

Gateways to Science STAAR Edition, Grade 5

TEKS Scientific Processes—Lesson Checklist

TEKS		Lessons
5.1A	Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations	1.1 Safety
5.1B	Make informed choices in the conservation, disposal, and recycling of materials	5.3 Alternative Energy Resources
5.2A	Describe, plan, and implement simple experimental investigations testing one variable	2.4 Measuring Volume
5.2B	Ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology	3.1 Force and Motion
5.2C	Collect information by detailed observations and accurate measuring	2.2 Measuring Length
5.2D	Analyze and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence	1.3 Observations and Inferences
5.2E	Demonstrate that repeated investigations may increase the reliability of results	2.3 Measuring Mass
5.2F	Communicate valid conclusions in both written and verbal forms	1.3 Observations and Inferences
5.2G	Construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information	2.5 Density
5.3A	In all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student	2.5 Density
5.3B	Evaluate the accuracy of the information related to promotional materials for products and services such as nutritional labels	5.3 Alternative Energy Resources
5.3C	Draw or develop a model that represents how something works or looks that cannot be seen such as how a soda dispensing machine works	7.2 Inherited Traits and Learned Behaviors
5.3D	Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists	1.2 Science and Scientists
5.4A	Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, pan balances, triple beam balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observations of habitats or organisms such as terrariums and aquariums	2.2 Measuring Length
5.4B	Use safety equipment, including safety goggles and gloves	4.3 The Rotation of Earth

*Process skills are embedded in all lessons but only indicated upon first introduction.

Gateways to Science STAAR Edition, Grade 5

TEKS Science Concepts—Lesson Checklist

TEKS	Lessons
Matter and energy	
5.5A Classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy	2.1 Classifying Matter 2.2 Measuring Length 2.3 Measuring Mass 2.4 Measuring Volume 2.5 Density 2.6 States of Matter 2.7 Boiling and Freezing/Melting Points 2.8 Conductors and Insulators 2.9 Mixtures and Solutions 3.2 Electrical Energy
5.5B Identify the boiling and freezing/melting points of water on the Celsius scale	2.7 Boiling and Freezing/Melting Points
5.5C Demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand	2.9 Mixtures and Solutions
5.5D Identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water	2.9 Mixtures and Solutions
Force, motion, and energy	
5.6A Explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy	3.1 Force and Motion 3.2 Electrical Energy
5.6B Demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound	2.8 Conductors and Insulators 3.2 Electrical Energy
5.6C Demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water	3.3 Reflection and Refraction of Light
5.6D Design an experiment that tests the effect of force on an object	3.1 Force and Motion

Gateways to Science STAAR Edition, Grade 5

TEKS Science Concepts—Lesson Checklist

TEKS		Lessons
Earth and space		
5.7A	Explore the processes that led to the formation of sedimentary rocks and fossil fuels	5.2 Sedimentary Rock
5.7B	Recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice	5.1 Earth's Changing Surface
5.7C	Identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels	5.3 Alternative Energy Resources
5.7D	Identify fossils as evidence of past living organisms and the nature of the environments at the time using models	5.4 Past Living Organisms
Earth and space		
5.8A	Differentiate between weather and climate	4.1 The Water Cycle
5.8B	Explain how the Sun and the ocean interact in the water cycle	4.1 The Water Cycle
5.8C	Demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky	4.3 The Rotation of Earth
5.8D	Identify and compare the physical characteristics of the Sun, Earth, and Moon	4.2 The Sun, Earth, and Moon
Organisms and environments		
5.9A	Observe the way organisms live and survive in their ecosystem by interacting the living and non-living elements	6.1 Interactions of Organisms in their Environments
5.9B	Describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers	6.2 Food Chains and Food Webs
5.9C	Predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways	6.3 A Balanced Environment
5.9D	Identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals	6.3 A Balanced Environment
Organisms and environments		
5.10A	Compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals	7.1 Structures and Functions of Organisms
5.10B	Differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle	7.2 Inherited Traits and Learned Behaviors
5.10C	Describe the differences between complete and incomplete metamorphosis of insects	7.3 Complete and Incomplete Metamorphosis of Insects