

RATIONALISED SCHEMES OF WORK



INTEGRATED SCIENCE

GRADE 8

TERM 3

TEACHER'S NAME.....

TSC NUMBER.....

SCHOOL.....

WK	LESSON	STRAND	SUBSTRAND	SPECIFIC LEARNING OUTCOME	KEY INQUIRY QUESTION(S)	LEARNING EXPERIENCES	LEARNING RESOURCES	ASSESSMENT METHODS	REFL
1	1	FORCE AND ENERGY	Forms of energy in nature.	By the end of the lesson the learner should be able to: a) Define energy. b) Identify the forms of energy in nature. c) Appreciate the forms of energy in nature.	What are the forms of energy?	In groups ,learners are guided to -watch a video on forms of energy and record their findings -discuss and compare their findings with other groups	-pictures -digital devices - book page 114-116	-written test -oral questions	
	2		Energy transformations in nature	By the end of the lesson the learner should be able to: a).identify energy transformations in nature b).give examples of energy transformations in nature ac) appreciate the law of conservation of energy in our daily lives	What is the law of conservation of energy?	In groups ,the learners to -study and discuss the pictures showing energy transformation Individually the learners to identify examples of energy transformations in different scenarios	-pictures -active integrated science learners book page 117-118	• Checklist • Written Test • Practical Work • Observation Schedule • oral questions	
	3		Energy transformations in our locality	By the end of the lesson the learner should be able to: a). demonstrate energy transformation in a falling object b).outline energy transformations in falling objects c) appreciate the energy changes involved in a falling object	What are the energy changes in falling object from a raised position?	In groups the learners are guided to -assemble local materials to demonstrate energy transformations -to note down energy changes observed	• a stone - A piece of wood • Course book Active Integrated Scie. Gr 8 T.G pg. 119	• Assessment Rubrics • Checklist • Written Test • Practical Work • Observation Schedule • Portfolio	

	4		Energy transformations in a swinging body	By the end of the lesson the learner should be able to: a).demonstrate energy transformations in a swinging body b).identify and state the forms of energy that a body possess at different points c).have fun with swinging bodies	Which energy transformation takes place in a swinging body?	In pairs the learners are guided in -carrying out an activities to show energy in a swinging body -discussing the energy transformations in a swinging body	Active Integrated Scie. Gr 8 pg. 106-107 -Active Integrated Scie. Gr 8 pg.119-120 -a string -a stone	• Assessment Rubrics • Written Test • Practical Work • Observation Schedule	
	5		Energy transformations in a simple steam driven turbine	By the end of the lesson the learner should be able to: a)Use local materials to make simple steam driven turbine b).discuss the energy transformations that occur in a simple steam driven turbine c) enjoy a operating or using a simple steam driven turbine	What are the energy transformation occur in a simple steam driven turbine	In groups the learners are guided to -make a simple steam driven turbine -in pairs the learners a -operate or use a simple steam driven turbine -identify energy transformations that occur in a simple steam driven turbine	A wire loop Metal sheet Relevant laboratory apparatus Active Integrated Scie. Gr 8 pg. 106-120-122	• Assessment Rubrics • Checklist • Written Test • Practical Work • Observation Schedule	
2	1		Energy transformations in a simple steam driven turbine	By the end of the lesson the learner should be able to: a)Use local materials to make simple steam driven turbine b).discuss the energy transformations that occur in a simple steam driven turbine c) enjoy a operating or using a simple steam driven turbine	What are the energy transformation occur in a simple steam driven turbine	In groups the learners are guided to -make a simple steam driven turbine -in pairs the learners a -operate or use a simple steam driven turbine -identify energy transformations that occur in a simple steam driven turbine	A wire loop Metal sheet Relevant laboratory apparatus Active Integrated Scie. Gr 8 pg. 106-120-122	• Assessment Rubrics • Checklist • Written Test • Practical Work • Observation Schedule	

	2		Appliances whose working relies on energy transformations	By the end of the lesson the learner should be able to: a) the learner should be able to identify appliances whose working relies on energy transformations b) discuss energy transformations in different appliances c) appreciate the energy transformations in different appliances	Which appliances rely on energy transformation ?	In groups the learners are guided to -identify various appliance whose working relies on energy transformation -identify energy transformation involved in the working of various appliances	Bulb Electric heater • Course book Active Integrated Scie. Gr 8 pg. 122-123	• Assessment Rubrics • Checklist • Written Test • Practical Work • Observation Schedule • Portfolio	
	3		Safety measures associated with energy transformation	By the end of the lesson the learner should be able to: a) Use digital devices to search for information on the dangers associated with energy transformation in different cases b) Discuss their findings and present them before the class c) Appreciate the safety measure associated with energy transformations d) appreciate the use of static charges in daily life	What are some of the safety measures associated with energy transformation ?	In groups the learners to -use a digital device to search for the information on dangers associated with energy transformations -find out information on the strategies used to reduce each of the dangers	• digital devices Active Integrated Scie. Gr 8 pg. 125-126 Integrated Scie. Gr 7 P.B pg.129-131	• Assessment Rubrics • Checklist • Written Test • Practical Work • Observation Schedule • Portfolio	
	4		Safety measures associated with energy transformation	a) By the end of the lesson the learner should be able to; Use digital devices to search for information on the dangers associated with energy transformation in different cases	What are some of the safety measures associated with energy transformation ?	In groups the learners to -use a digital device to search for the information on dangers associated with energy transformations -find out information on the strategies used to	• digital devices Active Integrated Scie. Gr 8 pg. 125-126 Integrated Scie. Gr 7 P.B pg.129-131	• Assessment Rubrics • Checklist • Written Test • Practical Work • Observation Schedule • Portfolio	

				b) Discuss their findings and present them before the class c) Appreciate the safety measure associated with energy transformations d) appreciate the use of static charges in daily life		reduce each of the dangers			
	5		Applications of energy transformation in day-to-day-life	By the end of the lesson, the learner should be able to; a.) Identify the applications of the energy transformation processes in day to day life b.) Discuss the applications of energy transformation in different appliances. c.) Appreciate the applications of energy transformation in different appliances	What are the applications of energy transformation processes in day-to-day life?	In groups, learners are guided to identify the applications of energy transformations from pictures. In pairs, learners to compare their findings.	• Digital device Active Integrated Scie. Gr 8 P.B pg.126-127	• Assessment Rubrics • Checklist • Written Test	
3	1		Energy transformation processes in day to day life.	By the end of the lesson the learner should be able to: a.) Highlight examples of energy transformations. b.) Describe where the various energy transformations are applied in day to day life. c.) Appreciate the applications of energy transformations.	What are the applications of energy transformation processes in day-to-day life?	In groups, learners are guided to identify the applications of energy transformations from pictures. In pairs, learners to compare their findings	• Pictures Digital device Active Integrated Scie. Gr 8P.B pg.127	• Assessment Rubrics • Checklist • Written Test .Oral questions	

	2		Revision	By the end of the lesson the learner should be able to; a.) Answer assessment questions on forms of energy.		In pairs, learners are guided to discuss questions on energy transformation. Individually, learners to do written assessment.	Revision papers. Active Integrated Scie. Gr 8P.B pg.128-129	• Assessment Rubrics • Checklist • Written Test	
	3	PRESSURE	Meaning of pressure as used in science.	By the end of the lesson the learner should be able to: a. Use a digital device to search the definition of pressure as used in science. b. Express pressure in terms of force and area c. Enjoy writing the formula for calculating pressure	What is the meaning of pressure?	In groups, learners are guided to define pressure as used in science. Express area in terms of force and area.	Active Integrated Scie. Gr 8 P.B pg.130-131	• Assessment Rubrics • Checklist • Written Test . Oral questions.	
	4		SI unit of pressure.	By the end of the lesson the learner should be able to: a. Identify the SI unit of force and area b. Derive the SI unit of pressure. c. Appreciate the units used to measure pressure.	What is the SI unit of pressure?	In pairs, learners is guided to discuss the SI unit of pressure. Individually, learners to note down other nits of measuring pressure	Digital device. Active Integrated Scie. Gr 8 P.B pg.131	• Assessment Rubrics • Checklist • Written Test • Oral questions.	
	5		Pressure in solids	By the end of the lesson the learner should be able to: a.) Carry out an experiment to describe pressure in solids. b.) Describe pressure in solids. c.) Enjoy testing pressure using blocks of different sizes	What is the effect of pressure on solids?	In groups, learners are guided to use a digital device to research on effects of pressure on solids. In pairs, learners to use blocks of different sizes to demonstrate pressure in solids.	Blocks of solids. Digital device. Active Integrated Scie. Gr 8 P.B pg.132-133	• Assessment Rubrics • Checklist • Written Test • Oral questions. .Observation.	

4	1		Pressure in liquids; To demonstrate that pressure in liquids varies with depth using a pressure probe.	By the end of the lesson the learner should be able to: a) State factors affecting pressure in liquids. b.) Demonstrate that pressure in liquids varies with depth using a pressure probe. c) Appreciate the effect of depth on pressure in liquids.	What is the effect of depth on pressure in liquids?	The learner is guided to: • Demonstrate that pressure in liquids varies with depth using a pressure probe. • Assess how various depths affect pressure in liquids in a pressure probe. • Explain the various observations made on pressure at different depths in a liquid	• Basic Laboratory Apparatus, equipment and selected specimens -Funnel, Hose pipe, Thin rubber sheet, A pair of scissors, Two rubber bands, Retort stands, Clamps. Active Integrated Scie. Gr 8 P.B pg.133-134	• Assessment Rubrics • Checklist • Written Test • Practical Work • Observation Schedule • Portfolio	
	2		To demonstrate that pressure in liquids varies with depth using a plastic bottle.	By the end of the lesson the learner should be able to: a) Demonstrate that pressure in liquids varies with depth using a plastic bottle. b) Explain how pressure in liquids varies with depth. c.) Appreciate the effect of depth on pressure in liquids.	What is the effect of depth on pressure in liquids.	The learner is guided to: • Identify the holes where the water jet land closest and furthest from the bottle. • .Demonstrate that pressure in liquids varies with depth using a plastic bottle. • Describe how pressure in liquids varies with depth.	• Basic Laboratory Apparatus, equipment and selected specimens -Water, A plastic bottle, Water in a Container, Masking tape, Iron nail, Basin. • Course book Active Integrated Scie. Gr 7 P.B pg.134-135	• Written Test • Assessment Rubrics • Checklist • Practical Work • Observation Schedule	

	3		To demonstrate that pressure in liquids varies with depth using a plastic bottle.	By the end of the lesson the learner should be able to: a) Demonstrate that pressure in liquids varies with depth using a plastic bottle. b) Explain how pressure in liquids varies with depth. c.) Appreciate the effect of depth on pressure in liquids.	What is the effect of depth on pressure in liquids.	The learner is guided to: - Identify the holes where the water jet land closest and furthest from the bottle. .Demonstrate that pressure in liquids varies with depth using a plastic bottle. - Describe how pressure in liquids varies with depth.	- Basic Laboratory Apparatus, equipment and selected specimens -Pressure probe, A beaker, Water, Kerosene, Meter rule Active Integrated Scie. Gr 7 P.B pg.135-136	- Written Test - Assessment Rubrics - Checklist - Practical Work - Observation Schedule	
	4		To demonstrate that pressure in liquids varies with density	By the end of the lesson the learner should be able to: a) Explain density as a factor affecting pressure in liquids. b) Demonstrate how pressure in liquids varies with density. c) Appreciate density as a factor affecting pressure in liquids.	What is the effect of density on pressure in liquids?	The learner is guided to: - Demonstrate how pressure in liquids varies with density. - Explain how density affects pressure in liquids.	Basic Laboratory Apparatus, equipment and selected specimen Active Integrated Scie. Gr 7 P.B pg. 135-136	- Written Test - Assessment Rubrics - Checklist - Practical Work - Observation Schedule	
	5		To demonstrate the direction of pressure in liquids using a	By the end of the lesson the learner should be able to: a) Explain the direction in which liquids exert pressure. b) Demonstrate the direction of pressure in	In which direction does liquids exert pressure?	The learner is guided to: Set up an experiment to demonstrate the direction of pressure in liquids.	- Basic Laboratory Apparatus, equipment and selected specimens - Course book	- Written Test - Assessment Rubrics - Checklist - Practical Work - Ob use a pressure probe	

			plastic bottle.	liquids using a plastic bottle. c) Appreciate the direction of pressure in liquids.		• Demonstrate the direction of pressure in liquids using a plastic bottle.	Active Integrated Scie. Gr 7 P.B pg.138-141	to servation Schedule	
5	1		Direction of pressure in liquids	By the end of the lesson the learner should be able to: a).demonstrate direction of pressure in liquids using a pressure probe b)appreciate pressure in liquids	What is the direction of pressure in liquids?	The learners are guided to: - demonstrate the direction of pressure in liquids using a pressure probe	-Active Integrated Scie. Gr 7 pg. 137-138 -pressure probe -	• Written Test • Assessment Rubrics • Checklist • Practical Work • Observation Schedule	
	2		Determining pressure in liquids and solids	By the end of the lesson the learner should be able to: a).calculate pressure exerted by a solid on a surface b).express pressure using correct SI unit c) appreciate pressure exerted in solids	How do you calculate pressure exerted by solids on a surface	In groups to be guided to -in calculating pressure exerted by solids on a surface	Active Integrated Scie. Gr 8 pg.138-139	• Written Test • Assessment Rubrics • Observation Schedule	
	3		Pressure in liquids	By the end of the lesson the learner should be able to: a)correctly derive the formula for pressure in liquids b) use the formula to calculate pressure exerted by liquids c)appreciate pressure in liquids	What is the formula for finding pressure in liquids?	In groups learners are guided to -derive the formula for pressure in liquids - use the formula to calculate pressure exerted by liquids	-board illustrations -charts Active Integrated Scie. Gr 8 pg 140-141	• Written Test • Assessment Rubrics • Checklist • Practical Work • Observation Schedule	
	4		Revisiom	By the end of the lesson the learner should be able to: a) answer all the revion questions on pressure in liquids		In pairs the learners are guided on -calculating pressure in liquids and solids	Active Integrated Scie. Gr 7 pg 139-141	• Written Test • Assessment Rubrics • Observation Schedule	

	5		Application of pressure in solids	By the end of the lesson the learner should be able to: a) discuss activities that apply the use of pressure in solids in daily life b)	What are the application of pressure in solids?	In groups the learners are guided to -compare pressure exerted by their bag packs with straps of different...	-Active Integrated Scie. Grade 8 pg. 141-142 Active Integrated Scie. Gr 7 P.B pg.142-143 -realia	• Written Test • Assessment Rubrics • Checklist • Practical Work • Observation Schedule	
6	1		Application of pressure in liquids	By the end of the lesson the learner should be able to: a) Identify examples of hydraulic machines b) State the pascals principle c) Appreciate the application of the pascals principle in daily life	What are the applications of pressure in liquids?	In pairs the learners are guided to -discuss the examples of hydraulic machines -to present their findings before the class -brainstorm on the pascal's principle	Active Integrated Scie. Gr 8 pg. 142-143 Active Integrated Scie. Gr 7 P.B pg.144-145	- Oral questions • Practical Work • Observation Schedule	
	2		The hydraulic breaking system	By the end of the lesson the learner should be able to: a) Label the parts of the hydraulic breaking system b) Describe how the hydraulic breaking system works a. Appreciate the use of hydraulic breaking system	How does the hydraulic breaking system works?	The learner is guided to: to use a digital to search for the information on how the hydraulic breaking system works -individually the learners to draw and label the parts of the hydraulic breaking system	• digital devices -Diagrams -charts -Active Integrated Scie. Gr 8pg. 144-145	• Written Test • oral questions • Observation Schedule	
	3-4		Calculations involving the applications of pressure in liquids	By the end of the lesson the learner should be able to: a.) Work out questions involving pressure on liquid.	How do we calculate pressure applied in liquids?	In pairs the learners are guided - to work out questions involving pressure in liquids -individually learners to work out examples on the whiteboard	Active Integrated Scie. Gr 8 pg. 144-145	-supervised practice -written tests -oral questions	
	5		Revision	By the end of the lesson the learner should be able to:		The learner is guided to:	-revision materials -Active Integrated Scie. Gr 8 pg. 146-147	- Portfolio • Written Test -written questions	

				a) Answer questions on applications of pressure in liquids		-to answer revision questions from the learners course book. Individually the learners to attempt written questions given	-	-supervised practice -oral questions	
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