Course Name: 8th Grade Science
School Year: 2025-2026

Course Purpose and Relevance:

Grade 8 science is interdisciplinary in nature; however, the content focus includes physical science, Earth and space science, and life science. The concepts within each grade level build on prior knowledge, prepare students for the next grade level, and establish a foundation for high school courses. Recurring themes such as patterns, cycles, systems, models, and scale transcend disciplinary boundaries and are integral to understanding the interconnected nature of science, mathematics, and technology.

8th Grade Honors Science This curriculum is designed to build on students' existing knowledge, providing an in-depth understanding of the units of study and preparing them for advanced science courses in the future.

Overview of Student Outcomes:

- The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices
- Scientific and Engineering Practices**:** Students conduct investigations to answer questions and explain phenomena using scientific and engineering practices, appropriate tools, and models. Investigations include descriptive, correlative, comparative, or experimental methods.
- Matter and Energy**:** Students connect elements, compounds, and mixtures, explore properties of water, acids, and bases, and grasp the conservation of mass through chemical equations.
- Force**,** Motion, and Energy**:** Students are introduced to Newton's Second Law of Motion and investigate how all three laws of motion act simultaneously within systems. Students understand that waves transfer energy and further explore the characteristics and applications of waves.
- Earth and Space: Students study stars, galaxies, and theories about the universe's origin, and how solar, weather, and ocean systems affect weather and climate. They also explore the impact of natural events and human activities on climate.
- Organisms and Environments: Students learn about organelle functions, genetic traits, and their role in species' success. They also explore how organisms and populations adapt to environmental and human-induced changes.
- Nature of Science: Students understand that science is the use of evidence to construct testable explanations and predictions of natural phenomena. They learn that science involves physical, mathematical, and conceptual models.
- Scientific Observations, Inferences, Hypotheses, and Theories**:** Students know that observations involve acquiring information through senses, inferences are conclusions based on evidence, hypotheses are testable statements, and scientific theories are well-established explanations.
- Science and Social Ethics: Students distinguish between scientific decision-making practices and ethical and social decisions involving science, adhering to ethical standards in scientific processes.
- Recurring Themes and Concepts: Students analyze systems in terms of structure and function, systems, models, and patterns. They observe and model change and constancy in systems, understanding the limitations of models and making scientifically testable predictions.

Available Support for Student Learning:

Refer to the teacher's Course Syllabus for resources and course specific opportunities.
Student textbook and/or digital version are available through the CCISD Student Portal.

Link to Course TEKS on State website:

TAC Middle School TEKS

Year-at-a-Glance 25-26	Grade Level	8th Grade Science OL and Honors

	First Semester Instruction
1st Nine Weeks	**Unit 1: Scientific and Engineering Practices (8.1-8.5)** BB 1: Lab Safety (8.1C) BB 2: Exploring Phenomena through Inquiry and Engineering Design (8.1-8.5) ***TEKS 8.1-8.5 will be embedded throughout each unit supporting the implementation of 3-Dimensional Instruction.***
	Unit 2: Properties of Matter (8.6) BB 1: Elements, Compounds and Mixtures (8.6A^) BB 2: Conservation of Matter and Mass through Reactions (8.6B^, **8.6E**) BB 3: Water and Solutions (8.6C^, 8.6D^)
	Unit 3: Force and Motion (8.7) BB 1: Newton's 2nd Law of Motion (**8.7A**) BB 2: Interactions/Interdependence of Newton's Laws (**8.7B)**
2nd Nine Weeks	**Unit 4: Energy (8.8)** BB 1: Characteristics of Waves (8.8A, 6.8C*^) BB 2: Applications of EM Waves (8.8B^)
	Unit 5: The Universe (8.9) BB 1: Characteristics of Stars (**8.9A**) BB2: Galaxies (8.9B, 8.9C^)
	Semester Exam/District Created CBA H – 12/22-1/2 IP – 1/5

Year-at-a-Glance 25-26	Grade Level	8th Grade Science OL and Honors

	Second Semester Instruction
3rd 9 Weeks	**Unit 6: Earth's Changing Surface (7.10)** BB 1: Evidence of Change (7.10A*) BB 2: Effects of Plate Tectonics (**7.10B***)
	Unit 7: Weather (8.10) BB 1: Global Weather (**8.10A**, 8.10C) BB 2: Local Weather (8.10B)
	Unit 8: Organisms and Environment (8.12) BB1: Flow of Energy (8.12A^) BB 2: Ecosystem Stability (**8.12B**, 8.12C)
	Unit 9: Structure, Function, and Survival (8.13) BB 1: Functions of Organelles and Genes (**8.13A**, 8.13B) BB 2: Impacts of Trait Variations (**8.13C**)
4th Nine Weeks	**STAAR Prep for Science** **Supporting standards tested** in **2026** not identified in 8th grade units on YAG: 7.13A, 7.11A, 7.11B
	Unit 10: Climatic Influences (8.11) BB 1: Carbon Cycle (8.11C^) BB 2: Climatic Influences (8.11A^, 8.11B^)
	Unit 11: Ready4Biology Why can some organisms regenerate and some can't?
	Semester Exam