

Gwinnett County Public Schools Science Grade 4 – Instructional Calendar 2022- 2023

1 st Nine Weeks		2 nd Nine Weeks	
Ecosystems, Food Chains & Food Webs 4.5 weeks	Force, Mass, Motion & Simple Machines Effects of Gravity 4.5 weeks	Water Cycle 4.5 weeks	Weather Data & Forecasting 4.5 weeks
<p>4. obtain, evaluate, and communicate information about the roles of organisms and the flow of energy within an ecosystem (GSE S4L1)</p> <p>4a. develop a model to describe the roles of producers, consumers, and decomposers in a community (GSE S4L1a) <i>(Clarification statement: Students are not expected to identify the different types of consumers – herbivores, carnivores, omnivores and scavengers.)</i></p> <p>4b. develop simple models to illustrate the flow of energy through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers (GSE S4L1b)</p> <p>4c. design a scenario to demonstrate the effect of a change on an ecosystem (GSE S4L1c) <i>(Clarification statement: Include living and non-living factors in the scenario.)</i></p> <p>4d. use printed and digital data to develop a model illustrating and describing changes to the flow of energy in an ecosystem when plants or animals become scarce, extinct, or over-abundant (GSE S4L1d)</p>	<p>2. obtain, evaluate, and communicate information about the relationship between balanced and unbalanced forces (GSE S4L3)</p> <p>2a. plan and carry out an investigation on the effects of balanced and unbalanced forces on an object and communicate the results (GSE S4P3a)</p> <p>2b. construct an argument to support the claim that gravitational force affects the motion of an object (GSE S4P3b)</p> <p>2c. ask questions to identify and explain the uses of simple machines (i.e., lever, pulley, wedge, inclined plane, wheel and axle, and screw) and how forces are changed when simple machines are used to complete tasks (GSE S4P3c) <i>(Clarification Statement: The use of mathematical formulas is not expected.)</i></p>	<p>5. obtain, evaluate, and communicate information to demonstrate the water cycle (GSE S4E3)</p> <p>5a. plan and carry out investigations to observe the flow of energy in water as it changes states from solid (i.e., ice) to liquid (i.e., water) to gas (i.e., water vapor) and changes from gas to liquid to solid <i>(Clarification statement: Students should be able to identify the temperatures at which water becomes a solid and at which water becomes a gas.)</i> (GSE S4E3a)</p> <p>5b. develop models to illustrate multiple pathways water may take during the water cycle (i.e., evaporation, condensation, and precipitation) (GSE S4Eb) <i>(Clarification statement: Students should understand that the water cycle does not follow a single pathway.)</i> (GSE S4Eb)</p>	<p>6. obtain, evaluate, and communicate information using weather charts/maps and collect weather data to predict weather events and infer weather patterns (GSE S4E4)</p> <p>6a. construct an explanation of how weather instruments (i.e., thermometer, rain gauge, barometer, wind vane, and anemometer) are used in gathering weather data and making forecasts (GSE S4E4a)</p> <p>6b. interpret data from weather maps to identify fronts (i.e., warm, cold, and stationary), temperature, pressure and precipitation to make an informed prediction about tomorrow's weather (GSE S4E4b)</p> <p>6c. ask questions and use observations of cloud types (i.e., cirrus, stratus, and cumulus) and data of weather conditions to predict weather events and patterns throughout the year (GSE S4E4c)</p> <p>6d. construct an explanation based on research to communicate the difference between weather and climate (GSE S4E4d)</p>

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3 rd Nine Weeks		4 th Nine Weeks	
Earth & Moon 4.5 weeks	Solar System & Beyond, Stars & Star Patterns 4.5 weeks	Light 4.5 weeks	Sound 4.5 weeks
<p>8. obtain, evaluate, and communicate information to model the effects of the position and motion of Earth and the moon in relation to the sun as observed from Earth (GSE S4E2)</p> <p>8a. develop a model to support an explanation of why the length of day and night change throughout the year (GSE S4E2a)</p> <p>8b. develop a model based on observations to describe the repeating pattern of the phases of the moon (i.e., new, crescent, quarter, gibbous, and full) (GSE S4E2b)</p> <p>8c. construct an explanation of how Earth's tilt and consistent orbit affects seasonal changes (GSE S4E2c)</p>	<p>7. obtain, evaluate, and communicate information to compare and contrast the physical attributes of stars and planets (GSE S4E1)</p> <p>7a. ask questions to compare and contrast technological advances that have changed the amount and type of information on distant objects in the sky (GSE S4E1a)</p> <p>7b. construct an argument on why stars (including Earth's sun) appear to be larger or brighter than others <i>(Clarification statement: Differences are limited to distance and size not age or stage.)</i> (GSE S4E1b)</p> <p>7c. construct an explanation of the differences between stars and planets in the sky (GSE S4E1c)</p> <p>7d. evaluate strengths and limitations of models of our solar system in describing relative size, order, appearance and composition of planets and the sun <i>(Clarification statement: Composition of planets is limited to rocky vs. gaseous.)</i> (GSE S4E1d)</p>	<p>1. obtain, evaluate, and communicate information about the nature of light and how light interacts with objects (GSE S4P1)</p> <p>1a. plan and carry out investigations to observe and record how light interacts with various materials to classify them as opaque, transparent, or translucent (GSE S4P1a)</p> <p>1b. plan and carry out investigations on the path light travels from a light source to a mirror and how it is reflected by the mirror using different angles (GSE S4P1b)</p> <p>1c. plan and carry out an investigation utilizing everyday materials to explore examples of when light is refracted <i>(Clarification statement: Everyday materials could include prisms, eyeglasses, and a glass of water.)</i> (GSE S4P1c)</p>	<p>3. obtain, evaluate, and communicate information about how sound is produced and changed and how sound and/or light can be used to communicate (GSE S4P2)</p> <p>3a. plan and carry out an investigation utilizing everyday objects to produce sound and predict the effects of changing the strength or speed of vibrations (GSE S4P2a)</p> <p>3b. design and construct a device to communicate across a distance using light and/or sound (GSE S4P2b)</p>