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| **COMPETENCE** | **GENERAL****OBJECTIVES** | **MONTH** | **WEEK** | **MAIN TOPIC** | **SUB-TOPIC** | **PERIOD** | **TEACHING ACTIVITIES** | **LEARNING ACTIVITIES** | **T/L MATERIAS** | **REFERENCES** | **ASSESSMENT** | **REMARKS** |
| By the end ofthe topic, students should be able to understand concepts and principles of magnetismand electricity. | By the end ofthe topic, students should have develop competence in applying and magnetism knowledge in daily life. | **J****A N U A R Y** | **2** | **1.0****STATIC ELECTRICITY** | **1.1****Concept of static electricity.** | **2** | i) Guiding students ondemonstration of picking up of tiny pieces of papers by plastic pens and other materials. | i) Demonstrate picking uptiny pieces of paper. | -Plastic pen-Ebonite rod-Glass rod-Fur | **SCSU &****MoEVT (2012), Physics for secondary schools form 2, Uhuru media, Zanzibar** | Are the students able toexplain the concept of statistic electricity**?** |  |
| ii) Organize for read- review on origin of charges. | -Discuss the origin of charges. | Is the student able to explain the origin of charged? |
| iii) Organize for discussionon charge movement when two bodies are rubbed each other. | iii) Students shouldidentify two types of charges on a body. | -Ebonite rod-Fur-Polytheme rod-Glass rod. | Is the student able toidentify two types of charges. |
| iv) Demonstration ofattraction and repulsion between the suspended rod and other bodies. | -Students to charge bodies by different methods. | Pieces of paper-plastic pen-Glass rod-Ebonite rod-Polytheme rod. | Is the student able tostate the fundamental law of static electricity? |
| **3** | **1.2****Detection of charges** | **2** | i) To describe the structureand function of gold leaf electroscope. | i) Students to draw andlabel gold leaf electroscope. | -Gold leafselectroscope-Diagram of g/l electroscope | Is the student able todescribe the structure of the leaf electroscope? |  |
|  | ii) Lead the discussion ofthe modes of action of electroscope. | ii) charge theelectrophorus by induction using charged polythene base. | - Chargedpolythene base-Electrophorus | Is the student able tocharge leaf electroscope? |
| **3** | **1.3****Conductors and Insulators** | **2** | Lead students to distinguish between Insulator and Conductor and explain the difference between electrical conductivities ofConductors and Insulators. | )Students to identify conductors and Insulators by passing electric current through them. | - Copper wire- Aluminium- Glass rod- Ebonite rod- Wood- Fur, Wax. | Is the student able to distinguish between a conductor and insulator? |  |

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|  |  | **J****A N U A R Y** | **4** |  | **1.4****Capacitors.** | **3** | i) Lead the students todefine the capacitance of a body. | i) StudentsIn groups to give the meaning of capacitance. | -Source of charge-Copper electrodes. Air filled capacitors.-Two or morecapacitors-Connecting wire | **SCSU & MoEVT (2012), Physics for secondary schools form 2, Uhuru media, Zanzibar** | Student to-define capacitance-describe mode of action of a capacitor-List different types of capacitorsto derive equivalent capacitors in series and in parallel. |  |
| i) Describe theMode of action of capacitor. | i) Demonstrate chargeand discharging of a capacitor. |
| ii) Lead students toidentify different types of capacitors. | students to identifydifferent types of capacitors. |
| iii) Explain the constructionof air capacitor | ii) Carry out a project toconstruct an air capacitor. |
| iv) To guide students todetermine the equivalent capacitance of two ormore capacitors connected in series and in parallel by derivation. | iii) Students to deriveequivalent capacitance of two or more capacitors connected in series and in parallel. |
| **F E B R U A R Y** | **1** |  | **1.5****Charge distribution along the surface of a conductor** | **3** | To guide students on experiment to demonstrate charges reside on outer surface of a conductor. | Students to verify experimentally that charges resides on outer surface of a conductor. | - Electrophorus- Spherical conductor- Pear shaped conductor. | Is the student be able to recognize on a conductor reside on its outer surface. |
| To lead students to carry out experiment to find out the distribution of charges on conductor. and highlight the structure and mode of action of lightning conductor. | Students to discuss in groups the result of their observations.and the structure and mode of action of lightning conductor. | - Cylindrical and pear shaped conductor.Lightning conductor mode.- Copper rod,wire- Sharp pointed conductor |

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|  |  |  | **2** |  | **1.6****Lighting conductor** | **3** | To guide students toexplain the phenomena of lighting conductorTo explain the structure and mode of action of a lighting conductor and construct a simple lighting coductor | students to explain thephenomena of lighting conductorTo explain the structure and mode of action of a lighting conductor and construct a simple lighting coductor | chart, model,copper rod, copper plate, copper wire, sharp pointed conductor. |  | students to explain thephenomena of lighting conductorTo explain the structure and mode of action of a lighting conductor and construct a simplelighting coductor |  |
| **F E B R U A R Y** | **3** | **2.0****CURRENT ELECTRICITY** | **2.1****Concept of current Electricity** | **1** | -To lead the students to define current electricity.-To lead students through question and answer to identify the sources of electricity. | -Students to define current electricity.-Students to discuss in groups the different sources of electricity. | - Charged capacitor- Unchargedcapacitor- Dry cell- Dynamo- Solar panel | - Is the student be able to identify basic circuit components.- State the SI unit s ofcurrent, voltage and resistance. |
|  |  |  | **3****&****4** | **2.2****simple electric circuit** | 2 | i)The Teacher to leadstudents to discuss different circuit components. | i) Students in groups tolist down circuit components. | - Battery- Cell- Resistor- Switch- Connecting wire. | **SCSU &****MoEVT (2012), Physics for****secondary schools form 2, Uhuru media, Zanzibar** | Is the student able toconnect simple electric circuitIs the student able to:--Measure electric current and voltage?-To analyse simple electric circuits. |
| ii)The teacher to guidestudents to identify basic electric symbols. | ii) Students throughinformation searching is to identify basic electric symbols. | - Ammeter- Volt meter- CircuitComponents |
|  |
| iii)To guide students tostate the SI units of current, voltage and resistance. | iii) Students to discuss andpresent units of current, voltage and resistance. | - Reference books |
| Series andparallel connections. | 2 | iv) To give the guidelineson how to connect series and parallel circuits | iv) To connect circuit inseries and parallel | -Bulb & holders- Battery & Switch- Resistor- Ammeter- Voltmeter- Connecting wires |  |  |

Ohm’s law **1** i) Perform an experiment

to Verify Ohm’s Law

vii) to guide students to deduce the equivalent resistance for both parallel and series connections.

vi) To Verify Ohm’s law vii)To deduce equivalent resistance.

- Circuit diagrams.

By the end of the Form Two course,

students should have develop competence on applying electricity and magnetic knowledge in

daily life.

**M 1 3.0**

**A MAGNETISM R**

**C H**

**3.1**

**Concept of magnetism.**

**3** The teacher to assign students to library to find out the origin of magnetism.

The teacher to display different types of magnetic and non- magnetic materials and organise for their testing on magnetic behaviour.

Students in groups using gallery walk to discuss the origin of magnetism.

Students to identify magnetic and non magnetic materials.

- Reference books

-Internet

- Magnets

- Iron rod

- Cobalt plate

- Copper rod

- Piece of wood

**SCSU & MoEVT (2012),**

**Physics for secondary schools form 2, Uhuru media,**

Is the student able to explain the origin of magnetism.

Is the student be able to identify magnetic and non magnetic materials/substances?

**2**

**on and demagnetis ation**

and direct students to name them.

The teacher to lead students to investigate the properties of a magnet.

Teacher assign students through library search to explain the concept of magnetisation and demagnetisation.

The teacher to assign students to do library or internet search on applications of the earth’s magnetic field.

The students to suspend a bar magnet to find its direction at rest.

Students to present their findings.

Students in groups discuss their finding on application of the earth’s magnetic field.

Bar magnet Horse-shoe magnet.

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|  | To guide students to statethe properties, identify the types and application of magnet | students to state theproperties, identify the types and application of magnet |  | **Zanzibar** |  |
| **3.2****Magnetisati** | **3** | The teacher to displayvarious types of magnets | Students to identify thetypes of magnets. | U- shapedmagnets. |  | Is the student able toidentify types of |

- String

- Support

- Iron filling

-magnets.

- Chart

- Internet

- Bar magnet

Iron nails

- Library internet

magnets?

Is the students be able to tell the properties of a magnet?

Is the student able to explain the concept of magnetization and demagnetization?

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|  |  |  | **3** |  | **3.3****Magnetic fields of magnet** | **3** | - To stimulate discussion onhow a magnet can lose its magnetisation and mention methods of storing magnetism. | -Students to identifyways in which a magnet lose its magnetism and methods of storing magnets. | - Bar magnet- Iron filling- Plain paper- Pencil- Compass needle. |  | Is the student able todesign methods of storing magnets? |  |
| To lead students toperform experiment to study the pattern of the lines of force around a bar magnet. | Students to plot thepattern of lines of forces around a bar magnets | Is the student table toillustrate the magnetic lines of forces around a magnet using iron fillings or compass needle? |
|  |  |  |  | **MIDTERM TEST & CLOSING THE SCHOOL** |  |  |
|  |  |  |  | **MIDTERM BREAK 31TH MARCH – 08TH APRIL 2024** |  |  |
|  |  | **A P R****I L** | **2** |  | **3.4****Earth’s magnetic field** | **3** | To lead students to explain the existence of the earth’s magnetic field. | Students to explain the concept of magnetic fields | - Compass needle- ThreadRetort stand- globe | **SCSU & MoEVT (2012), Physics for secondary schools form 2, Uhuru media, Zanzibar** | Is the student able to-Explain the existence ofearth’s magnetism-Determine the direction of earths magnetic field. |  |
| To lead students todetermine the direction ofthe earth’s magnetic field. | Students to suspend barmagnetic freely to determine the direction of the earth’s magnetic field. | - Bar magnetic- Iron fillings |
| -To assist students tolocate the earth’s magnetic lines of force about a bar magnet | -Students to use ironfilling to locate the earth’s magnetic lines of force about a bar magnet | - Compass needle- Protector- Scale- support |
| -To guide students todetermine the angle of declination and inclination. | -measure the angle madeby the settled needed with the horizontal plane. |
| Demonstration how toshield a magnetic material from magnetic line of force. | To practice how to shielda magnetic material from magnetic lines of force. | - Soft irony magnet. | Is the student be able toexplain the effects of turning force |  |

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|  |  | **A P R****I L** | **3** | **4.0****FORCE IN EQUILBRIUM** | **4.1****Movements of a force** | **3** | Lead students to explainthe existence of the earth’smagnetic fields.To guide students to perform activities of pulling or pushing objects and observe the results. | In group to explain thephenomenon of the earth’s magnetic field.Students to apply simultaneously parallel and opposite force on different objects. | - Hinged door- Suspended-piece of wood- Students’desk |  |  |  |
| Lead students to determine the moment of force. | Determine the moment of force. | - Metre ruler- Strings- Twodifferent masses. | Is the student able to determine the moment of a force? |
| **4** |  | **4.2****Centre of gravity.** | **3** | Guiding students todetermine the centre of gravity of a regular shaped body. | Determine the centre ofgravity of regular shaped body. | - | Is the student able todetermine the centre of gravity of regular shaped body? |
| Guide students to conduct experiment to verify the principle of moments. | To state the principle of moments. | - Variety masses. | Is the student able to state the principle of moment? |
| Lead the students to applythe principle of moments. | Explain how the principleof moments is applied in different situations. | - Seesaw- Bean balance- Door | Is the student able toapply the principle of moments in daily life? |
| Assign students todetermine the centre of gravity of an irregular shaped body. | Students Determine thecentre of gravity of an irregular body. | -A piece ofirregular shaped-Plumb line- Support nail | Students Determine thecentre of gravity of an irregular body. |
|  |  | **M****A Y** | **1** |  | **4.3****Types of equilibrium** | **3** | Lead students to brainstorm on the condition for equilibrium. | Explain the conditions forequilibrium. | - Solid objectives- various shaped- model of a bus or lorry. | **SCSU &****MoEVT (2012), Physics for****secondary schools form 2, Uhuru media, Zanzibar** | Is the student able toexplain the conditions for equilibrium? |  |
| Lead students to identifythree states of equilibrium. | Explain stable, unstableand neutral equilibrium. | Is the student able toexplain and apply stable, unstable and neutral equilibrium? |
| Lead students to applyconditions of stable unstable and input equilibrium in daily life. | Identify application ofthe three states of stability in daily life. |

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|  |  | **M****A Y** | **2** | **5.0****SIMPLE MACHINES** | **5.1****Concept of simple machine** | 3 | Lead students to deducethe meaning of simple machine. | To explain the concept ofa simple machine. | - | **SCSU &****MoEVT (2012),****Physics for secondary schools form 2, Uhuru media, Zanzibar** | Is the student able toidentify different kinds of simple machines? |  |
| - Facilitate the students todeduce the meaning of the term. Load, Effort mechanical advantage velocity ratio and efficiency as applied to simple machine.-To stimulate students to identify different kinds of simple machine. | Students in groups tomention different types of simple machines. | - Bolts and nuts- Spanners- Single fixed pulley.- Masses- Stapler- Rope. |
|  |  **3** | **5.2****Levers** | **1** | To facilitate students to identify three classes of levers. | Students in groups to identify the three classes of levers. | - Beam balance- Crow bar- Wheel barrow- Scissors- See-saw- Coal tong. | Is the student able to identify three classes of levers? |  |
| Guide students todetermine the M.A, V.Rand efficiently of a levers. | Students in group toperform experiment to determine the M.A, V.R and efficiency of a lever. | Is the student able todetermine the M.A, V.R and efficiency of a lever?Is the student able to use levers in daily life? |
| To organize students todiscuss application of levers in daily life. | Students to discussapplications of levers in daily life. |
|  **4** | **5.3****Pulleys** | **2** | To guide students toidentify different pulley system. | To identify the differentpulley systems. | - Single fixedpulley- Movable and tactics pulley- Ropes- Flip charts- Marker pens. | Is the student able todetermine M.A, V.R and efficiency of pulleys and apply in daily life? |
| Guide students todetermine the M.A , V.R and efficiency of a pulley systems. | Calculate the M.A, V.Rand efficiency of the pulley system. |
| Organize for a field visit by students to observe application of pulley system. | Discuss results of the field visit and identify other possible application of pulley system. |
|  |  |  |  | **TERMINAL EXAMINATIONS & CLOSING** |
|  |  |  |  | **TERMINAL EXAM HOLIDAYS 31TH MAY – 01TH JULY 2024** |

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|  |  | **J****U****L****Y** | **1** |  | **5.4****Inclined****Plane** | **3** | Lead students to discusswhy it is easier to push a heavy load up an inclined plane than to lift it vertically.To facilitate students to determine M.A, V.R and efficiency. | To determine the M.A, V.R and efficiency of the inclined plane. | - Ladder- Building slopes- Screw jack- Car jack- Heavy load | **SCSU &****MoEVT (2012), Physics for secondary****schools form 2, Uhuru media, Zanzibar** | Is the student able tostate the concept of inclined plane?-Are they able to determine M.A, V.R and efficiency of inclined plane. |  |
| Lead students to discussthe applications of inclined plane in daily life. | student to discuss situationwhere the inclined plane is applied in everyday life. | - Screw jack- Car jack | Is the student able to useinclined plane in daily life? |
| **2** | **5.5****Screw Jack** | **3** | To organize students themain features of the screw Jack and the way it functions. | Practice lifting a heavyload using a screw jack. | - Car- Screw jack- Wheel and axle- bicycle | Is the student able todescribe the structure of a screw jack? |
| To facilitate students todiscuss the applications of the screw jack in daily life. | Discuss in groups thevarious situations where the screw jack in used. | Is the student able todetermine M.A, V.R and efficiency of screw jack?-Can student use screw jack on daily life? |
| Display a wheel and axle of a bicycle. | - In groups students to discuss the main features of a wheel and axle |
|  | **3** | **5.6****Wheel and axle** | **3** | To guide students todetermine M.A, V.R and efficiency of a wheel and axle.-To organize groups discussion on the application of wheel and axle in daily life. | To determine the M.A,V.R and efficiency of the wheel and axle.-In groups to explain devices which utilize the principle of the wheel and axle. | -Heavy load.- Windlass machine- Bicycle. |  | Can the student able todescribe and determine the M.A, V.R and efficiency of wheel and axle? |  |
|  |  |  | **4** |  | 5.7HydraulicPress | **3** | Displaying model of thehydraulic press and guide students to discuss its working mechanism.To guide students to determine the M.A, V.R and efficiency of a hydraulic press.Lead students to discuss on applications of the hydraulic press. | To discuss in groupsstructure of a hydraulic press.To determine the M.A, V.R and efficiency of the hydraulic press.Discuss in groups of hydraulic press and identify example of devices. | Model ofhydraulic press. | Is the students able todescribe the structure of hydraulic press?-Is the student able to determine M.A, V.R and efficient of hydraulic press?-Can students apply hydraulic press in daily life? |  |

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|  |  | AUGUST | **1** | **6.0****MOTION IN****STRAIGHT LINE** | **6.1****Distance & displaceme nt** | **1** | Guide students todistinguish between distance and displacementDisplayed various flash cards with SI Units, one of which has the correct SI unit of distance and displacement. | -Give the differencebetween distance &displacement.-State SI units of distance& displacement.-Identify SI unit of distance & displacement. | - Tape measure- Marker- Reference books- Flash card. |  | Is the student able todistinguish between distance and displacement?-Is the student able to state the SI Unit of distance and displacement? |  |
|  |  |  | **1** |  | **6.2****Speed and velocity** | **2** | Assist students to distinguish between speed and velocity. | Distinguish between speed and velocity | -Timer,-Measuring tape, InternetReference Books. | Is the student able to distinguish between speed and velocity? |
|  | Organize think pair shareon the SI units of speed and velocity. | To state the SI unit ofspeed and velocity. |
|  | Stimulate students todetermine average velocity of a body. | To determine averagevelocity of the body. | -Speed metre-Timer- Measuring tape |
|  |  |  | **2** |  | **6.3****Acceleratio n** | **1** | Display different velocity time graphs for students to interpret.Through question and answer techniques students to interpret velocity time graphs for increasing velocity, constant velocity and decreasing velocity. | Students to determine the rate of change of the velocity with time. | - |  | Can the students interpret velocity time graph? |  |
|  |  | To guide students todiscuss the velocity time graph.Lead student to explainthe concept of retardation. | Students to determineacceleration of the body.Students to explain the concept of retardation. | - Trolley- Ticker tape- Timer- Velocity –time graph. | Can student determinethe acceleration of a body?-Is the student able to explain the concept of retardation? |
|  |  |  | **2** |  | **6.4****Equations of uniformly****Accelerated****Motion** | 2 | To facilitate students toapply deductive thinking to derive equations of uniformly accelerated motion. | Students to deriveequations of uniformly accelerated motion. | - Kinematic reference books.- Velocitytime graphs for |  | -Is the student able toderive equations of uniformely accelerated motion?-Is the student able to |  |

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|  |  |  |  |  |  |  | To motivate students toshare their ideas on a body thrown vertically upwards and a falling body. | Students to solve problemrelated to equations of uniformly acceleration motion. | uniformelyaccelerated motion- Bank of Kinematics equations |  | apply equations ofmotion in daily life? |  |
| **3** |  | **6.5****Motion under gravity** | **3** | To encourage students toshare their ideas on a body thrown vertically upwards and a falling body. | Students in groups toexplain the concept of gravitational force. | - Pendulum bob- Metre rule- Retort stand- Graph paper- Internet- Flip charts- Marker pens | -Is the student able toexplain the concept of gravitational force? |
| To organize students todetermine acceleration due to gravity by simple pendulum. | To perform anexperiment on determination of acceleration due to gravity by simple pendulum | -Is the student able toexplain the concept of gravitational force? |
| To direct the students tosearch and discuss application of gravitational force. | Students to present theirfindings on application of gravitational force. | -Is the student able toexplain the applications of gravitational force? |
|  |  |  | **4** | **7.0****NEWTON’S****1ST LAW****OF MOTION** | **7.1****Law of****Motion** | **3** | The teacher to stimulatediscussion on the behaviour of an object when there is a sudden change of its state of Motion. | Students to brainstorm,the tendency of applied force on a body when is at rest or in motion. | - Heavy load- Bottle- Cards- Cons- Tea cups- Trolley- Table, cloth on a table. | **SCSU &****MoEVT (2012), Physics for****secondary schools form 2, Uhuru media, Zanzibar** | **-**Is the student able toexplain the concept of inertia?-Is the student able to state Newton’s 1st Law of motion?-Is the student able to verify Newton’s 1st Law of motion? |  |
| To lead students to state Newton’s first Law of motion. | State Newton’s 1st Law of motion. |
| Facilitate fordemonstrations of Newton’s first law of motion on an object at rest. | Students to perform anexperiment to verify Newton’s first law of motion. |
|  |  |  |  | **MIDTERM TEST & CLOSING** |  |  |
|  |  |  |  | **MIDTERM BREAK 30 AUGOST – 16TH SEPTEMBER 2024** |  |  |

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|  |  | **S****E****P****T****E****M****B****E****R** | **3** |  | **7.2****2nd Law of****Motion** | 2 | Facilitate students toinvestigate the relationship between the velocity and mass of a body moving ina straight line. | Students to explain theconcept of linear momentum. | Trolley-Various masses. | **SCSU & MoEVT (2012),****Physics for secondary schools form 2, Uhuru media, Zanzibar** | -Is the student able toexplain the concept of linear momentum?-Is the student able to state the S.I Units of linear momentum? |  |
| **1** | To encourage students todeduce the SI unit oflinear momentum from the product of mass & velocity. | Students to deduce andstate the SI unit of linear momentum. |
| **1** | To guide students todetermine experimentally the linear momentum of a body | Students to performexperiment to measure the velocity of a trolley, loaded with a known mass.To compute the product of mass & velocity. |
|  | 4 | **1** | Teacher to guide studentsto determine experimentally the linear momentum of a body. | Students to perform anexperiment to measure the velocity of a loaded with a known mass. |  |  | Is the student able todetermine linear momentum?-Is the student able to state Newton’s 2nd Law of motion? |  |
| **1** | Facilitate students to carryout an experiment to verify Newton’s second law of motion. | To perform experiment tofind relationship of force and acceleration. |
| **O****C T O B E R** | **1** |  | **7.3****Conservatio n of Linear momentum** | **1** | To organize students toinvestigate types of collision. | Students to organize forconduct experiment to distinguish between elastic and inelastic collision. | - Tennis ball- Spongy floor- Hard floor- Muddy surface. | Is the student able todistinguish btn elastic and Inelastic collisions? |
|  | **1** | To deduce the relationshipbtn linear momentum before and after a collision. | To determine experimentally the linear momentum of two bodies moving towards each other before and after collision.-Compare total momentum before and after collision. | - | Is the student able tostate the principle of conservation of linear momentum? |

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|  |  |  | **2** |  |  |  | To organize studentsgroup discussion to see application of the principle of conservation of linear momentum. | -To discuss the principle-To copy the principle. | - | **SCSU & MoEVT (2012),****Physics for secondary schools form 2, Uhuru media, Zanzibar** | Is the students able toapply the principle and solve question? |  |
| **O C T O B E R** | **2** | **7.4****Third law of motion** | **3** | To organize the studentsto demonstrate that action and reaction force are related. | Students to deduce thateach action force there is equal and opposite reaction force.-To state Newton’s 3rdlaw of motion. | - | Is the student able todistinguish btn action and reaction forces?-Is the student able to state Newton’s 3rd Law of motion. |
| Teacher to lead studentsto give the meaning of action and reaction forces. | To identify the actionforce and reaction forces in bodies. | - Balloons- Air- Bicycle pump |
| Organize students ingroups to discuss application of Newton law of motion. | In group discuss theapplication of 3rd law of motion.-Solve problem. | - |
|  |  |  | **2** | **8.0****TEMPERATU RE** | **8.1****Concept of temperature** | **1** | The teacher lead studentsusing think pair –shore to define the temperature. | -Define the temperature. | - Water- Ice- Heater- Deep freezer | Is the student able todefine the term temperature? |  |
|  | Lead students to state SIunit of temperature. | Students state the SI unitof temperature. |  | is the student able tostate the S.I unit of temperature? |
| **2** | **8.2****Measure ment of temperature** | 2 | Assist students to seekinformation from difference sources on measureable physical properties that change with temperature. | Students to work in groupto collect information on physical properties that change with temperature. | - | Is the students able to measure accurately the temperature of a body? |
|  | By using question andanswer to guide students to define fundamental interval of a thermometer. | Students to define theupper and lower fixed points of a thermometer. | - Alcohol- Melting ice- Hot water |

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|  |  | **O****C T O B E R** | **2** |  |  | **1** | Organize students to studyhow alcohol in glass thermometer works. | Students to record thereading of the thermometer in ice and hot water.Describe mode of action of liquid in glass thermometer. | - Hot water- Ice- Alcohol- One-sided- Closed narrow glass cylinder |  |  |  |
|  |  |  | **3** |  | **1** | Lead the students tomeasure temperature of different bodies. | In groups to record thetemperature different bodies. | - ThermometerHot water | **SCSU &****MoEVT (2012), Physics for****secondary schools form 2, Uhuru media, Zanzibar** |  |  |
| **9.0****SUSTAINABL E ENERGY SOURCES** | **9.1****Water energy** | **1** | The teacher should leadthe students to discuss the generation of electricity. | Students describe energychange in the generation of hydro electricity. | - Diagram ofhydroelectric power plant city. | Is the student able toexplain the generation of electricity from water? |
| To lead the student todiscuss the importance and advantage of hydroelectricity | To describe commonapplication of water energy. | - Reference books. |  |
| To guide students to construct a model of an hydroelectric Power Plant. | To draw a diagram of a model of an hydroelectric Power Plant. | Manila sheet Styrofoam Razor blades wood. |  |
|  |  | **O C T O B E R** | **4** | **SUSTAINABL E SOURCE OF ENERGY** | **9.2****Solar****Energy** | **3** | Lead students to discuss the sun as the primary source of energy on earth. | To list down the main application of solar energy | Solar panel photoroltonic cells |  | Is the student able to explain the conversion of solar energy to electricity? |  |
| To guide students todiscuss how solar energy can be converted to electricity. | Make group discussion conversation mechanisms to electricity.To draw a circuit diagram showing the conversation of solar energy into electricity by a solar cell. | **-** |
| To guide students todiscuss the construction of a model of a solar panel. | To design and construct amodel of a solar panel. | **-** Model of a solarpanel- Solar cells | Is the student able toconstruct a model of solar panel |

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|  |  | **N****O V E M B E R** | **1** |  | **9.3****WIND ENERGY** | **1** | The teacher to stimulatethe students to identify evidence which proves that wind has energy. | Students to show thatwind can cause objects to move. | - Wind- Feathers- Cotton wool. | **SCSU &****MoEVT (2012), Physics for secondary****schools form 2, Uhuru media, Zanzibar** | Is the student able toexplain wind as a source of energy? |  |
|  | **1** | To organize foreducational visit to a place where wind mill is used. | To construct a model of awind mill. | - Wind mill- Wood- Nails- glue | - Is the student able to construct a model of a wind mill? |
| **1** | Lead the students to discuss the applications of wind mill in daily life. | In groups to discuss the application of the wind mill. | - |
| **2** |  | **9.4****SEA WAVE ENERGY** | **2** | The teacher to leadstudents to discuss the sea waves as a source of energy. | Students in their group todiscuss the energy from the sea water. | - Internet | Is the student able toexplain sea wave as source of energy? |
| **1** | The teacher to guidestudents to discuss on how sea water can be converted to electricity. | To brainstorm on how seawave energy can be converted to electricity.In groups construct the model system of convert Sea wave energy into electricity. | - Car board- Scissors- Nails- Tape/glue- Reference books- Internet | Is the student able toexplain the conversion of sea wave energy to electric energy? |
|  |  | **N****O V E M B E R** | **3** |  | **9.5****GEOTHERM AL ENERGY** | **3** | To guide students ingroups as the source of energy. | Students in their group todiscuss the source of geothermal energy. | - |  | Is the student able toexplain geothermal as a source of energy? |  |
| The teacher to leadstudents to discuss how geothermal energy can be converted into electricity. | Students to discuss theways of converting geothermal energy to electricity.Students to draw a diagram of a steam turbine and explain how it works to convert steam to electricity. | - Manila paper- Scissors- Glue- Marker pen- Reference books. | Is the student able toexplain the conversion of geothermal energy to electric energy? |
|  |  |  | **ANNUAL EXAMINATIONS & HOLIDAYS** |