School Syllabus Contents directly related to the Energy Conservation & Renewable Energy

Grade 06

Competencies & Competency Levels	Contents	Time (minutes)

7.0 Uses concepts, principles, and theories related to energy, work and force effectively
7.1 Uses force I day to day life pursuits.
	• Concept of force
	  • Pull
	  • Push
	• Instances where forces is applied
	  • To make a stationary object to move
	  • To stop movement of an object
	  • To change the direction of a moving object
	  • To change the speed of an object
	  • To change the shape of an object	

7.2 Uses energy to meet human needs.	• Sources of energy
	  • Sun
	  • Wind
	  • Fuel
	  • Nuclear energy
	  • Potential energy of water
	  • Electro-chemical cells
	• Instances where energy sources are being used.	

7.3 Investigates energy transformations	• Energy transformation
	  • Kinetic energy → electrical energy
	  • Electrical energy → kinetic energy
	  • Electrical energy → thermal energy
	  • Chemical energy → electrical energy
	  • Chemical energy → thermal energy
	  • Electrical energy → light energy
	  • Light energy → electrical energy	

Grade 07

Competencies & Competency Levels	Contents	Time (minutes)

6.5 Generates energy by various sources.	• Sun as the primary sources of energy
	• Naturally stored energy
	  • Food
	  • Fuel
	  • Wind, oceanic waves and flow of water
	• Artificially stored energy
	  • Electro-chemical cells
	  • Changing the position of an object
	  • Changing the form of an object
	  • Solar cells	

6.6 Uses strategies for transmission of mechanical energy according to the circumstances.	• Need for transmission
	• Means of transmission
	  • Belts (endless)
	  • Chains (endless)
	  • Cog-wheels
	  • Shaft
	  • Fluid/hydraulic
	  • Air/pneumatic	

6.7 Employs strategies to use energy effectively.	• Utilization of energy and its economical usage
	  • Domestic
	  • Institutional and industrial
	  • Transport and public places
	• Problems encountered in utilization
	• Alternate energies
	  • Solar energy
	  • Alcohol	

Grade 09

Competencies & Competency Levels	Contents	Time (minutes)

3.3 Investigates on qualitative and quantitative aspects of global energy resources.	• Primary energy resources
	  • Crude oil
	  • Coal
	  • Natural gas
	  • Nuclear energy
	  • Bio mass
	  • Wind
	  • Potential energy of water
	  • Solar energy
	• Unequal distribution of primary energy resources
	• Secondary energy resources
	  • Electricity
	  • Super-heated steam
	  • Thermal
	• Conversion of primary energy resources into secondary energy resources
	  • Electricity from potential energy of water
	  • Electricity from crude oil	

3.4 Investigates the use of alternative energy resources as a solution for energy crisis.	• Alternative energy resources
	  • Bio-diesel
	  • Alcohol (Ethanol/Methanol)
	  • Biomass
	  • Bio-gas
	  • Solar cells
	  • OTEC (Ocean Thermal Energy Conversion)
	  • Ocean waves/tidal
	  • Solar energy
	  • Fuel cells
	  • Hydrogen
	  • Methane
	• Scientific basis of the above energy resources
	• Ways of using them as substitutes for existing energy resources
	• Advantages and disadvantages of the use of the above energy resources	