No.	Unit/competency	Lesson/competency level	Teaching leaning process/learning outcomes	No. of periods	Quality Inputs	Proposed Date	Date taught	Signature of teacher	Note of supervision
	3.0: Utilizes various forms of energy, their interaction with matter and energy transformations by maintaining efficiency and effectiveness at an optimum level	3.7: Uses the principles and laws of hydrostatics to realize activities related to sinking, floating and pressure transmission	1.make simple devices to show the pressure exerted by liquids and gases.	1	An aneroid barometer, a hydrometer, a Ureka vessel, a cylinder-bucket apparatus Instructions				
			2.express hydrostatic pressure (p) in terms of height of liquid column (h),density of liquid (ρ) and gravitational acceleration (g).	1					
			3. calculate the pressure exerted by a liquid using the expression p = hρg						
			4. present examples of instances where liquid pressure is used productively at present.						
			5. Conduct simple activity to demonstrate pressure transmission.	2					
			6.accept the importance of pressure to make work easier.						
			7. accept that the transmission of pressure is very useful in modern technology.						
			8.state that atmospheric pressure can be measured by using the mercury barometer and the aneroid barometer.	1					
			9. state that atmospheric pressure varies with altitude.						
			10. obtain the reading of atmospheric pressure using aneroid barometer.						
			11 conduct simple activities to show the factors affecting up-thrust acting on a body due to a liquid.	2					
			12. demonstrate Archimedes' principle using a simple activity (calculations are not expected).						
			13. use simple set-ups to show the conditions necessary for sinking and floating.	1					
			14. explain the concepts of sinking and floating according to the weight of the object and the up-thrust.						
			15. accept that sinking and floating of objects in liquids is determined by the up-thrust exerted by the liquid and the weight of the object						
			16.explain the principle and the use of hydrometer.	1					
			17. use the hydrometer to measure density of liquids.						
	2.0: Investigates matter, properties of matter and their interaction to enhance the quality of life	2.4: Uses chemical changes suitably to fulfill necessities in life	1. differentiate chemical changes from physical changes.	2	Mg ribbon, Fe powder, Zn, Cu, Sulphur powder, $KMnO_4$, $KClO_3$, Zn, $CuSO_4$ solution, Cu				
			2.conduct simple activities to demonstrate different types of chemical reactions.						
			3.state the types of reactions with examples.	2					
			4.classify given reactions under each type.						
			5.write balanced chemical equations using inspection method.	1					
			6. appreciate the importance of chemical symbols, formulae and equations as a way of communication.						

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			7.conduct simple activities to demonstrate reactions of the given metals with air, water and dilute acids.						
			8. compare reactivity of given metals with air , water and dilute acids and construct the activity series for the given metals based on their reactivity.						
			9. state that activity series is based on reactivity of metals.						
			10. determine the position of given metals in the activity series based on displacement reactions.	2					
			11.state uses of activity series.						
			12.accept that there is a relationship between reactivity of the metal and its position in the activity series.						
			13.explain how the method of extraction of the metals is related to their positions in the activity series.						
			14. describe the method of extraction of iron by reduction using blast furnace.						
			15.write the basic reactions involved in the extraction of iron from hematite.	1					
			16.relate the method of extraction of gold with its position in the activity series.						
			17.suggest a suitable extraction method for a given metal based on its position in the activity series.						
			18. name suitable chemicals that can be used to prepare hydrogen, oxygen and carbon dioxide gases in school laboratory.						
			19. write relevant chemical reactions of the preparation of hydrogen, oxygen and carbon dioxide gases in school laboratory.						
			20. collect samples of hydrogen, oxygen and carbon dioxide gases using suitable apparatus.	2					
			21.state physical properties of hydrogen, oxygen and carbon dioxide gases.						
			22. conduct simple tests to identify hydrogen, oxygen and carbon dioxide gases.						
			23 list the uses of hydrogen, oxygen and carbon dioxide gases.						
	2.0: Investigates matter, properties of matter and their interaction to enhance the	2.5: Takes necessary measures to control the rate of reaction as required in day-to-day life	1. give examples from day to day life for relatively fast and slow reactions.	1	Na2S2O3, CaCO3, HCl acid, Iron wool and nails H2O2, MnO2 Thermometer.				
			2. define the term rate of reaction.						
			3. state the factors affecting the rate of reaction.	3					
			4. conduct simple activities to demonstrate the factors affecting the rate of reaction						
			5. explain how a given factor affects the rate of reaction.						

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	quality of life		6. accept that the rate of reaction can be controlled as required.	1					
	3.0: Utilizes various forms of energy, their interaction with matter and energy transformations by maintaining efficiency and effectiveness at an optimum level	3.8: Quantifies the mechanical energy and power in mechanical processes	1. state that the work done by a force is the product of the magnitude of the force and the displacement in the direction of the force.	1	A rubber band, a helical spring, a suitable apparatus to show the energy transformations between gravitational potential energy and kinetic energy				
			2.make simple devices to demonstrate the applications of kinetic energy and potential energy.						
			3. explain the two forms of mechanical energy as kinetic energy and potential energy.	1					
			4. provide the expression for kinetic energy as						
			5. provide the expression for gravitational potential energy as with reference to a zero potential level.						
			6. do calculations involving work, kinetic energy and gravitational potential energy.	1					
			7. accept that kinetic energy, gravitational potential energy and elastic potential energy can be used for human energy requirements.						
			8.accept that energy is used to do work.	2					
			9. state power as the rate of doing work. (work done/time taken)						
			10. calculate the power.						
	3.0: Utilizes various forms of energy, their interaction with matter and energy transformations by maintaining efficiency and effectiveness at an optimum level	3.9: Uses fundamental principles and laws of current electricity to understand and control the action of simple circuits	1. conduct simple activities to demonstrate the difference between static electricity and current electricity.	1	Resistors, a voltmeter, an ammeter, connecting wire, a switch, a rheostat				
			2. state the direction of conventional current in relation to the direction of electron flow						
			3. accept that a flow of current occurs due to a potential difference.	2					
			4. describe that an electric source is used to supply a potential difference to a circuit.						
			5. state that the emf of a source is the potential difference between its terminals when no current flows from the source						
			6.explain the resistance as a factor which opposes the flow of electric current	1					
			7.conduct a simple activity to show the factors affecting the resistance of a conductor (length, cross-sectional area and resistivity)						
			8. conduct a simple experiment to show the relationship between V across a conductor and I.	2					
			9. show graphically the variation of potential difference with current						
			10.use the relationship between V and I to express Ohm's law as V = IR						
			11. state R as resistance of the conductor.						
			12.find the resistance of a resistor using the resistor colour code.						
			13. identify different types of resistors.						

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			14. show qualitatively the variation of resistance in series and parallel combination using simple devices.	1					
			15.give expressions for the equivalent resistance of resistors in series and in parallel combinations.	1					
			16. calculate the equivalent resistance in series and in parallel combinations.	2					
			17. calculate the equivalent resistance in series and in parallel combinations.						
			18.accept that series and parallel combinations of resistors are very important in controlling the current in a circuit to suit the given condition.						
	1.0: Explores life and life processes in order to improve productivity of biological systems	1.6: Investigates the patterns of inheritance of traits in organisms	1. collect and present some examples to show common heredity characteristics in living world.	2	Beads (100 white and 100 red per group), beakers or suitable containers, text book, web resources, relevant pictures and articles				
			2. conduct bead experiment to investigate patterns in heredity.						
			3.explain Mendel's work on heredity using one pair of contrasting characteristics.	3					
			4.construct a Punnet square.						
			5.appreciate Mendel's experimental procedure as an example for effective use of scientific method						
			6.describe chromosomes, sex chromosome, autosome, gene, gene expression and gene-linkage.	2					
			7. show understanding of concepts in gene linkage to explain genetic disorders such as Hemophilia, Color blindness, Thalasemia and Albinism.	2					
			8.describe the possibility of manipulating genes quoting examples from the fields of food, agriculture, medicine and industries.						
			9. accept the importance of avoiding marriages among blood relatives.	2					
			10. explain how genetic engineering is applied in various fields.						
			Revision						
			Term Test						