

Inquiry Skills	Chemistry 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	2(C) express and manipulate chemical quantities using scientific conventions and mathematical procedures such as dimensional analysis, scientific notation, and significant figures.
11. Infer patterns and trends	2(D) organize, analyze, evaluate, make inferences, and predict trends from data.
12. Explain data and relationships using evidence	2(D) 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(E) communicate valid conclusions.

GLOBE ATMOSPHERE Science Concepts	Chemistry Direct TEKS Link*	Chemistry 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.	2(D) 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;	14(A) analyze and measure common household products using a variety of indicators to classify the products as acids or bases
6. Heat energy transfers through radiation, conduction, and convection.		
7. Substances transfer heat energy at different rates.		4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume 5(C) measure the effects of the gain or loss of heat energy on the properties of solids, liquids, and gases.
8. Some materials are good conductors of heat energy; some are good insulators of heat energy.		4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume 5(C) measure the effects of the gain or loss of heat energy on the properties of solids, liquids, and gases.
9. The transfer of heat energy affects temperature.	5(C) measure the effects of the gain or loss of heat energy on the properties of solids, liquids, and gases.	

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GLOBE ATMOSPHERE Science Concepts	Chemistry Direct TEKS Link*	Chemistry InDirect TEKS Link*
10. Substances expand and contract as the temperature changes.	4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume 5(A) identify changes in matter, determine the nature of the change, and examine the forms of energy involved 5(C) measure the effects of the gain or loss of heat energy on the properties of solids, liquids, and gases.	
11. Classification helps to organize and understand the natural world.		
Atmosphere Enrichment Concepts	Chemistry Direct TEKS Link*	Chemistry InDirect TEKS Link*
1. Water has the unique property of expansion when changing from a liquid to a solid state.	4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume 5(A) identify changes in matter, determine the nature of the change, and examine the forms of energy involved 5(C) measure the effects of the gain or loss of heat energy on the properties of solids, liquids, and gases. 13(B) interpret relationships among ionic and covalent compounds, electrical conductivity, and colligative properties of water	

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GLOBE HYDROLOGY Science Concepts	Chemistry Direct TEKS Link*	Chemistry 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 4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume	12(C) evaluate the significance of water as a solvent in living organisms and in the environment
2. Surface water characteristics are related to the characteristics of the surrounding environment.		
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.		
6. pH is a characteristic property that can be measured.	2(B) collect data and make measurements with precision	14(A) analyze and measure common household products using a variety of indicators to classify the products as acids or bases
7. Classification helps to organize and understand the natural world.		
Hydrology Enrichment Concepts	Chemistry Direct TEKS Link*	Chemistry InDirect TEKS Link*
1. Macro-invertebrates are sensitive indicators of water quality.		
2. Topographical maps provide 3-dimensional information about the land.		

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GLOBE SOILS Science Concepts	Chemistry Direct 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 4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume
2. The interaction of organisms, climate, parent material, topography, and time affect soil properties.	
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.	
Soils Enrichment Concepts:	Chemistry Direct TEKS Link*
1. There are 12 soil textures representing different amounts of sand-, silt-, and clay-sized particles.	4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume 4(C) investigate and identify properties of mixtures and pure substances
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 4(B) analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume
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	Chemistry Direct 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. The physical environment affects an organism's response patterns; organisms adapt and survive, move, or die.	
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	Chemistry Direct 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	Chemistry InDirect 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.	5(A) identify changes in matter, determine the nature of the change, and examine the forms of energy involved
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	Chemistry InDirect 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 Chemistry TEKS Links
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