical Energy	Climate	Elements	Types of reaction	Earth Resources
Level 1	I can decide if an element is a metal or a non-metal using the periodic table to help.	I know that a chemical bond is a force that holds atoms together in molecules.	I know that methane and carbon dioxide are greenhouse gases.	I know that most substances are not pure elements, but compounds or mixtures containing atoms of different elements.	I can use the word combustion to describe a reaction with oxygen in which energy is transferred to the surroundings as heat and light.	I know that there is only a certain quantity of any resource on Earth, so the faster it is extracted, the sooner it will run out.
Level 2	I can identify Group 1, Group 7 and Group 0 on the periodic table.	I can use the terms exothermic and endothermic to describe reactions that get hot or cold.	I can use the terms global warming and greenhouse effect correctly.	I can use the words, element, compound, atom and molecule correctly.	I can use the word thermal decomposition to describe a reaction where a single reactant is broken down into simpler products by heating. I can identify reactants and products in a chemical reaction.	I can explain why recycling of some materials is particularly important.
Level 3	I can use data to describe a trend in physical properties.	I can explain the terms exothermic and endothermic in terms of energy transfer.	I can use a diagram to show how carbon is recycled in the environment and through living things.	I can represent atoms, molecules and elements, mixtures and compounds using particle diagrams.	I can write word equations from information about chemical reactions.	I know that most metals are found combined with other elements, as a compound, in ores. The more reactive a metal, the more difficult it is to separate it from its compound.
Level 4	I can use data showing a pattern in physical properties to estimate a missing value for an element.	I know that during a chemical reaction bonds are broken (requiring energy) and new bonds formed (releasing energy). If the energy released is greater than the energy required, the reaction is exothermic. If the reverse, it is endothermic.	I can describe how global warming can impact on climate and local weather patterns.	I can, given chemical formulae, name the elements present and their relative proportions.	I can balance a symbol equation.	I can justify the choice of extraction method for a metal, given data about reactivity.
Level 5	I can predict the position of an element in the periodic table based on information about its physical and chemical properties.	I can predict whether a chemical reaction will be exothermic or endothermic given data on bond strengths.	I can evaluate claims that human activity is causing global warming or climate change.	I can deduce a pattern in the formula of similar compounds and use it to suggest formulae for unfamiliar ones.	I can use known masses of reactants or products to calculate unknown masses of the remaining reactant or products.	I can suggest ways in which changes in behaviour and the use of alternative materials may limit the consumption of natural resources.



Department	Physics	Year Group	8	Assessment	
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Level	Pressure	Magnetism /Electromagnets	Work	Speed	Heating and cooling	Universe
Level 1	I know that pressure in a liquid increases with depth.	I know that a magnet has a North and a South pole, and that two like poles repel and two unlike poles attract. I know that an electromagnet is a non- permanent magnet that can be turned on and off.	I know that work is done when a force moves an object.	I know that speed is how much distance is covered in how much time.	I know that when there is a temperature difference, energy transfers from the hotter to the cooler object.	I can draw a picture of our solar system including the Sun, Moon and planets.
Level 2	I can recall the formula Pressure = Force/Area, and can describe what causes atmospheric pressure.	I can draw a diagram of the magnetic field lines around a bar magnet & know that the field lines flow from North to South. I know that an electromagnet uses the principle that a current through a wire causes a magnetic field.	I can recall the formula work done = force x distance, and know that the unit of work is the Joule.	I know that if the resultant force on an object is non- zero, it slows down, speeds up or changes direction.	I know that the thermal energy of an object depends upon its mass and temperature.	I can use a model of our solar system to explain day length and seasons.
Level 3	I can use the formula for pressure to calculate pressures in solids, liquids and gases in simple situations.	I can use the idea of field lines to show how the direction/strength of the field around a magnet varies. I can use a diagram to explain how an electromagnet can be made/how to change its strength.	I know that machines make work easier by reducing the force needed and increasing the distance travelled.	I can recall and use the equation speed=distance/time in simple situations.	I can explain how thermal energy is transferred through different pathways; by particles in conduction and convection, and by radiation.	I can use the words galaxy, light year, star, orbit and exoplanet correctly and in context.
Level 4	I can explain why objects sink or float depending upon their weight and the upthrust acting on them.	I can describe how the strength of a magnetic field varies with distance from the magnet & explain the choice of electromagnets or permanent magnets for a device in terms of their properties.	I can draw a diagram to explain how a lever makes a job easier.	I understand that different observers judge speeds differently if they are in motion too.	I can explain how a method of heat insulation works in terms of conduction, convection and radiation.	I can explain why places on Earth experience different daylight hours and amounts of sunlight during the year & explain the choice of units for measuring distance.
Level 5	Given unfamiliar situations I can use the formula for pressure to calculate fluid pressure or stress on a surface.	I can predict the pattern of field lines & force around two magnets placed near each other. I can suggest how bells, circuit breakers & loudspeakers work, from diagrams.	I can compare and contrast the advantages of different levers in terms of the forces needed and distances moved.	I can suggest how the motion of two objects moving at different speeds in the same direction would appear to each other.	I can compare and contrast the three different pathways through which heat moves.	I can predict patterns in day length, intensity of the Sun of an objects shadow at different latitudes.