

SUBJECT: SCIENCE

FIRST QUARTER							
ESSENTIAL INDICATORS			RESOURCES	SUPPORTING INDICATORS			RESOURCES
SI	3	Use evidence and observations to explain and communicate the results of investigations		LS	1	Describe the role of producers in the transfer of energy entering ecosystems as sunlight to chemical energy through photosynthesis.	
SI	4	Identify one or two variables in a simple experiment		LS	2	Explain how almost all kinds of animals' food can be traced back to plants.	
SI	6	Explain why results of an experiment are sometimes different (e.g., because of unexpected differences in what is being investigated, unrealized differences in the methods used or in the circumstances in which the investigation was carried out, and because of errors in observations).		LS	6	Analyze how all organisms, including humans, cause changes in their ecosystems and how these changes can be beneficial, neutral or detrimental (e.g. beaver ponds, earthworm burrows, grasshoppers eating plants, people planting and cutting trees and people introducing a new species.)	
LS	4	Summarize that organisms can survive only in ecosystems in which their needs can be met. (e.g. food, water, shelter, air, carrying capacity and waste disposal). The world has different ecosystems and distinct ecosystems support the lives of different types of organisms.		LS	5	Support how an organism's patterns of behavior are related to the nature of that organism's ecosystem, including the kinds of numbers of other organisms present, the availability of food and resources and the changing physical characteristics of the ecosystem.	
LS	3	Trace the organization of simple food chains and food webs (e.g. producers, herbivores, carnivores, omnivores and decomposers).					

SECOND QUARTER							
ESSENTIAL INDICATORS			RESOURCES	SUPPORTING INDICATORS			RESOURCES
ES	1	Describe how night and day are caused by Earth's rotation.					
ES	2	Explain that Earth is one of several planets to orbit the sun, and that the Moon orbits		ES	6	Investigate ways Earth's renewable resources (e.g. fresh water, air, wildlife and trees) can be maintained.	
ES	5	Explain how the supply of many non-renewable resources is limited and can be extended through reducing and recycling but cannot be extended indefinitely.		ES	9	Identify and describe how freezing, thawing and plant growth reshape the land surface by causing the weathering of rock	
ES	3	Describe the Characteristics of Earth and its orbit about the Sun (e.g., three-fourths of the Earth's surface is covered by a layer of water [some of it frozen], the entire planet surrounded by a thin blanket of air.		SWK	1	Summarize how conclusions and ideas change as new knowledge is gained.	
ES	4	Explain that stars are like the Sun, some being smaller and some larger, but so far away that they look like points of light.		SWK	2	Develop descriptions, explanations and models using evidence to defend/support findings.	
ES	8	Describe how wind, water and ice shape and reshape Earth's land surface by eroding rock and soil in some areas and depositing them in other areas producing characteristic landforms (e.g. dunes, deltas, glacial					
SWK	3	Explain why an experiment must be repeated by different people or at different times or places and yield consistent results before the results are accepted.					
SWK	5	Keep records of investigations and observations that are understandable weeks or months later.					

THIRD QUARTER							
ESSENTIAL INDICATORS			RESOURCES	SUPPORTING INDICATORS			RESOURCES
SI	1	Select and safely use the appropriate tools to collect data when conducting investigations and communicating findings to others (e.g., thermometers, timers, balances, spring scales, magnifiers, microscopes and other appropriate tools)		SWK	4	Identify how scientists use different kinds of ongoing investigations depending on the questions they are trying to answer (e.g., observations of things or events in nature, data collection and controlled experiments)	
PS	1	Define temperature as the measure of thermal energy and describe the way it is measured.		SWK	5	Identify potential hazards and/or precautions involved in an investigation	
PS	2	Trace how thermal energy can transfer from one object to another by conduction					
PS	3	Describe that electrical current in a circuit can produce thermal energy, light, sound and/or magnetic forces					
PS	4	Trace how electrical current travels by creating a simple electric circuit that will light a bulb.					
PS	5	Explore and summarize observations of the transmission, bending (refraction) and reflection of light.					
PS	6	Describe and summarize observations of the transmissions, reflection and absorption of sound					
PS	7	Describe that changing the rate of vibration can vary the pitch of sound					

FOURTH QUARTER							
ESSENTIAL INDICATORS			RESOURCES	SUPPORTING INDICATORS			RESOURCES
ST	1	Investigate positive and negative impacts of human activity and technology on the environment.		SWK	6	Identify a variety of scientific and technological work that people of all ages, backgrounds and groups perform	
ST	2	Evaluate observations and measurements made by other people and identify reasons for any discrepancies.		ST	2	Revise an existing design used to solve a problem based on peer review.	
				ST	3	Explain how the solution to one problem may create other problems	