PHYSICS, F2, T1

REFERENCES: Secondary Physics KLB,

WK	LSN	TOPIC	SUB-TOPIC	OBJECTIVES; By the end of the lesson, the learner should be able to:	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
1	**1-4**	**REPORTING AND REVISION OF LAST TERM'S EXAMS**						
2	1-2	Magnetism	Magnetism and magnetic materials	Identify magnetic and non-magnetic materials	Observing attraction and repulsion of magnets Identifying the test for magnetic materials Describing natural and artificial materials Carrying out experiments to identify magnetic and non-magnetic materials	Magnets Nails Pins Wood Plastics Tins Spoons Strings Razor blade Stand	Secondary physics KLB students book 2 page	
	3-4	Magnetism	Properties of magnets and the law of magnetism	Describe the properties of magnets State the logic law of magnetism	Investigating properties of magnets Stating the laws of magnetism	Magnets Charts on properties Iron fillings Strings Stand	Secondary physics KLB students book 2 page 1-4 Golden tips physics page 124	
3	1-2	Magnetism	The compass	Construct simple compass	Constructing a simple compass	Pin/screw Magnet Cork Glass top Water trough Piece of stiff paper Razor blade Glue	Secondary physics KLB students book 2 page 5 Golden tips physics page 127	
	3-4	Magnetism	Magnetic field patterns	: Describe magnet field patterns	Plotting the field of a bar magnet using a compass and iron filings	A compass Iron fillings Bar magnets Can with lid Card board Sheet of papers	Secondary physics KLB students book 2 page 6-7 Golden tips physics page 124-125	

4	1-2	Magnetism	Making magnets by induction and stroking	make magnets by : Induction Stroking	Demonstrating induction Magnetizing a steel bar by stroking single and double strikes Defining hard and soft magnets	Bar magnets Steel bars Nails Iron bars	Secondary physics KLB students book 2 page 19-22 Golden tips physics page 125-126	
	3-4	Magnetism	Making magnets by an electric current	Magnetize a material by an electric current	Magnetizing a steel bar by an electric current	Insulated wire Battery cell Steel bar	Secondary physics KLB students book 2 page 23-24 Golden tips physics page 125-126	
5	1-2	Magnetism	Demagnetization and caring for magnets	Describe the methods of demagnetization Describe how to care for magnets	Describing ways of demagnetizing of magnet Explaining how to care for magnets Carrying out experiments to demagnetize and care for magnets	Battery/cell Keepers Bar magnets Chart on demagnetization and care for magnets	Secondary physics KLB students book 2 page 25-26 Golden tips physics page 126-127	
	3-4	Magnetism	Uses of magnets	Describe the uses of magnets	Describing uses of magnets Discussions Using magnets	Magnets Metallic bars Non-metallic bars	Secondary physics KLB students book 2 page 27 Golden tips physics page 127	
6	1-2	Magnetism	The domain theory of magnetism	Explain the domain theory	Describing the domain theory of magnetism Explaining the application of the domain theory of magnetism	Charts on domain theory Bar magnets Iron fillings Test tubes Cork	Secondary physics KLB students book 2 page 17 Golden tips physics page 127	
	3-4	Magnetism	Revision	Answer questions on magnetism	Questions and answers Read more on magnetism	Questions and project to the students book 2	Secondary physics KLB students book 2 page 27 Golden tips physics page 131	
7	1-2	Measurement Ii	The vernier calipers	Measure length using vernier calipers	Measuring length and diameter of various objects using a venire calipers	Vernire calipers Circular containers Nail needles	Secondary physics KLB students book 2 page 31-36 Golden tips physics page 3-4	
	3-4	Measurement Ii	The micrometer Screw gauge	: Measure length using the micrometer screw gauge	Measuring small diameters and thickness using the screw gauge	Micrometer screw gauge Charts on how to read the scale of a screw gauge Wires paper	Secondary physics KLB students book 2 page 36-40 Golden tips physics page 4-5	
8								

		MID-TERM BREAK						
9	1-2	Measurement Ii	Decimal places, significant figures and standard form	State numbers in standard form, decimal places and significant figures	Working out problems in decimals Identifying the significant figures of a number Writing numbers in standard form		Secondary physics KLB students book 2 page 40-41 Golden tips physics page 8-9	
	3-4	Measurement Ii	Determining the size of a molecule	By the end of the lesson, the learner should be able to: Estimate the diameter of a drop of oil	Measuring the diameter of an molecule	Oil Burette Wire Trough Water Floor or pollen grain strings	Secondary physics KLB students book 2 page 42-44 Golden tips physics page 9	
10	1-2	Measurement Ii	Revision	By the end of the lesson the learner should be able to: Answer questions involving measurement	Problem solving Identifying values on appropriate scale Carrying out a project work	Questions and project the students book 2 Questions work sheet	Secondary physics KLB students book 2 page 46-49 Golden tips physics page 10	
	3-4	The Turning Effects Of A Force	The moments of a force	By the end of the lesson, the learner should be able to: Define moments of force about a point State the SI units of moment of force	Defining moments of force Calculating moment	Meter rule Knife edge Strings Spring balance Masses	Secondary physics KLB students book 2 page 50-52 Golden tips physics page 13	
11	1-2	The Turning Effects Of A Force	Principles of moments	By the end of the lesson, the learner should be able to: State and verify the principle of moment	Stating the principle of moment of a force Calculating moments	Meter rule Knife edge Strings Spring balance Masses	Secondary physics KLB students book 2 page 53-56 Golden tips physics page 14-15	
	3-4	The Turning Effects Of A Force	Revision	By the end of the lesson, the learner should be able to *© Education Plus Agencies* Solve problems involving moments	Problems solving Discussion of correct procedure Questions and answers	The exercise in the student book	Secondary physics KLB students book 2 page 65-67 Golden tips physics page 14-15	
12	1-2	Turning Effects Of A Force	Revision	By the end of the lesson, the learner should be able to: Answer questions on the covered topics	Answer questions in quiz or test form Discussing answers	Moderate a review questions Marking schemes	Secondary physics KLB students book 2 page 65-67 Golden tips physics page 14-15	

	3-4	Equilibrium And Centre Of Gravity	Equilibrium	By the end of the lesson, the learner should be able to: Identify and explain the states of equilibrium	Identifying the states of equilibrium Explaining the conditions of equilibrium	Objects with stable, unstable and neutral equilibrium	Secondary physics KLB students book 2 page 17-18 Golden tips physics page 15-16	
13	1-2	Equilibrium And Centre Of Gravity	Centre of gravity	By the end of the lesson, the learner should be able to Define centre of gravity Determine centre of gravity of lamina objects	Defining centre of gravity Determining centre of gravity of lamina objects	Lamina objects Plumb line pencils	Secondary physics KLB students book 2 page 68-76 Golden tips physics page 15	
	3-4	Equilibrium And Centre Of Gravity	Stability	By the end of the lesson, the learner should be able to: Explain and state the factors affecting stability of an object	Identifying the factors affecting stability Explaining how equilibrium is maintained	Chart showing factors of stability	Secondary physics KLB students book 2 page 78 Golden tips physics page 16	
14		**END OF TERM EXERMINATIONS** **REPORT MAKING AND CLOSURE**						

PHYSICS, F2, T2

REFERENCES: Secondary Physics KLB,

WK	LSN	TOPIC	SUB-TOPIC	OBJECTIVES; By the end of the lesson, the learner should be able to	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
1	**1-4**	**REPORTING AND REVISION OF LAST TERM'S EXAMS**						
2	1-2	Reflection At Curved Surfaces	Spherical mirrors	: Describe concave, convex and parabolic reflectors	Reflecting light at curved mirrors	Concave mirrors Convex mirrors parabolic mirrors Plane papers Soft board, pins	Secondary physics KLB students book 2 page 83 Golden tips physics page 102	
	3-4	Reflection At Curved Surfaces	Parts of spherical mirrors and parabolic surfaces	: Describe using any diagram, the principle axes, principle focus, centre of curvature, radius of curvature and related terms	Describing parts of a curved mirrors Observing reflection at spherical mirrors	Variety of a curved mirrors Graph papers Rulers	Secondary physics KLB students book 2 page 85-87 Golden tips physics page 102	
3	1-2	Reflection At Curved Surfaces	Locating images in curved mirrors and parabolic surfaces	Use ray diagram to locate images formed by plane mirrors	Drawing ray diagrams Describing image characteristics	Graph papers Soft boards Plane papers Pins	Secondary physics KLB students book 2 page 86 Golden tips physics page 103	
	3-4	Reflection At Curved Surfaces	Characteristics of images formed by concave mirrors	Determine experimentally the characteristics of images formed by concave mirrors	Experimenting with concave mirrors Describing the nature of images formed in concave mirror	Concave mirrors	Secondary physics KLB students book 2 page 95-100 Golden tips physics page 103	
4	1-2	Reflection At Curved Surfaces	Applications of curved reflecting surfaces and magnification	Define magnification State and explain the applications of curved mirrors State the defects of spherical mirrors	Explaining magnification and formula in curved mirrors Describing the uses of curved mirrors Asking questions	Curved mirrors Exercise in students book 2	Secondary physics KLB students book 2 page 104-120 Golden tips physics page 105	
	3-4	The Magnetic Effect Of Electric Current	Magnetic field due to current	Perform and describe an experiment to determine the direction of a magnetic field	Observing and describing the direction of magnetic field round a current carrying a	Compass Wires Battery	Secondary physics KLB students book 2 page 123-128 Golden tips physics page 128	

				round a current carrying conductor	conductor Carrying out experiments	Ammeter Compass needle Cardboard Screws Iron fillings		
5	1-2	Magnetic Effect Of Electric Current	Magnetic field pattern	Determining the magnetic field patterns on straight conductors and solenoid	Constructing a simple electromagnetic	Soft iron Nails Compass Solenoid	Secondary physics KLB students book 2 page 128 Golden tips physics page 129	
	3-4	Magnetic Field Of Electric Current	Electromagnetic field pattern	Construct a simple electromagnet	Constructing a simple electromagnets	Solenoid Soft iron Nails compass	Secondary physics KLB students book 2 page 143 Golden tips physics page 130	
6	1-2	Magnetic Effects Of Electric Current	Strength of an electron-magnets	Explain the working of simple electronic motor and an electric bell	Investigating the factors that affect the strength of an electromagnet	Battery Ammeter Different magnetic materials	Secondary physics KLB students book 2 page 131 Golden tips physics page 130	
	3-4	Magnetic Effects Of Electric Current	Applications of electromagnets	Explain the working of a simple electric motor and an electric bell	Discussing the use of an electric bell Discussing the use of electric motor	An electric bell An electric motor	Secondary physics KLB students book 2 page 143-151 Golden tips physics page 130	
7	1-2	Magnetic Effects Of Electric Current	Construction of an electric bell	Construct a simple electric bell	Constructing an electric bell	Materials for constructing an electric bell Chart in electric bell	Secondary physics KLB students book 2 page 131 Golden tips physics page 131	
	3-4	Magnetic Effects Of Electric Current	Motor effect	Experimentally determine direction of a force on a conductor carrying current in a magnetic field	Experiments on motor effects Flemings rules illustrated	Magnets Wires Battery Pins	Secondary physics KLB students book 2 page 150-151 Golden tips physics page 130	
8	1-2	The Magnetic Effect Of Electric Current	Factors affecting force on a current carrying conductor	State and explain factors affecting force on a current carrying conductors in a magnetic fields	Rotation between current magnetism and force	Battery Magnets Wires Ferromagnetic materials	Secondary physics KLB students book 2 page 131 Golden tips physics page 130	
	3-4	The Magnetic Effect Of Electric Current	Construction of a simple electric motor	Construct a simple electric motor	Constructing an electronic motor	Source of current Wire magnets	Secondary physics KLB students book 2 page 150-151 Golden tips physics page 130	
9	1-2	The Magnetic Effect Of Electro-Current	Revision	Answer questions on magnetic effects of an	Questions and answers Doing research/projects	Information and exercise in the students book 2	Secondary physics KLB students book 2 page 152-153 Golden tips physics page 131-	

				electric current			132	
10	1-2	Hook's Law	Hook's law	: State and derive the Hook's law	Defining Hook's law Deriving Hook's law	Wire springs Masses Spring balance Graph paper	Secondary physics KLB students book 2 page 158 Golden tips physics page 17	
	3-4	Hook's Law	Spring constant	Determine spring constant of a given spring	Determining the spring constant of a given spring Suspending masses of springs	Springs Meter rule Graph papers Masses	Secondary physics KLB students book 2 page 158-164 Golden tips physics page 18	
11	1-2	Hook's Law	The spring balance	Construct and calibrate a spring balance	Making and calibrating a spring balance	Wires Wood Meter rule Masses	Secondary physics KLB students book 2 page 165 Golden tips physics page 18	
	3-4	Hook's Law	Revision	Solve problems on Hook's law	Questions and answers Problem solving	Questions in the students book 2	Secondary physics KLB students book 2 page 166-169 Golden tips physics page 19-20	
12	1-2	Waves I	Pulses and waves	Describe the information of pulses and waves	Describing the formation of pulses and waves	Strings/ropes Ripple frank Water Stones Basins	Secondary physics KLB students book 2 page 173-176 Golden tips physics page 87	
	3-4	Waves I	Transverse and longitudinal pulse and waves	Describe transverse and longitudinal pulses and waves	Distinguishing between transverse and longitudinal pulses and waves Forming pulse and waves	Sources of transverse and longitudinal waves	Secondary physics KLB students book 2 page 170-173 Golden tips physics page 87	
13	1-2	Waves I	Characteristics of waves	Define amplitude (a), the wave length (l) the frequency (f) and the period (T) of a wave	Describing and defining the characteristics of waves	Ripple tank Rollers Springs Chart showing the characteristics of waves	Secondary physics KLB students book 2 page 174-183 Golden tips physics page 89	
	3-4	Waves I	Revision	Derive and solve problems using the formula v=fx	Deriving the equation v=fx Solving problems using the formula v=fx	Set questions	Secondary physics KLB students book 2 page 183 Golden tips physics page 96	
14		**END OF TERM EXAMINATIONS**						
15		**REPORT MAKING AND CLOSURE**						

PHYSICS, F2, T3

REFERENCES: Secondary Physics KLB

WK	LSN	TOPIC	SUB-TOPIC	OBJECTIVES; By the end of the lesson, the learner should be able to	L/ACTIVITIES	L/T AIDS	REFERENCE	REMARKS
1	**1-4**	**REPORTING AND REVISION OF LAST TERM'S EXAMS**						
2	1-2	Evaluation	Revision	Get the correct responses to the holiday assignments	Discussions on correct answers to holiday assignment	Marking scheme for holiday assignment	Secondary physics KLB students book 2 page 183-185 Golden tips physics page 89	
	3-4	Sounds	Production of sounds	Demonstrate that sound is produced by vibrating objects	Producing sound by vibrating strings, tins and bottles	Strings Tins Bottles Stick Tuning forks Nails shakers	Secondary physics KLB students book 2 page 186-189 Golden tips physics page 93	
3	1-2	Sounds	Propagation of sounds	Show that light does not travel in vacuum	Demonstrating that sound requires a materials random for perpetration	Bell jar Vacuum pump Electric bell	Secondary physics KLB students book 2 page 190-193 Golden tips physics page 94	
	3-4	Sounds	Nature of sound waves	Describe the nature of sound waves	Describing and observing the characteristics of sound waves using the echo methods to find the speed of sound Discussions	Open tube Closed tube Strings bottles	Secondary physics KLB students book 2 page 194 Golden tips physics page 93	
4	1-2	Sound	Speed of sound	Determine the speed of sound in air by echo methods	Investigating the factors determining the speed of sound	Stop clock/watch Chart on procedure for formulating the speed of sound	Secondary physics KLB students book 2 page 190-193 Golden tips physics page 95	
	3-4	Sound	Factors affecting the speed of sound	State factors that affect the speed of sound	Discussing how different aspects of nature affects the speed of sound	Sources of sound Solid Water Air	Secondary physics KLB students book 2 page 193 Golden tips physics page 95	

5	1-4	Sound	Revision	Solve problems involving sound	Questions and answers Carrying out projects	Exercise in the students book 2	Secondary physics KLB students book 2 page 198-203 Golden tips physics page 96	
6	1-2	Fluid Flow	Structure and turbulent flow	Describe the streamline and turbulent flow	Discussions Observing and defining Streamline and turbulent flow	Water Pipes of varying diameter Sheet of paper	Secondary physics KLB students book 2 page 204-208 Golden tips physics page 48	
	3-4	Fluid Flow	Equation of continuity	Derive the equation of continuity	Deriving the equation of continuity Discussions	pipes of varying diameter charts on equation of continuity	Secondary physics KLB students book 2 page 210-215 Golden tips physics page 49	
7	1-2	Fluid Flow	Bernoulli's effect	Describe experiments to illustrate Bernoulli's effect	Illustrating Bernoulli's effect by experiments	Paper funnel Plane paper	Secondary physics KLB students book 2 page 215-221 Golden tips physics page 49	
	3-4	Fluid Flow	Application of Bernoulli's effect	Describe where Bernoulli's effect is applied such as in the Bunsen burner, spray gun, carburetor, aerofoil and spinning ball	Describing the application of Bernoulli's principle	Bunsen burner	Secondary physics KLB students book 2 page 221-231 Golden tips physics page 49-50	
8	1-4	Fluid Flow	Revision	Solve problems involving the equilibrium of continuity	Answering the questions Discussing answers to assignment	Exercise in the students' book 2 assignment	Secondary physics KLB students book 2 page 231-234 Golden tips physics page 50	
9-10	**1-4**	**END YEAR EXAMINATIONS**						