Grade Seven

Tecumseh School District
Science Curriculum Map

Quarter 1

Standard	Learning Targets	Intro	Continuation	Assess Benchmark	Vocabulary
ESS.7 The relative patterns of motion and positions of the Earth, moon, and sun cause solar and lunar eclipse, tides, and phases of the moon.	The relative patterns of motion and positions of the Earth, moon, and sun cause solar and lunar eclipses, tides, and phases of the moon. The moon's orbit and its change of position relative to the Earth and sun result in different parts of the moon being visible from Earth (phases of the moon). A solar eclipse is when earth moves into the shadow of the moon (during a new moon). A lunar eclipse is when the moon moves into the shadow of Earth (during a full moon). Gravitational force between the Earth and the moon causes daily oceanic tides. When the gravitational forces from the sun and moon align (at new and full moons) spring tides occur. When the gravitational forces of the sun and moon are perpendicular (at first and last quarter moons), neap tides occur.				orbit visible phases solar eclipse shadow lunar eclipse gravitational force oceanic tides gravitational forces full moon spring tide perpendicular neap tide

Quarter 2

Standard	Learning Targets	Intro	Teach	Assess	Vocabulary
ESS.7 The hydrologic cycle illustrates the changing state of water as it moves through the lithosphere, biosphere, hydrosphere, and atmosphere.	Thermal energy is transferred as water changes throughout the cycle. The cycling of water in the atmosphere is an important part of weather patterns on Earth. The rate at which water flows through soil and rock is dependent upon the porosity and permeability of the soil or rock.				thermal energy cycle cycling of water weather patterns porosity permeability
ESS.7 Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns.	the sun is the major source of energy for wind, air, and ocean currents and the hydrologic cycle. As thermal energy transfers occur in the atmosphere and ocean, currents form. Large bodies of water can influence weather and climate. The jet stream is an example of an atmospheric current and the Gulf Stream is an example of an oceanic current. Ocean currents are influenced by factors other than thermal energy, such as water density, mineral content (such as salinity), ocean floor topography and Earth's rotation. All of these factors delineate global climate patterns on Earth.				ocean currents hydrologic cycle thermal energy weather climate atmospheric current water density mineral content salinity ocean floor topography Earth's rotation global climate

ESS.7 The atmosphere has different properties at different elevations and contains a mixture of gases that cycle through the lithosphere, biosphere, hydrosphere, and atmosphere.	The atmosphere is held to the Earth by the force of gravity. There are defined layers of the atmosphere that have specific properties, such as temperature, chemical composition and physical characteristics. Gases in the atmosphere include nitrogen, oxygen, water vapor, carbon dioxide, and other trace gases. Biogeochemical cycles illustrate the movement of specific elements or molecules (such as carbon or nitrogen) through the lithosphere, biosphere, hydrosphere, and atmosphere.				force of gravity layers of the atmosphere temperature chemical composition physical characteristics biogeochemical cycles specific elements molecules lithosphere biosphere hydrosphere

Quarter 3

Standard	Learning Targets	Intro	Continuation	Assess	Vocabulary
PS.7 The properties of matter are determined by the arrangement of atoms.	Elements can be organized into families with similar properties, such as highly reactive metals, less-reactive metals, highly reactive nonmetels and some gases that are almost completely nonreactive. Substances are classified according to their properties, such as metals and acids. When substances interact to form new substances, the properties of the new substances may be very different from those of the old, but the amount of mass does not change.				elements families properties reactive metals less-reactive metals highly reactive nonmetals nonreactive properties acids interact mass
PS.7 Energy can be transformed or transferred but is never lost.	When energy is transferred from one system to another, the quantity of energy before transfer equals the quantity of energy after transfer. When energy is transformed from one form to another, the total amount of energy remains the same				energy transferred quantity transformed
PS.7 Energy can be transferred through a variety of ways.	Mechanical energy can be transferred when objects push or push on each other over a distance. Electromagnetic waves transfer energy when they interact with matter. Thermal energy can be transferred through radiation, convection, and conduction. Electrical energy transfers when an electrical source is connected in a complete electrical circuit to an electrical device.				mechanical energy transferred distance electromagnetic waves interact thermal energy radiation convection conduction electrical energy electrical electrical circuit electrical device

Quarter 4

Standard	Learning Targets	Intro	Continuation	Assess	Vocabulary
LS.7 Matter is transferred continuously between one organism to another and between organisms.	Plants use the energy in light to make sugars out of carbon dioxide and water (photosynthesis). These materials can be used and immediately stored for later use. Organisms that eat plants break down plant structures to produce the materials and energy they need to survive. Then they are consumed by other organisms. Energy can transform from one form to another in living things. Animals get energy from oxidizing food, releasing some of its energy as heat. The total amount of matter and energy remains constant, even though its form and location change.				energy carbon dioxide photosynthesis organisms consumed transform oxidizing food matter and energy

Standard	Learning Targets	Intro	Continuation	Assess	Vocabulary
LS.7 In any particular biome, the number, growth, and survival of organisms and populations depend on biotic and abiotic factors.	Biomes are regional ecosystems characterized by distinct types of organisms that have developed under specific soil and climatic conditions. The variety of physical (abiotic) conditions that exists on Earth gives rise to diverse environments (biomes) and allows for the existence of a wide variety of organisms (biodiversity). Ecosystems are dynamic in nature; the number and types of species fluctuate over time. Disruptions, deliberate or inadvertent, to the physical (abiotic) or biological (biotic) components of an ecosystem impact the composition of an ecosystem.				biomes ecosystems climatic abiotic diverse biodiversity disruptions deliberate inadvertent biotic composition
CCRA.W.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach					
CCRA.W.6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with other					
CCRA.W.8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism					
CCRA.W.9 Draw evidence from literary or informational texts to support analysis, reflection, and research					

Standard	Learning Targets	Intro	Continuation	Assess	Vocabulary
RST.6 – 8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently					
RST.6 – 8.9 Compare and contrast the information gained from experiments, simulations, video or multimedia sources with that gained from reading a text on the same topic					
RST.6 – 8.8 Distinguish among facts, reasoned judgement based on research findings, and speculation in a text					
CCRA.W.1 Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence					
CCRA.1.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences					
CCRA.W.2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.					
CCRA.W.3 Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.					

Standard	Learning Targets	Intro	Continuation	Assess	Vocabulary
CCRA.W.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.					
RST.6 – 8.1 Cite specific textual evidence to support analysis of science and technical texts					
RST.6 – 8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions					
RST.6 – 8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks					
RST.6 – 8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.					
RST.6 – 8.5 Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.					
RST..6 – 8.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text					

Standard	Learning Targets	Intro	Continuation	Assess	Vocabulary
RST.6 – 8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).					