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GLASS HARP MUSIC

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Alignment of Glass Harp Performances with Georgia Science Standards of Excellence for K-8, by chart and by each applicable standard:

Kindergarten SKE1 b SKE2 a SKP2 a	Grade 1 S1E1 d S1P1 d	Grade 2 S2E2 c S2P1 a S2P2 a,b,c
Grade 3 S3E1 b S3P1 a	Grade 4 S4E2 a,b,c S4E3 a S4E4 a S4P2 a,b S4P3 c	Grade 5 S5E1 c S5P1 a,b
Grade 6 S6E1 a S6E3 d S6E5 b,c	Grade 7 --	Grade 8 S8P1 b,c,d S8P2 a-d S8P3 a S8P4 a,d,e,f

Kindergarten

SKE1. Obtain, evaluate, and communicate observations about time patterns (day to night and night to day) and objects (sun, moon, stars) in the day and night sky.
b. Develop a model to communicate the changes that occur in the sky during the day, as day turns into night, during the night, and as night turns into day using pictures and words.

SKE2. Obtain, evaluate, and communicate information to describe the physical attributes of earth materials (soil, rocks, water, and air).
a. Ask questions to identify and describe earth materials—soil, rocks, water, and air.

SKP2. Obtain, evaluate, and communicate information to compare and describe different types of motion.
a. Plan and carry out an investigation to determine the relationship between an object's physical attributes and its resulting motion (straight, circular, back and forth, fast and slow, and motionless) when a force is applied. (Examples could include toss, drop, push, and pull.)

Grade 1

S1E1. Obtain, evaluate, and communicate weather data to identify weather patterns.
d. Analyze data to identify seasonal patterns of change.

S1P1. Obtain, evaluate, and communicate information to investigate light and sound.
d. Construct an explanation supported by evidence that vibrating materials can make sound and that sound can make materials vibrate.

Grade 2

S2E2. Obtain, evaluate, and communicate information to develop an understanding of the patterns of the sun and the moon and the sun's effect on Earth.
c. Represent data in tables and/or graphs of the length of the day and night to recognize the change in seasons.

S2P1. Obtain, evaluate, and communicate information about the properties of matter and changes that occur in objects.
a. Ask questions to describe and classify different objects according to their physical properties. (Clarification statement: Examples of physical properties could include color, mass, length, texture, hardness, strength, absorbency, and flexibility.)

S2P2. Obtain, evaluate, and communicate information to explain the effect of a force (a push or a pull) in the movement of an object (changes in speed and direction).
a. Plan and carry out an investigation to demonstrate how pushing and pulling on an object affects the motion of the object.
b. Design a device to change the speed or direction of an object.
c. Record and analyze data to decide if a design solution works as intended to change the speed or direction of an object with a force (a push or a pull).

Grade 3

S3E1. Obtain, evaluate, and communicate information about the physical attributes of rocks and soils.
b. Plan and carry out investigations to describe properties (color, texture, capacity to retain water, and ability to support growth of plants) of soils and soil types (sand, clay, loam).

S3P1. Obtain, evaluate, and communicate information about the ways heat energy is transferred and measured.
a. Ask questions to identify sources of heat energy. (Clarification statement: Examples could include sunlight, friction, and burning.)

Grade 4

S4E2. Obtain, evaluate, and communicate information to model the effects of the position and motion of the Earth and the moon in relation to the sun as observed from the Earth.
a. Develop a model to support an explanation of why the length of day and night change throughout the year.
b. Develop a model based on observations to describe the repeating pattern of the phases of the moon (new, crescent, quarter, gibbous, and full).
c. Construct an explanation of how the Earth's orbit, with its consistent tilt, affects seasonal changes.

S4E3. Obtain, evaluate, and communicate information to demonstrate the water cycle.
a. Plan and carry out investigations to observe the flow of energy in water as it changes states from solid (ice) to liquid (water) to gas (water vapor) and changes from gas to liquid to solid.

S4E4. Obtain, evaluate, and communicate information to predict weather events and infer weather patterns using weather charts/maps and collected weather data.
a. Construct an explanation of how weather instruments (thermometer, rain gauge, barometer, wind vane, and anemometer) are used in gathering weather data and making forecasts.

S4P2. Obtain, evaluate, and communicate information about how sound is produced and changed and how sound and/or light can be used to communicate.
a. Plan and carry out an investigation utilizing everyday objects to produce sound and predict the effects of changing the strength or speed of vibrations.
b. Design and construct a device to communicate across a distance using light and/or sound.

S4P3. Obtain, evaluate, and communicate information about the relationship between balanced and unbalanced forces.
c. Ask questions to identify and explain the uses of simple machines (lever, pulley, wedge, inclined plane, wheel and axle, and screw) and how forces are changed when simple machines are used to complete tasks.

Grade 5

S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.
c. Ask questions to obtain information on how technology is used to limit and/or predict the impact of constructive and destructive processes.

S5P1. Obtain, evaluate, and communicate information to explain the differences between a physical change and a chemical change.
a. Plan and carry out investigations of physical changes by manipulating, separating and mixing dry and liquid materials.
b. Construct an argument based on observations to support a claim that the physical changes in the state of water are due to temperature changes, which cause small particles that cannot be seen to move differently.

Grade 6

S6E1. Obtain, evaluate, and communicate information about current scientific views of the universe and how those views evolved.
a. Ask questions to determine changes in models of Earth's position in the solar system, and origins of the universe as evidence that scientific theories change with the addition of new information.

S6E3. Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes.
d. Analyze and interpret data to create graphic representations of the causes and effects of waves, currents, and tides in Earth's systems.

S6E5. Obtain, evaluate, and communicate information to show how Earth's surface is formed.
b. Plan and carry out an investigation of the characteristics of minerals and how minerals contribute to rock composition.
c. Construct an explanation of how to classify rocks by their formation and how rocks change through geologic processes in the rock cycle.

Grade 8

S8P1. Obtain, evaluate, and communicate information about the structure and properties of matter.
b. Develop and use models to describe the movement of particles in solids, liquids, gases, and plasma states when thermal energy is added or removed.
c. Plan and carry out investigations to compare and contrast chemical (i.e., reactivity, combustibility) and physical (i.e., density, melting point, boiling point) properties of matter.
d. Construct an argument based on observational evidence to support the claim that when a change in a substance occurs, it can be classified as either chemical or physical.

S8P2. Obtain, evaluate, and communicate information about the law of conservation of energy to develop arguments that energy can transform from one form to another within a system.
a. Analyze and interpret data to create graphical displays that illustrate the relationships of kinetic energy to mass and speed, and potential energy to mass and height of an object.
b. Plan and carry out an investigation to explain the transformation between kinetic and potential energy within a system (e.g., roller coasters, pendulums, rubber bands, etc.).
c. Construct an argument to support a claim about the type of energy transformations within a system [e.g., lighting a match (light to heat), turning on a light (electrical to light)].
d. Plan and carry out investigations on the effects of heat transfer on molecular motion as it relates to the collision of atoms (conduction), through space (radiation), or in currents in a liquid or a gas (convection).

S8P3. Obtain, evaluate, and communicate information about cause and effect relationships between force, mass, and the motion of objects.
a. Analyze and interpret data to identify patterns in the relationships between speed and distance, and velocity and acceleration.

S8P4. Obtain, evaluate, and communicate information to support the claim that electromagnetic (light) waves behave differently than mechanical (sound) waves.
a. Ask questions to develop explanations about the similarities and differences between electromagnetic and mechanical waves.
d. Develop and use a model to compare and contrast how light and sound waves are reflected, refracted, absorbed, diffracted or transmitted through various materials.
e. Analyze and interpret data to predict patterns in the relationship between density of media and wave behavior (i.e., speed).
f. Develop and use a model (e.g., simulations, graphs, illustrations) to predict and describe the relationships between wave properties (e.g., frequency, amplitude, and wavelength) and energy.