

COURSE: Science
Grade Level: Grade 5

MAIN/GENERAL TOPIC	SUB-TOPIC:	ESSENTIAL QUESTIONS:	WHAT THE STUDENTS WILL KNOW:	WHAT THE STUDENT WILL BE ABLE TO DO:	ASSESSMENTS:	WHEN STUDENT DOES IT:
Living Systems	From single cells to body systems	What are cells and what do they do? How do body systems transport materials? How do bones, muscles and nerves work together?	Cells are the basic units of all living things. Groups of cells with the same function interact as tissues, groups of tissues interact as organs, and groups of organs interact as body systems.	TTQA Use graphic organizers. Label charts to organize information. Investigate cell organisms through micro slide use. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Vocabulary games	TTQA Illustrations Science DBQ Unit test	September
	Classifying living things	How do scientists classify living things? How are animals classified? How are plants classified?	One way scientists classify living things is by basic body structures- backbones for animals, and transport tubes for plants.	TTQA Use graphic organizers. Label charts to organize information. Investigate cell organisms through micro slide use. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding Vocabulary games	TTQA Illustrations Science DBQ Unit test	
	Animal Growth and Heredity	How do animals grow and reproduce? What is a life cycle? Why are offspring like their parents?	Animals grow and reproduce as a result of cell division. Structures called chromosomes within cells control all life processes, including the inheritance of characteristics.	TTQA Use graphic organizers. Label charts to organize information. Investigate cell organisms through micro slide use. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding Vocabulary games	TTQA Illustrations Science DBQ Unit test	

	Plants and their adaptations	What are the functions of roots, stems, and leaves? How do plants reproduce? How do people use plants?	Plants have a variety of structures. These structures interact to help plants carry out life processes, such as reproduction. Some plants reproduce using spores while others reproduce using seeds.	TTQA Use graphic organizers. Label charts to organize information. Investigate cell organisms through micro slide use. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities fro understanding Vocabulary games	TTQA Illustrations Science DBQ Unit test	
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Systems and Interactions in Nature	Cycles in Nature	How does nature reuse materials? Why is the water cycle important?	The interactions of living things with their physical environment include cycles of matter. The water cycle is one of the most important cycles in nature.	TTQA Observations Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes.	TTQA Illustrations Power Point Presentations Unit Test HyperStudio	December
	Living Things Interact	What are ecosystems? How does energy flow through an ecosystem? How do organisms compete and survive in an ecosystem? What is extinction and what are its causes?	Living things interact with one another. These interactions include the flow of energy through an ecosystem.	TTQA Observations Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding.	TTQA Illustrations Power Point Presentations Unit Test HyperStudio	

				Predict probable future actions and outcomes.		
	Biomes	What are land biomes? What are water ecosystems?	Children will know climate is probably the most important factor determining the type of natural system, or biome, of a land area. Water movement, temperature, pressure, and salinity determine the type of ecosystem found in a body of water.	TTQA Observations Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes.	TTQA Illustrations Power Point Presentations Unit Test HyperStudio	

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	Protecting and Preserving Ecosystems	How do ecosystems change naturally? How do people change ecosystems? How can people treat ecosystems more wisely? How can people help restore damaged ecosystems?	All ecosystems change naturally with time. Human activities cause changes in the ecosystems.	TTQA Observations Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes.	TTQA Illustrations Power Point Presentations Unit Test HyperStudio	
Processes that Change the Earth	Changes to Earth's Surface	What processes change landforms? What causes mountains, volcanoes, and earthquakes? How has earth's surfaces	On Earth's surfaces, forces such as wind, ice, waves, and running water interact to cause erosions and deposition. Within Earth, forces resulting from	TTQA Use graphic organizers. Label charts to organize information. Generate science questions	Create visual aids for oral presentations TTQA Power Point	January

		changed?	plate movements interact to change Earth through earthquakes, volcanoes, and mountain-building processes.	with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Vocabulary games.	Presentations Illustrations Unit Test HyperStudio	
	Rocks and Minerals	What are minerals? What are rocks? What is the rock cycle?	Processes on and within the Earth interact to produce rocks and minerals. These same processes act to change rocks from one kind to another.	TTQA Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Vocabulary games	Create visual aids for oral presentations TTQA Power Point Presentations Illustrations Unit test HyperStudio	

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	Weather and Climate	How can you observe and measure weather conditions? What causes weather? What is climate and how does it change?	Interactions among temperature, air pressure, humidity, and wind produce weather. Climate, the average weather conditions over a long period, is affected by attitude, latitude, and geographical features such as mountain ranges and large bodies	TTQA Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and	Create visual aids for oral presentations TTQA Power Point Presentations Illustrations Unit test	

			of water. Short-term phenomena, such as El Nino, and human activities also affect climate.	diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Vocabulary games	HyperStudio	
	Exploring the Oceans	What are the oceans like? How do ocean waters move? How do oceans interact with the land? How do people explore the oceans and use ocean resources?	Oceans are complex systems that interact with Earth's land, air, and living organisms. They are affected by the gravitational pull of the moon and the sun.	TTQA Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes.	TTQA Use graphic organizers. Label charts to organize information. Generate science questions with QAR. Interpret data from picture captions, timelines, and diagrams. Participate in guided reading activities for understanding. Predict probable future actions and outcomes.	
The Solar System and Beyond	Earth, Moon, and Beyond	How do Earth and the Moon compare? What else is in the Solar System? How are stars classified? What are galaxies?	Since ancient times, people have studied the changing patterns in the night sky and the interactions of our closet neighbors in space- the moon and the planets.	TTQA Observations Draw logical conclusions. Use graphic organizers. Generate science questions with QAR. Vocabulary games. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Interpret data from picture captions, timelines, and diagrams.	Create visual aids for oral presentations. TTQA Power Point Presentations. Unit test HyperStudio Illustrations	March

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	The Sun and Other Stars	What are the features of the sun? How are stars classified? What are galaxies?	From Earth and from space, scientists study changes in the sun, and interactions among stars, galaxies, galactic clusters, and the universe beyond.	TTQA Observations Draw logical conclusions. Use graphic organizers. Generate science questions with QAR. Vocabulary games. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Interpret data from picture captions, timelines, and diagrams.	Create visual aids for oral presentations. TTQA Power Point Presentations. Unit test HyperStudio Illustrations	
Building Blocks of Matter	Matter and its Properties	How can physical properties be used to identify matter? How does matter change from one state to another? How does matter react chemically?	All matter has physical properties that can be observed, described, and measured. Under normal conditions, most matter exists as a solid, a liquid, or a gas.	TTQA Observations Draw logical conclusions. Use graphic organizers. Generate science questions with QAR. Vocabulary games. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Interpret data from picture captions, timelines, and diagrams.	Create visual aids for oral presentations. TTQA Power Point Presentations. Unit test HyperStudio Illustrations	April
	Atoms and Elements	What are atoms and elements? What are compounds?	The units of matter can be classified by their properties. Matter can be combined, separated, and chemically altered.	TTQA Observations Draw logical conclusions. Use graphic organizers. Generate science questions with QAR. Vocabulary games. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Interpret data from picture captions, timelines, and diagrams.	Create visual aids for oral presentations. TTQA Power Point Presentations. Unit test HyperStudio Illustrations	

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Energy and Motion	Forces	What forces affect objects on Earth every day? What are balanced and unbalanced forces? What is work and how is it measured?	Forces, such as magnetism and gravitation, interact with objects, such as Earth, to produce motion.	TTQA Observations Draw logical conclusions. Use graphic organizers. Generate science questions with QAR. Vocabulary games. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Interpret data from picture captions, timelines, and diagrams.	Create visual aids for oral presentations. TTQA Power Point Presentations. Unit test HyperStudio Illustrations	May
	Motion	How are motion and speed related? What are the three laws of motions? Why do planets stay in orbit?	The laws of motion and conservation of momentum allow scientists to describe interactions between forces and predict resulting motions.	TTQA Observations Draw logical conclusions. Use graphic organizers. Generate science questions with QAR. Vocabulary games. Participate in guided reading activities for understanding. Predict probable future actions and outcomes. Interpret data from picture captions, timelines, and diagrams.	Create visual aids for oral presentations. TTQA Power Point Presentations. Unit test HyperStudio Illustrations	

	Forms of Energy	<p>What are kinetic and potential energy?</p> <p>What is electric energy?</p> <p>What are light and sound energy?</p> <p>What are thermal and chemical energy?</p>	Although energy exists in many forms and can be changed from one form to another, it cannot be created or destroyed.	<p>TTQA</p> <p>Observations</p> <p>Draw logical conclusions.</p> <p>Use graphic organizers.</p> <p>Generate science questions with QAR.</p> <p>Vocabulary games.</p> <p>Participate in guided reading activities for understanding.</p> <p>Predict probable future actions and outcomes.</p> <p>Interpret data from picture captions, timelines, and diagrams.</p>	<p>Create visual aids for oral presentations.</p> <p>TTQA</p> <p>Power Point Presentations.</p> <p>Unit test</p> <p>HyperStudio</p> <p>Illustrations</p>
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	How people use energy	<p>How do people use fossil fuels?</p> <p>How can moving water generate electricity?</p> <p>What other sources of energy do people use?</p>	Electric energy can be produced from a variety of natural resources. In the future, more electric energy may come from inexhaustible resources.	<p>TTQA</p> <p>Observations</p> <p>Draw logical conclusions.</p> <p>Use graphic organizers.</p> <p>Generate science questions with QAR.</p> <p>Vocabulary games.</p> <p>Participate in guided reading activities for understanding.</p> <p>Predict probable future actions and outcomes.</p> <p>Interpret data from picture captions, timelines, and diagrams.</p>	<p>Create visual aids for oral presentations.</p> <p>TTQA</p> <p>Power Point Presentations.</p> <p>Unit test</p> <p>HyperStudio</p> <p>Illustrations</p>	