

Inquiry Skills	Environmental Systems 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 equipment and technology.
2. Pose relevant questions and develop hypotheses	2(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology.
3. Make and test predictions	
4. Observations and measurements are accurate and appropriate	2(B) collect data and make measurements with precision.
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	
11. Infer patterns and trends	2(C) organize, analyze, evaluate, make inferences, and predict trends from data.
12. Explain data and relationships using evidence	2(C) organize, analyze, evaluate, make inferences, and predict trends from data.
13. Collect and organize data	2(B) collect data and make measurements with precision.
14. Use multiple forms to represent data	
15. Use models and simulations	
16. Communicate findings	2(D) communicate valid conclusions.

GLOBE ATMOSPHERE Science Concepts	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. The atmosphere has observable and/or measurable characteristics.	2(B) collect data and make measurements with precision	
2. Clouds can be categorized by observable features.		
3. Cloud cover and wind can affect atmospheric measurements.	2(B) collect data and make measurements with precision;	
4. Cloud types can be associated with certain weather patterns and used to predict the weather.	4(B) make observations and compile data about fluctuations in abiotic cycles and evaluate the effects of abiotic factors on local ecosystems and biomes 2(C) organize, analyze, evaluate, make inferences, and predict trends from data	
5. pH is a characteristic property that can be measured.	2(B) collect data and make measurements with precision;	
6. Heat energy transfers through radiation, conduction, and convection.		6(B) explain the flow of energy in an ecosystem 6(D) investigate and identify energy interactions in an ecosystem
7. Substances transfer heat energy at different rates.		6(B) explain the flow of energy in an ecosystem 6(D) investigate and identify energy interactions in an ecosystem
8. Some materials are good conductors of heat energy; some are good insulators of heat energy.		6(B) explain the flow of energy in an ecosystem 6(D) investigate and identify energy interactions in an ecosystem
9. The transfer of heat energy affects temperature.	6(C) investigate and explain the effects of energy transformations within an ecosystem	6(B) explain the flow of energy in an ecosystem 6(D) investigate and identify energy interactions in an ecosystem
10. Substances expand and contract as the temperature changes.		6(C) investigate and explain the effects of energy transformations within an ecosystem
11. Classification helps to organize and understand the natural world.		
Atmosphere Enrichment Concepts	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. Water has the unique property of expansion when changing from a liquid to a solid state.		6(C) investigate and explain the effects of energy transformations within an ecosystem

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GLOBE HYDROLOGY Science Concepts	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. Surface water exists in many forms and has observable and/or measurable characteristics.	2(B) collect data and make measurements with precision 5(B) identify source, use, quality, and conservation of water	
2. Surface water characteristics are related to the characteristics of the surrounding environment.		5(B) identify source, use, quality, and conservation of water
3. A watershed guides water to a common watercourse.		
4. Watershed characteristics are related to the physical features of the land.		
5. The physical environment affects an organism's response patterns; organisms adapt and survive, move, or die.	7(C) evaluate the depletion of non-renewable resources and propose alternatives 7(D) analyze and make predictions about the impact on populations of geographic locales, natural events, diseases, and birth and death rates	4(B) make observations and compile data about fluctuations in abiotic cycles and evaluate the effects of abiotic factors on local ecosystems and biomes 4(D) predict how the introduction, removal, or reintroduction of an organism may alter the food chain and affect existing populations 4(E) predict changes that may occur in an ecosystem if biodiversity is increased or reduced 8(B) explain how regional changes in the environment may have a global effect 7(A) relate carrying capacity to population dynamics 7(D) analyze and make predictions about the impact on populations of geographic locales, natural events, diseases, and birth and death rates
6. pH is a characteristic property that can be measured.	2(B) collect data and make measurements with precision	
7. Classification helps to organize and understand the natural world.		

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Hydrology Enrichment Concepts	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. Macro-invertebrates are sensitive indicators of water quality.	4(B) make observations and compile data about fluctuations in abiotic cycles and evaluate the effects of abiotic factors on local ecosystems and biomes 7(D) analyze and make predictions about the impact on populations of geographic locales, natural events, diseases, and birth and death rates	5(F) evaluate the impact of human activity and technology on land fertility and aquatic viability.
2. Topographical maps provide 3-dimensional information about the land.		

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GLOBE SOILS Science Concepts	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. Soil has observable and/or measurable properties that change with time and location.	2(B) collect data and make measurements with precision	
2. The interaction of organisms, climate, parent material, topography, and time affect soil properties.	5(F) evaluate the impact of human activity and technology on land fertility and aquatic viability	4(A) identify indigenous plants and animals, assess their role within an ecosystem, and compare them to plants and animals in other ecosystems and biomes 4(B) make observations and compile data about fluctuations in abiotic cycles and evaluate the effects of abiotic factors on local ecosystems and biomes 5(E) analyze and evaluate the economic significance and interdependence of components of the environmental system
3. Soil acts as an insulating layer, creating a measurable temperature gradient.	2(B) collect data and make measurements with precision	
4. Environmental conditions affect the rate of decomposition in soil.		
5. The chemical and physical properties of soils make different soils useful in different ways.		
6. pH is a characteristic property that can be measured.	2(B) collect data and make measurements with precision	
7. Classification helps to organize and understand the natural world.		

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Soils Enrichment Concepts:	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. There are 12 soil textures representing different amounts of sand-, silt-, and clay-sized particles.		
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 and make measurements with precision	
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.		

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GLOBE LAND COVER Science Concepts	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. A GLOBE Study Site has observable and/or measurable characteristics.	2(B) collect data and make measurements with precision	
2. A GLOBE Study Site represents a system with boundaries, and is a subset of the earth system.		
3. Earth's land surface is covered by a variety of naturally occurring vegetated ecosystems.		4(A) identify indigenous plants and animals, assess their role within an ecosystem, and compare them to plants and animals in other ecosystems and biomes
4. The physical environment affects an organism's response patterns; organisms adapt and survive, move, or die.	4(B) make observations and compile data about fluctuations in abiotic cycles and evaluate the effects of abiotic factors on local ecosystems and biomes 7(D) analyze and make predictions about the impact on populations of geographic locales, natural events, diseases, and birth and death rates	7(C) evaluate the depletion of non-renewable resources and propose alternatives 8(B) explain how regional changes in the environment may have a global effect 4(D) predict how the introduction, removal, or reintroduction of an organism may alter the food chain and affect existing populations 4(E) predict changes that may occur in an ecosystem if biodiversity is increased or reduced 7(A) relate carrying capacity to population dynamics 7(D) analyze and make predictions about the impact on populations of geographic locales, natural events, diseases, and birth and death rates
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.		

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Land Cover Enrichment Concepts	Environmental Systems Direct TEKS Link*	Environmental Systems InDirect TEKS Link*
1. Remote sensing is a technique used to create visual representations of data.		
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.		
3. Student remote sensing involves observations made without the use of touch (i.e., using eyes, ears, nose and skin surface).		

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GLOBE Seasons Science Concepts	Environmental Systems Direct TEKS Link*
1. Seasonal changes can be observed.	
2. Seasonal changes follow an annual cycle. The magnitude of these changes varies from year to year.	4(B) make observations and compile data about fluctuations in abiotic cycles and evaluate the effects of abiotic factors on local ecosystems and biomes
3. Seasonal patterns differ based on geographic location.	
4. Earth has many climate zones.	
5. Classification helps to organize and understand the natural world.	
Seasons Enrichment Concepts	Environmental Systems Direct TEKS Link*
1. Bud-break is the period when leaf buds appear and grow.	
2. Senescence is the period when actively growing plant material dies.	
GLOBE GPS Science Concepts	No Environmental Systems TEKS Links

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