Grade 3 science GLEs

Strand 1: Properties and Principles of Matter and Energy

1-1D – Investigating States of Matter
a. Compare the observable physical properties of solids, liquids, or gases (air) (i.e., visible vs. invisible, changes in shape, changes in the amount of space occupied).
b. Identify everyday objects/substances as solid, liquid, or gas (e.g., air, water).
c. Observe and identify that water evaporates (liquid water changes into a gas as it moves into the air).
d. Measure and compare the temperature of water when it exists as a solid to its temperature when it exists as a liquid.
e. Investigate and observe that water can change from a liquid to a solid (freeze), and back again to a liquid (melt), as the result of temperature changes.
f. Describe the changes in the physical properties of water (i.e., shape, volume) when frozen or melted.

Predict and investigate the effect of heat (thermal energy) (i.e., change in temperature, melting, evaporation) on objects and materials.

1-2A – Investigating States of Matter
a. Identify sources of thermal energy (e.g., Sun, stove, fire, body) that can cause solids to change to liquids, and liquids to change to gas.

1-2A – Earth, Sun, and Moon
b. Identify sources of light energy (e.g., Sun, bulbs, flames).
c. Observe light being transferred from the source to the receiver (eye) through space.
d. Identify the three things (light source, object, and surface) necessary to produce a shadow.

Grade 3 Strand 4: Changes in Ecosystems and Interactions of Organisms with their Environments

4-2A – Food Chains
a. Identify sunlight as the primary source of energy plants use to produce their own food.
b. Classify populations of organisms as producers or consumers by the role they serve in the ecosystem.
c. Sequence the flow of energy through a food chain beginning with the Sun.
d. Predict the possible effects of removing an organism from a food chain.

Grade 3 Strand 5: Processes and Interactions of the Earth’s Systems (Geosphere, Atmosphere, and Hydrosphere)

5-1C – Investigating States of Matter
a. Identify that liquid water can be changed into a gas (vapor) in the air.
b. Identify that clouds are composed of tiny droplets of water.
c. Identify air as a substance that surrounds us, taking up space and moves around us as wind.

5-2E – Investigating States of Matter
a. Describe clouds and precipitation as forms of water.

Grade 3 Strand 6: Composition and Structure of the Universe and the Motion of the Objects Within It

6-1A – Earth, Sun, and Moon
a. Describe our Sun as a star because it provides light energy to the solar system
b. Observe and identify the Moon as a reflection of light.
6-2A – Earth, Sun, and Moon
a. Illustrate and describe how the Sun appears to move slowly across the sky from east to west during the day.
6-2B – Earth, Sun, and Moon
a. Illustrate and describe how the Moon appears to move slowly across the sky from east to west during the day and/or night.
b. Describe the pattern of change that can be observed in the Moon’s appearance relative to time of day and month as it occurs over several months.
(Do NOT assess moon phases)

6-2C – Earth, Sun, and Moon
a. Observe and identify there is a day/night cycle every 24 hours.
b. Describe the changes in length and position (direction) of shadows from morning to midday to afternoon.
c. Describe how the Sun’s position in the sky changes the length and position of shadows.

Grade 3 Strand 7: Scientific Inquiry

7-1A - Inquiry
a. Pose questions about objects, materials, organisms, and events in the environment.
b. Plan and conduct a fair test to answer a question.

7-1B - Inquiry
a. Make qualitative observations using the five senses.
b. Make observations using simple tools and equipment (e.g., hand lenses, magnets, thermometers, metric rulers, balances, graduated cylinders).
c. Measure length to the nearest centimeter, mass using grams, temperature using degrees Celsius, volume using liters.
d. Compare amounts/measurements.
e. Judge whether measurements and computation of quantities are reasonable.

7-1C - Inquiry
a. Use quantitative and qualitative data as support for reasonable explanations.
b. Use data as support for observed patterns and relationships, and to make predictions to be tested.
c. Evaluate the reasonableness of an explanation.
d. Analyze whether evidence supports proposed explanations.

7-1D - Inquiry
a. Communicate simple procedures and results of investigations and explanations through:
   - oral presentations
   - drawings and maps
   - data tables
   - graphs (bar, single line, pictograph)
   - writings.

Grade 3 Strand 8: Impact of Science, Technology and Human Activity

8-1A – Investigating States of Matter/Earth, Sun, and Moon
a. Observe and identify that some objects or materials (e.g., Sun, fire, ice, snow) occur in nature (natural objects); others (e.g., stoves, refrigerators, bulbs, candles, lanterns) have been designed and made by people to solve human problems and enhance the quality of life (human-made objects).

8-1B – Investigating States of Matter/Earth, Sun, and Moon/Plants
a. Describe how new technologies have helped scientists make better observations and measurements for investigations (e.g., telescopes, magnifiers, balances, microscopes, computers, stethoscopes, thermometers).

8-3A
a. Identify a question that was asked, or could be asked, or a problem that needed to be solved when given a brief scenario (fiction or nonfiction of people working alone or in groups solving everyday problems or learning through discovery).
b. Work with a group to solve a problem, giving due credit to the ideas and contributions of each group member.