

# Gateways to Science STAAR Edition for Grade 7

## Unit Outline

### Unit 1: Introduction

*Approximate Teaching Time: 1 Week*

Lesson		Learning Goal	TEKS	
			Content	Process
1.1	Gateways to Science	Set up and organize a science notebook using a rubric.		7.4A
1.2	Safety	Identify appropriate safety equipment and its uses.		7.1A 7.4B

### Unit 2: Existence of Life and Environments

*Approximate Teaching Time: 9 Weeks*

Lesson		Learning Goal	TEKS	
			Content	Process
2.1	What Allows Life to Exist?	Analyze characteristics that allow life to exist.	7.9A	7.3A 7.2E
2.2	Dichotomous Key	Identify organisms and their structures using a dichotomous key.	7.11A	7.2D
2.3	Schoolyard Microhabitat	Observe and describe various organisms found in schoolyard microhabitats.	7.10A	7.1A 7.1B 7.2A,C 7.4A–B
2.4	Environments and Organisms	Identify and describe how different biomes contain a different variety of organisms.	7.10A	7.2D–E 7.4A
2.5	Flow of Energy	Create a food web and energy pyramid to show the flow of energy.	7.5C	7.2C–E 7.4A
2.6	Biodiversity	Describe how biodiversity helps an ecosystem survive.	7.10B	7.2E
2.7	Cycling of Matter	Demonstrate and explain the cycling of matter within living systems by investigating a compost bin, the decay of seeds, and/or collecting water test data from an aquarium.	7.5B	7.2E
2.8	Variations within Populations	Explain variations that help animals survive.	7.11B 7.13A	7.2E
2.9	Natural Selection	Identify traits that have changed over several generations due to natural selection.	7.11C	7.2C–E

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### Unit 3: Impacting Earth’s Systems

*Approximate Teaching Time: 6 Weeks*

Lesson	Learning Goal	TEKS	
		Content	Process
3.1 Catastrophic Events	Describe how different types of catastrophic events impact ecosystems.	7.8A	7.1A 7.3A–C 7.4A–B
3.2 Weathering, Erosion, and Deposition	Demonstrate and analyze the effects of weathering, erosion, and deposition in the ecoregions of Texas.	7.8B	7.1A–B 7.2C–D 7.3A–C 7.4A–B
3.3 Groundwater and Surface Water	Model surface water and identify the effects of human activity on a watershed.	7.8C	7.1A–B 7.3A–C 7.4A–B
3.4 Ecological Succession	Observe and describe the process of ecological succession.	7.10C 7.7C 7.13A	7.1A 7.2A, C–E 7.3A 7.4A–B

### Unit 4: Structure and Function of Organisms, Part 1

*Approximate Teaching Time: 7 Weeks*

Lesson	Learning Goal	TEKS	
		Content	Process
4.1 Cells	Recognize that all organisms are composed of cells and cells and organisms perform similar functions.	7.12D 7.12E 7.12F	7.1A–B 7.3B–D 7.4A
4.2 Plant and Animal Cells	Compare and contrast plant and animal cells.	7.12D	7.1A–B 7.2A–C 7.3B–C 7.4A
4.3 Energy Transformation through Photosynthesis	Recognize that radiant energy from the Sun is transferred into chemical energy through photosynthesis.	7.5A 7.7C 7.12A	7.1A–B 7.2B 7.4A–B
4.4 Reproduction in Organisms	Demonstrate how asexual reproduction results in uniform offspring while sexual reproduction results in diverse offspring.	7.14B	7.2C 7.3B
4.5 Inherited Traits	Determine how inherited traits are governed by genetic material found in the chromosomes and are passed from parent to offspring through reproduction.	7.14A, C	7.2C–E

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### Unit 4: Structure and Function of Organisms, Part 1 *continued*

*Approximate Teaching Time: 7 Weeks*

#### TEKS

Lesson	Learning Goal	Content	Process
4.6 Understanding Traits and Genes	Different forms of a gene such as dominant and recessive alleles exist in inherited traits and are passed from one generation to the next.	7.14A	7.2D
4.7 Diversity of Offspring	Compare the results of diverse offspring from sexual reproduction.	7.14B	7.2D–E 7.3A
4.8 Selective Breeding	Identify changes in genetic traits occurring through selective breeding.	7.11C 7.14C	7.2D 7.3D

### Unit 5: Structure and Function of Organisms, Part 2

*Approximate Teaching Time: 9 Weeks*

#### TEKS

Lesson	Learning Goal	Content	Process
5.1 Physical and Chemical Changes in Digestion	Identify physical and chemical changes in matter in the digestive system.	7.6B 7.12B	7.1A–B 7.2A 7.2E 7.4A–B
5.2 Breakdown of Organic Molecules	Illustrate how large molecules are broken down and energy is transformed. Identify organic compounds and the elements they contain.	7.6A 7.6C 7.7B	7.1A–B 7.2A 7.2E 7.4A–B
5.3 Circulatory and Respiratory Systems	Identify the functions of the circulatory and respiratory systems and explore their interdependence.	7.12B	7.3B–C
5.4 Work/Skeletal and Muscular Systems	Explore how the skeletal and muscular systems work together and with other systems. Contrast the amount of work done in different situations.	7.12B 7.7A	7.1A–B 7.2E 7.3A 7.4A–B
5.5 Maintaining Balance	Determine how organisms maintain balance by responding to internal and external stimuli.	7.12B 7.13A–B	7.2A,C–D
5.6 Levels of Organization	Recognize levels of organization in plants and animals and compare similar functions at the different levels.	7.12C 7.12E	7.3B–C
5.7 Internal Structures	Investigate how internal structures of organisms have adaptations that allow for specific functions.	7.12A	7.1A–B 7.2A–C 7.4A–B
5.8 Humans and Space Exploration	Identify accommodations that enable manned space exploration.	7.9B	7.1A–B 7.3D

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