

8th Grade Science Syllabus 2026-2027

Course Description

8th Grade Science provides students with a comprehensive understanding of Earth, life, and physical sciences. Through inquiry, lab investigations, and data analysis, students explore topics ranging from force and motion to ecosystems and the universe. The course prepares students for high school science and the **STAAR Science 8** assessment.

Curriculum Overview

The following table outlines the instructional units, approximate timeframes, and specific TEKS (Texas Essential Knowledge and Skills) for the 2026-2027 school year based on the updated district scope and sequence. **Readiness TEKS (R)** are high-priority standards for mastery, while **Supporting TEKS (S)** provide essential foundational depth.

Unit	Topic	Approx. Days	Readiness TEKS	Supporting TEKS
Intro	Safety & Lab Routines: Safe practices and tool mastery	5	8.1A, 8.1B, 8.1C	8.1D, 8.1G, 8.1H
1	Matter & Energy: Classification of matter and conservation of mass	14	8.6E	8.6A, 8.6B, 8.6C, 8.6D
2	Force & Motion: Newton's Laws and motion graphing	14	8.7A	8.7B, 7.7A, 7.7C
3	Energy: Characteristics and applications of waves	16	8.8A	8.8B, 7.8A, 7.8C
4	Earth & Space - Universe: Star life cycles and galaxies	12	8.9A*	8.9B, 8.9C*

5	Earth & Space - Weather: Global and local weather patterns	15	8.10A	8.10B, 8.10C
6	Natural Events & Human Activities: Climate and the carbon cycle	10	8.11A, 8.11B	8.11C
7	Ecosystems: Ecological succession and biodiversity	13	8.12B	8.12C (8.12A - NT)**
8	Cells & Organisms: Cell functions and inherited traits	15	8.13A, 8.13C	8.13B
Review	STAAR Review: Targeted mastery and spiral preparation	10	Differentiated	N/A

**Note: Specific R/S designations for Unit 4 and 6 are based on standard district prioritizations within the scope. **NT indicates Non-Tested standards that provide conceptual depth.*

Skills & Standards

Throughout the school year, students will develop the following competencies:

- **Safely conduct** scientific investigations and use advanced lab tools.
- **Analyze matter** based on physical and chemical properties and describe the law of conservation of mass.
- Apply **Newton's Second Law** ($F=ma$) to calculate and analyze acceleration and force.
- Compare **wave characteristics** including amplitude, frequency, and wavelength in the electromagnetic spectrum.
- Use the **Hertzsprung-Russell diagram** to classify stars and describe their life cycles.
- Analyze **weather and climate** by describing interactions between the Sun, hydrosphere, and atmosphere.
- Describe the **carbon cycle** and evaluate the influence of natural events and human activities on global climate.
- Identify the functions of **cell organelles** and explain how genetic variations lead to adaptations.

Grading

Please refer to the **Forney ISD Grading Guidelines** for information on assessment policies, late work, and reassessment procedures