Inquiry Skills	Grade 8 TEKS Links
1. Set up a new, appropriate problem/application	2(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology. 5(A) identify a design problem and propose a solution. 5(B) design and test a model to solve the problem.
2. Pose relevant questions and develop hypotheses	2(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology.
3. Make and test predictions	4(B) extrapolate from collected information to make predictions.
4. Observations and measurements are accurate and appropriate	2(B) collect data by observing and measuring.
5. Equipment is used properly with appropriate safety procedures	1(A) demonstrate safe practices during field and laboratory investigations.
6. Quality assurance procedures are employed (multiple, repeated readings; recalibration) and measurement errors are detected	
7. Specify measurements and variables	
8. Identify similarities and differences	
9. Explain reasons for differences	
10. Use appropriate mathematical procedures	2(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.
11. Infer patterns and trends	2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence. 3(B) draw inferences based on data related to promotional materials for products and services. 4(B) extrapolate from collected information to make predictions.
12. Explain data and relationships using evidence	2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence.
13. Collect and organize data	2(B) collect data by observing and measuring. 4(A) collect, record, and analyze information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, hot plates, dissecting equipment, test tubes, safety goggles, spring scales, balances, microscopes, telescopes, thermometers, calculators, field equipment, computers, computer probes, water test kits, and timing devices.
14. Use multiple forms to represent data	2(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.
15. Use models and simulations	3(C) represent the natural world using models and identify their limitations. 5(C) evaluate the model and make recommendations for improving the model.
16. Communicate findings	2(D) communicate valid conclusions.

GLOBE ATMOSPHERE Science Concepts	Grade 8 Grade 8 Direct TEKS Link*
1. The atmosphere has observable and/or measurable characteristics.	2(B) collect data by observing and measuring
2. Clouds can be categorized by observable features.	2(B) collect data by observing and measuring
3. Cloud cover and wind can affect atmospheric measurements.	10(B) describe interactions among solar, weather, and ocean systems
4. Cloud types can be associated with certain weather patterns and used to predict the weather.	2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence 10(B) describe interactions among solar, weather, and ocean systems
5. pH is a characteristic property that can be measured.	2(B) collect data by observing and measuring
6. Heat energy transfers through radiation, conduction, and convection.	10(A) illustrate interactions between matter and energy including specific heat
7. Substances transfer heat energy at different rates.	9(D) identify that physical and chemical properties influence the development and application of everyday materials such as cooking surfaces, insulation, adhesives, and plastics 10(A) illustrate interactions between matter and energy including specific heat
8. Some materials are good conductors of heat energy; some are good insulators of heat energy.	9(D) identify that physical and chemical properties influence the development and application of everyday materials such as cooking surfaces, insulation, adhesives, and plastics 10(A) illustrate interactions between matter and energy including specific heat
9. The transfer of heat energy affects temperature.	9(D) identify that physical and chemical properties influence the development and application of everyday materials such as cooking surfaces, insulation, adhesives, and plastics 10(A) illustrate interactions between matter and energy including specific heat
10. Substances expand and contract as the temperature changes.	9(D) identify that physical and chemical properties influence the development and application of everyday materials such as cooking surfaces, insulation, adhesives, and plastics 10(A) illustrate interactions between matter and energy including specific heat
11. Classification helps to organize and understand the natural world.	
Atmosphere Enrichment Concepts	**Grade 8 Direct TEKS Link***
1. Water has the unique property of expansion when changing from a liquid to a solid state.	

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GLOBE HYDROLOGY Science Concepts	Grade 8 Direct TEKS Link*
1. Surface water exists in many forms and has observable and/or measurable characteristics.	2(B) collect data by observing and measuring
2. Surface water characteristics are related to the characteristics of the surrounding environment.	6(C) describe interactions within ecosystems
3. A watershed guides water to a common watercourse.	3(C) represent the natural world using models and identify their limitations
4. Watershed characteristics are related to the physical features of the land.	3(C) represent the natural world using models and identify their limitations 6(C) describe interactions within ecosystems
5. The physical environment affects an organism's response patterns; organisms adapt and survive, move, or die.	6(C) describe interactions within ecosystems 11(A) identify that change in environmental conditions can affect the survival of individuals and of species
6. pH is a characteristic property that can be measured.	2(B) collect data by observing and measuring
7. Classification helps to organize and understand the natural world.	
Enrichment Concepts	
1. Macro-invertebrates are sensitive indicators of water quality.	2(B) collect data by observing and measuring 2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence 6(C) describe interactions within ecosystems
2. Topographical maps provide 3-dimensional information about the land.	2(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data 3(C) represent the natural world using models and identify their limitations

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GLOBE SOILS Science Concepts	Grade 8 Direct TEKS Link*	Grade 8 InDirect TEKS Link*
1. Soil has observable and/or measurable properties that change with time and location.	2(B) collect data by observing and measuring	12(A) analyze and predict the sequence of events in the lunar and rock cycles 14(A) predict land features resulting from gradual changes such as mountain building, beach erosion, land subsidence, and continental drift
2. The interaction of organisms, climate, parent material, topography, and time affect soil properties.	6(C) describe interactions within ecosystems	12(A) analyze and predict the sequence of events in the lunar and rock cycles 14(A) predict land features resulting from gradual changes such as mountain building, beach erosion, land subsidence, and continental drift
3. Soil acts as an insulating layer, creating a measurable temperature gradient.	2(B) collect data by observing and measuring 2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence	
4. Environmental conditions affect the rate of decomposition in soil.	6(C) describe interactions within ecosystems	
5. The chemical and physical properties of soils make different soils useful in different ways.	9(D) identify that physical and chemical properties influence the development and application of everyday materials such as cooking surfaces, insulation, adhesives, and plastics	
6. pH is a characteristic property that can be measured.	2(B) collect data by observing and measuring	
7. Classification helps to organize and understand the natural world.		
Soils Enrichment Concepts:		
1. There are 12 soil textures representing different amounts of sand-, silt-, and clay-sized particles.	2(B) collect data by observing and measuring	
2. A soil profile can be classified according to its properties, such as horizon, color, structure, consistency, texture, root and rock distribution, density, pH, carbonates, and fertility.	2(B) collect data by observing and measuring	
3. Infiltration is the rate at which water flows into the ground; the rate changes depending on the level of soil saturation, soil texture and structure, and land cover.	2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence	

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GLOBE LAND COVER Science Concepts	Grade 8 Direct TEKS Link*	Grade 8 InDirect TEKS Link*
1. A GLOBE Study Site has observable and/or measurable characteristics.	2(B) collect data by observing and measuring	
2. A GLOBE Study Site represents a system with boundaries, and is a subset of the earth system.		10(B) describe interactions among solar, weather, and ocean systems
3. Earth's land surface is covered by a variety of naturally occurring vegetated ecosystems.	6(C) describe interactions within ecosystems	
4. The physical environment affects an organism's response patterns; organisms adapt and survive, move, or die.	6(C) describe interactions within ecosystems 11(A) identify that change in environmental conditions can affect the survival of individuals and of species	
5. The magnetic needle of a compass is attracted to Earth's Magnetic North and to some metal objects that are nearby.		
6. Classification helps to organize and understand the natural world.		
Land Cover Enrichment Concepts	Grade 8 Direct TEKS Link*	Grade 8 InDirect TEKS Link*
1. Remote sensing is a technique used to create visual representations of data.	2(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data 3(C) represent the natural world using models and identify their limitations	
2. Image display is accomplished by conversion of stored data to a user-defined coded scheme and creating an image based on differences in measurement.	2(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data 3(C) represent the natural world using models and identify their limitations	
3. Student remote sensing involves observations made without the use of touch (i.e., using eyes, ears, nose and skin surface).	3(C) represent the natural world using models and identify their limitations	

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GLOBE Seasons Science Concepts	Grade 8 Direct TEKS Link*
1. Seasonal changes can be observed.	2(B) collect data by observing and measuring
2. Seasonal changes follow an annual cycle. The magnitude of these changes varies from year to year.	2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence
3. Seasonal patterns differ based on geographic location.	2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence
4. Earth has many climate zones.	6(C) describe interactions within ecosystems
5. Classification helps to organize and understand the natural world.	
Seasons Enrichment Concepts	Grade 8 Direct TEKS Link*
1. Bud-break is the period when leaf buds appear and grow.	2(B) collect data by observing and measuring 2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence
2. Senescence is the period when actively growing plant material dies.	2(B) collect data by observing and measuring 2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence

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GLOBE GPS Science Concepts	Grade 8 Direct TEKS Link*
1. The amount of sunlight that falls directly at a particular site on Earth varies throughout the year.	2(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence
2. The magnetic needle of a compass is attracted to Earth's Magnetic North and to some metal objects that are nearby.	
3. A map is a symbolic representation of a certain land area.	2(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data 3(C) represent the natural world using models and identify their limitations
GPS Enrichment Concepts	**Grade 8 Direct TEKS Link***
1. Universal time is a technique used to standardize time measurements.	3(E) connect Grade 8 science concepts with the history of science and contributions of scientists
2. The spatial relationship between Earth and celestial objects can be used to determine location on Earth.	3(E) connect Grade 8 science concepts with the history of science and contributions of scientists
3. The GPS is used to make accurate measurements of latitude and longitude.	2(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data

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