Year 8 Science

Self-assessment

Kings Langley School
Science Department

NAME:_____
TEACHER: _____
FORM: _____

Contents

Topic 7 Variation and plant reproduction	Check 1	Check 2	Check 3	Check 4
I can define variation				
I can state the causes of variation				
I can state the importance of variation				
I can define biodiversity				
I can state why biodiversity is important				
I can describe changes that may occur in an ecosystem				
I can define sampling				
I can explain why it is important that samples are random				
I can state the conventions for drawing a results table				
I can explain why you record abiotic data when sampling				
I can explain how to ensure your estimate is accurate				
I can explain why humans need plants and animals				
I can explain why organisms have scientific names				
I can state the conventions for writing scientific names				
I can explain how organisms are classified				
I can define asexual reproduction				
I can define clones				
I can explain how plants reproduce asexually				
I can discuss the advantages of asexual reproduction				
I can discuss the disadvantages of asexual reproduction				
I can define sexual reproduction				
I can define fertilisation				
I can state where the male gametes are found				
I can state where female plant gametes found				
I can describe how the structure of the flower is adapted for reproduction				
I can describe the differences between wind-pollinated flowers and animal-pollinated flowers are different				
I can explain the importance of fertilisation				
I can explain why pollination is important				
I can explain why the decline of pollinators is a concern				
I can state the advantages of cross pollination				
I can describe how seeds are dispersed				
I can explain the importance of seed dispersal				
I can explain why should seeds should be preserved				
I can explain how seeds are preserved				

Topic 8 Energy on Earth	Check 1	Check 2	Check 3	Check 4
I can explain what food chains represent				
I can state what is at the beginning of all food chains				
I can explain the importance of photosynthetic organisms				
I can define biomass				
I can give two examples of photosynthetic organisms.				
I can define a producer				
I can define a primary consumer				
I can define a secondary consumer				
I can define a tertiary consumer				
I can define a trophic level				
I can explain what food webs represent				
I can define interdependence				
I can state how much energy is transferred from light by plants during photosynthesis				
I can state how much energy is transferred from one trophic level to the next				
I can describe useful energy				
I can describe wasted energy				
I can define energy dissipation				
I can define power				
I can calculate power				
I can state uses of energy				
I can define energy resources				
I can define renewable energy resources				
I can define non-renewable energy resources				
I can define a hypothesis				
I can define a prediction				
I can define independent variable				
I can define dependent variable				
I can explain why variables need to be controlled				
I can sate the conventions for drawing a scientific diagram				
I can recall the type of graph used to show continuous data?				
I can explain how fossil fuel power stations generate electricity				
I can state the chemical reaction that occurs in power stations				
I can recall the equation for this chemical reaction				

Topic 9 Chemical reactions 2	Check 1	Check 2	Check 3	Check 4
I can describe the fire triangle				
I can describe the different ways of putting out a fire				
I can describe complete combustion				
I can give an example of a hydrocarbon				
I can state the reactants in combustion				
I can state the products in combustion				
I can describe how to test for carbon dioxide				
I can describe how to test for water as a product of combustion				
I can state the products of incomplete combustion				
I can define an exothermic reaction				
I can define an endothermic reaction				
I can give an example of a chemical reaction that is exothermic				
I can state two everyday uses of exothermic reactions				
I can give an example of a chemical reaction that is endothermic				
I can state one everyday use of endothermic reactions				
I know the law of conservation of energy				
I can describe what must happen to particles of elements if they are to react				
I can describe what happens in stage 1 of a chemical reaction				
I can describe what happens in stage 2				
I can define activation energy				

Topic 10 The periodic table	Check 1	Check 2	Check 3	Check 4
I can explain the order of elements in early tables				
I can explain why some elements were absent from early tables				
I can explain the significance of Mendeleev's table				
I can explain why other scientists accepted his periodic table				
I can describe a period and the similarities that elements within a period have in common				
I can describe a group and the similarities the elements within a group have in common				
I can identify the metals in the periodic table				
I can describe the properties of metals				
I can describe some observations and tests used to decide if a substance is a metal or a non-metal				
I can explain the difference between a physical property and a chemical property				
I can describe the physical properties of non-metals				
I can explain why elements form ions				
I can state the charge on a metal ion				
I can state the charge on a non-metal ion				
I can name the type of oxides formed when non-metals react with oxygen				
I can name the type of oxide formed when metals react with oxygen				
I can describe how to test the pH of a solution				
I can name the type of substance made when a metal reacts with oxygen				
I can describe oxidation				
I can describe reduction				
I can describe the reaction that produces iron oxide				
I can name the type of reaction that produces iron oxide				
I can name the type of reaction use to extract iron from its oxide				
I can explain what determines how reactive a metal is				
I can explain why a metal would have a greater tendency to lose electrons and be more reactive				
I can place metals in order of reactivity based on their reactions with water				
) I can place metals in order of reactivity based on their reactions with dilute acids				
I can name the two non-metals included in the reactivity series				
I can name the type of reaction where a less reactive metal is replaced by a more reactive metal				
Using the reactivity series, I can predict what would happen if iron sulfate is reacted with magnesium.				
I can explain why gold is found as a pure element on Earth				
I can explain how we obtain the many metals we use from the compounds they form in the Earth's crust				

I can describe how metals less reactive than carbon are extracted. I can give examples of 3 of these metals				
I can state the name given to the group 0 elements				
I can describe the chemical properties of group 0 elements and explain their behaviour				
I can describe the change in boiling point as you go down the group O elements				
I can state the name given to the group 1 elements				
I can explain the reactivity the group 1 metals				
I can describe the change in reactivity of the group 1 metals as you go down the group				
I can state the name given to the group 7 elements				
I can describe and explain the reactivity of the halogens				

Topic 11 Systems and Health	Check 1	Check 2	Check 3	Check 4
I can define the musculoskeletal system				
I can define an organ system				
I can define the skeleton				
I can describe an organ				
I can state the functions of the skeleton				
I can explain how the skeleton supports an organism				
I can explain how the skeleton protects an organism				
I can state what cells are produced by the skeleton				
I can describe how red blood cells are specialised				
I can explain how the skeleton allows movement				
I can define joints				
I can define ligaments				
I can define tendons				
I can define cartilage				
I can define muscles				
I can explain how muscle cells are specialised				
I can describe the role of muscles				
I can explain what contract means				
I can describe an antagonistic pair				
I can explain why muscles work in antagonistic pairs				
I can explain how muscles cause movement				
I can state the unit for force				
I can define respiration				
I can state the requirements for respiration				
I can state the products of respiration				
I can describe gas exchange				
I can state where gas exchange occurs				
I can define breathing				
I can describe what is muscle tissue is made from				
I can describe what muscles do				
I can describe the process of inhalation				
I can describe the process of exhalation				
I can describe ventilation				
I can describe the role of the heart				
I can state what tissue the heart is made from				
I can name structures found in the heart				
I can name three types of blood vessels				
I can state the function of an artery				
I can state the function of a vein				
I can state the function of a capillary				
I can explain how capillaries are adapted				
I can name the four components of blood				
I can state the function of the plasma				
I can state the function of the red blood cells				
I can explain how red blood cells are adapted				
I can state where red blood cells are produced				
I can explain where the body need nutrients				
I can state the function of the digestive system				
I can state the meaning of insoluble				
I can state the meaning of soluble				
I can state the meaning of absorbed				
I can name the organs of the digestive system				

I can state the function of the mouth				
I can explain how the mouth is specialised to carry out its function				
State the function of the oesophagus				
I can explain how the oesophagus is specialised to carry out its function				
I can state the function of the stomach				
I can explain how the stomach is specialised to carry out its function				
I can state the function of the liver				
I can state the function of the pancreas				
I can state the function of the small intestine				
I can state how the small intestine is specialised to carry out its function				
I can state the function of the large intestine				
I can state the function of the rectum				
I can name the tissues found in the stomach				
I can state the function of the muscle tissue				
I can state the function of the glandular tissue				
I can state the function of the epithelial tissue				
I can define accuracy				
I can define validity				
I can define resolution				
I can state the conventions for drawing a table				
I can explain how to select a scale for a graph				
I can explain what to include when writing an evaluation				

Topic 12 Density and Pressure	Check 1	Check 2	Check 3	Check 4
I can define a particle				
I can define thermal expansion				
I can explain thermal expansion				
I can explain why do bridges need expansion joints				
I can give two further effects of expansion and contracting				
I can define density				
I can recall the formula for calculating density				
I can give three factors affecting density				
I can describe how the state of matter affect density				
I can explain how does relative atomic or molecular mass affect density				
I can describe how does particle arrangement affects density				
I can name the force acting against gravity in a fluid				
I can recall the units for upthrust				
I can explain why some objects float				
I can state how density of a liquid affects upthrust				
I can describe how does increasing the temperature changes the density				
I can explain how increasing the number of particles changes the density				
I can define an intermolecular force				
I can describe a hydrogen bond				
I can explain why water is vital for life				
I can explain why ice is less dense than liquid water				
I can define a fluid				
I can define pressure				
I can define atmospheric pressure				
I can explain how water pressure changes as depth changes				
I can explain why living organisms are not crushed by atmospheric pressure				
I can explain wind				
I can explain how temperature affects pressure				
I can explain why increasing the temperature increases the pressure				
I can give three ways to increase pressure				
I can explain how the methods above increase pressure				
I can recall the formula for calculating pressure				
I can recall the units for pressure				

Topic 13 Electricity and Forces	Check 1	Check 2	Check 3	Check 4
I can describe the structure of an atom				
I can show how the charge on materials can change				
I can explain why the charge on a material is called static electricity				
I can explain what an electric field is				
I can define current				
I can describe how a circuit is supplied with energy				
I can explain how current is measured				
I can describe a series circuit				
I can describe the properties of a series circuit				
I can describe a parallel circuit				
I can describe the properties of a parallel circuit				
I can define voltage				
I can explain how voltage is measured				
I can compare voltage in series and parallel circuits				
I can describe how voltage changes as you go round a parallel circuit?				
I can describe how to set up a voltmeter in comparison to an ammeter				
I can describe the conventions for drawing circuit diagrams				
I can explain the benefit of having good range of results				
I can state what the command word 'explain' means in science				
I can define resistance				
I can calculate resistance				
I can state the units for resistance				
I can describe the factors affecting resistance				
I can define a resistor				
I can describe a conducting component				
I can describe an insulating component				
I can state the type of current supplied by the mains in the UK				
I can explain the difference between ac and dc				
I can name the components of a three-pin plug				
I can name the three wires found in a plug				
I can state the hazards of electrical wiring				
I can define power				
I can state the factors affecting the rate of energy transfer by current in a circuit				
I can define a fuse				
I can explain why different fuses are used for different electrical devices				
I can define a magnet				
I can describe the structure of a bar magnet				
I can describe what happens when two magnets come into close proximity				
I can define a magnetic field				
I can show how a magnetic field is represented				
I can describe a compass				
I can explain why a compass points North				