Science JB Grade G7

Time	Content	Skill	Assessment
3 weeks	Life processes and cells	listing features of life explaining the meaning and importance of each feature comparing and contrasting plant and animal cell examining examples of specialised cells stressing their adaptations to perform specialised function explaining the relationship between cells, tissues organs and organisms contrasting unicellular and multicellular organisms	creating a living feature major test
4 weeks	Human organ systems	describing the structure and functions of human digestive,excretory, respiratory, circulatory, reproductive, nervous, endocrine, skeletal and muscle systems explains the functions and care of teeth understand the relation between the need for food for activity and growth, and about the importance of an adequate and varied diet for health explain the effect of exercise and rest on pulse rate explains that humans and some other animals have skeletons and muscles to support and protect their bodies and to help them to move define the main stages of the human life cycle explains the effects on the human body of tobacco, alcohol and other drugs, and how these relate to their personal health explain the importance of exercise for good health.	digestive system-project making paper skeleton planning and caring out experiment concerning pulse rate and exercise major test
2 weeks	Plant organs	relating four plant organs with their functions explain the effect of light, air, water and temperature on plant growth explain the role of the leaf in producing new material for growth explain that the root anchors the plant, and that water and minerals are taken in through the root and transported through the stem to other parts of the plant enumerate the parts of the flower [for example, stigma, stamen, petal, sepal] and their role in the life cycle of flowering plants, including pollination, seed formation, seed dispersal and germination.	major test
2 week	Variation and classification	use branching database to produce and use keys explain how locally occurring animals and plants can be identified and assigned to groups explain that the variety of plants and animals makes it important to identify them and assign them to groups.	creating a key quick test
1 weeks	Living things in their environment	understand ways in which living things and the environment need protection gives examples of the different plants and animals found in different habitats explain how animals and plants in two different habitats are suited to their environment use food chains to show feeding relationships in a habitat explain how nearly all food chains start with a green plant	recognise dry individuals of plants major test

		explain the role of micro-organisms, gives examples and explain structure	
2 weeks	Grouping and classifying materials	compare everyday materials and objects on the basis of their material properties, including hardness, strength, flexibility and magnetic behaviour, and to relate these properties to everyday uses of the materials • explain that some materials are better thermal insulators than others • explain that some materials are better electrical conductors than others • describe and group rocks and soils on the basis of their characteristics, including appearance, texture and permeability • recognise differences between solids, liquids and gases, in terms of ease of flow and maintenance of shape and volume.	major test
3 weeks	Changing materials	describe changes that occur when materials are mixed [for example, adding salt to water] describe changes that occur when materials [for example, water, clay, dough] are heated or cooled explain that temperature is a measure of how hot or cold things are define reversible changes, including dissolving, melting, boiling, condensing, freezing and evaporating explain the part played by evaporation and condensation in the water cycle define non-reversible changes [for example, vinegar reacting with bicarbonate of soda, plaster of Paris with water] result in the formation of new materials that may be useful explains that burning materials [for example, wood, wax, natural gas] results in the formation of new materials and that this change is not usually reversible.	major test
2 weeks	Separating mixtures of materials	separate solid particles of different sizes by sieving [for example, those in soil] explains that some solids [for example, salt, sugar] dissolve in water to give solutions but some [for example, sand, chalk] do not separate insoluble solids from liquids by filtering explain how to recover dissolved solids by evaporating the liquid from the solution use knowledge of solids, liquids and gases to decide how mixtures might be separated.	caring out simple experiments major test
3 weeks	Electricity	construct circuits, incorporating a battery or power supply and a range of switches, to make electrical devices work [for example, buzzers, motors] explain how changing the number or type of components [for example, batteries, bulbs, wires] in a series circuit can make bulbs brighter or dimmer represent series circuits by drawings and conventional symbols, and how to construct series circuits on the basis	construct simple circuit major test

		of drawings and diagrams using conventional symbols.	
3 weeks	Forces and motion	□ characterise the forces of attraction and repulsion between magnets, and about the forces of attraction between magnets and magnetic materials □ explain that objects are pulled downwards because of the gravitational attraction between them and the Earth □ define friction, including air resistance, as a force that slows moving objects and may prevent objects from starting to move □ explain that when objects [for example, a spring, a table] are pushed or pulled, an opposing pull or push can be felt □ measure forces and identify the direction in which they act.	□major test
3 weeks	Light and sound	□ explain that light travels from a source □ explain that light cannot pass through some materials, and how this leads to the formation of shadows □ define light reflection from surfaces [for example, mirrors, polished metals] □ explains the process of vision □ explain that sounds are made when objects [for example, strings on musical instruments] vibrate but that vibrations are not always directly visible □ change the pitch and loudness of sounds produced by some vibrating objects [for example, a drum skin, a plucked string] □ explain that vibrations from sound sources require a medium [for example, metal, wood, glass, air] through which to travel to the ear.	□major test