Semester 1 of 2				
Unit Number: Title Duration	Purpose	Priority Grade-Level Standards	Content Goals and Learner Outcomes	Resources and Materials
Unit 1: Energy and Motion 17 days	In this module, students will ask questions and construct explanations about the relationship between speed and energy and about energy changes during collisions. Students will engage in scientific experiences to answer questions such as: How are energy and speed related? What happens when objects collide?	4PS3: Use evidence to construct an explanation relating the speed of an object to the energy of that object. 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. 4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.	Students will be able to • explain the relationship between the speed and the energy of an object. • make predictions about energy changes that occur when objects collide	*Inspire Science*, Module 1
Unit 2: Transfer of Energy 34 days	In this module, students will plan and carry out investigations ad construct explanations and design solutions that demonstrate the use of energy transfer. Students will engage in scientific experiences to answer questions such as: How do electric currents transfer of energy? How does light transfer energy?	4PS3: Use evidence to construct an explanation relating the speed of an object to the energy of that object. 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.	Students will be able to • design a device that shows several ways in which energy can be transferred. • make observations and use data that electric currents transfer energy. • make observations and use data to provide	*Inspire Science*, Module 2

	What kinds of problems can be solved understanding energy transfer?	4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another. 4 ETS1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on material, time, or cost.	evidence that light transfers energy. • design a device that applies the scientific idea that energy can be transferred from one object to another.	
Unit 3: Structure and Functions of Living Things 32 days	In this module, students will construct arguments based on evidence and develop and use models to describe animal handplant structures and their functions. Students will engage in scientific experiences to answer questions such as: How do plant structures help them survive and reproduce? How do animal structures help them survive? How do animals sense and respond to information? How do animals see?	4LS1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. 4 PS4: Develop a model to describe that light reflecting from objects and	Students will be able to • construct an argument that plants have internal and external structures that help the plant survive, grow, react to stimuli, and reproduce. • construct an argument that animals have internal and external structures that function to support survival and growth. • develop and use models to describe how sense receptors in animals receive information, which is processed in the brain.	*Inspire Science*, Module 3

		entering the eye allows objects to be seen.	• develop a model to demonstrate that light reflecting from objects and entering the eye allows objects to be seen.	
Semester 2 of 2				
Unit Number: Title Duration	Purpose	Priority Grade-Level Standards	Content Goals and Learner Outcomes	Resources and Materials
Unit 4: Wave Patterns and Information Transfer 17 days	In this module, students will develop and use models of waves and construct and compare solutions for using waves to send information. Students will engage in scientific experiences to answer questions such as: How do waves travel? How do we use patterns and waves to transmit information?	4 PS4: Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move. 4-PS4-3. Generate and compare multiple solutions that use patterns to transfer information. 4 ETS1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on material, time, or cost.	Students will be able to • develop a physical model of waves to show patterns of amplitude and wavelength. • generate and compare multiple solutions to transmit information using patterns of waves.	*Inspire Science*, Module 4
Unit 5: Patterns of Earth's Changing Features 24 days	In this module, students will conduct investigations, analyze and interpret data, and construct explanations for changes in Earth's	4-ESS1 : Identify evidence from patterns in rock formations and fossils in rock layers to support an	Students will be able to • analyze and interpret data from models to describe patterns in Earth's features.	*Inspire Science*, Module 5

	surface. Students will engage in scientific experiences to answer questions such as: What are Earth's features? How do living and non-living things change Earth's surface? What can rock formations tell us about Earth's history?	explanation for changes in a landscape over time. 4-ESS2 : Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. 4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.	• make observations and measurements that provide evidence to show that erosion and weathering change Earth's surface. • identify patterns from fossils and rock layers to explain changes in Earth's surface over time.	
Unit 6: Natural Hazards 17 days	In this module, students will investigate natural hazards and design and compare solutions for reducing the impact of a variety of natural hazards. Students will engage in scientific experiences to answer questions such as: How are people affected by earthquakes and volcanoes? How can people prepare for floods?	4-ESS3-1 : Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. 4 ETS1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on material, time, or cost.	Students will be able to • generate and compare solutions to reduce the impact of volcanic eruptions on people. • generate and compare solutions to reduce the impact of flooding on humans.	*Inspire Science*, Module 6
Unit 7: Energy from Natural Resources	In this module, students will obtain, evaluate, and communicate information	4-ESS3-1 : Obtain and combine information to describe that energy and	Students will be able to • describe the advantages and	*Inspire Science*, Module 7

17 days	about energy from Earth's renewable and nonrenewable resources. Students will engage in specific experiences to answer questions such as: What are nonrenewable resources? How are renewable resources used as energy?	fuels are derived from natural resources and their uses affect the environment.	disadvantages of using Earth's different nonrenewable resources as energy sources. • describe the advantages and disadvantages of using Earth's different renewable resources as energy sources.	
End of Semester 2				