

SCIENCE 7 COURSE OVERVIEW

In Grades 6 through 8 Science, content is organized into recurring strands including process standards, matter, energy, force & motion, earth & 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.

Honors: Science honors for 7th requires students to perform field and laboratory investigations at a more advanced level as they learn Grade 7 science concepts. The content is interdisciplinary in nature; however, much of the content focus is on organisms and the environment. The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices. Students in Honors Science will extend their knowledge and apply their scientific skills by solving complex problems.

[Science 7 Texas Essential Knowledge and Skills \(TEKS\)](#)

Adopted Instructional Material: McGraw Hill Texas Science

ESTIMATED TIMEFRAME	UNIT SUMMARY	TEKS
On-Going	Process Standards The study of middle school science includes planning and safely implementing classroom and outdoor investigations using scientific & engineering processes, including inquiry methods, analyzing information, making informed decisions, and using tools to collect and record information, while addressing the major concepts and recurring themes and concepts.	1ABCDEFGH 2ABCD 3ABC 4ABC 5ABCDEFG
16 days	Unit 1: Elements and Compounds This unit bundles student expectations that focus on distinguishing between elements and compounds. Students will compare and contrast elements and compounds as atoms and molecules (as particles). Then, the students use the Periodic Table to identify the amount and type of atoms within a chemical formula.	6AB
12 days	Unit 2: Matter and Solutions This unit bundles student expectations that focus on physical and chemical changes in matter. Students will first distinguish between physical and chemical changes. Then, they will describe and investigate the physical changes that affect aqueous solutions.	6CDE
12 days	Unit 3: Force & Motion This unit bundles student expectations that focus on investigating an object's motion. Students will calculate average speed using distance and time measurements from their investigations. Students will distinguish between speed and velocity using distance, displacement, and direction measurements. Students will further investigate motion using distance-time graphs to measure, record, and interpret an object's motion.	7ABC
6 days	Unit 4: Balanced and Unbalanced Forces This unit's student expectation focuses on the relationship between force and motion. Students will use Newton's First Law of Motion to describe the cause-and-effect relationship between force and motion. Then, students will analyze the effects of balanced and unbalanced forces acting on an object.	7D
12 days	Unit 5: Thermal Energy This unit bundles student expectations that focus on understanding the	8ABC



	behavior of thermal energy as it flows into and out of systems. Students will investigate methods and patterns of thermal energy transfer. In addition, students will learn how temperature is related to kinetic energy.	
14 days	Unit 6: Solar System This unit bundles student expectations that focus on the physical properties, location, and movement of various celestial bodies. Students will analyze and describe how gravity governs motion and how the characteristics of Earth allow life to exist.	9ABC
14 days	Unit 7: Plate Tectonics This unit bundles student expectations that address how Earth has changed over time and how plate tectonics cause different formations. Students will investigate fossil evidence, plate tectonics, and superposition as evidence that supports Earth's changes.	10AB
10 days	Unit 8: Human Impact on the Hydrosphere This unit bundles the student expectations that address the beneficial and harmful influences that human activity has on Earth's hydrosphere. Students will also analyze the impact and dependence that humans have on different water systems.	11AB
17 days	Unit 9: Energy in Ecosystems This unit bundles the student expectations that address the beneficial and harmful influences that human activity has on Earth's hydrosphere. Students will also analyze the impact and dependence that humans have on different water systems.	12AB
22 days	Unit 10: Structures and Systems in Ecosystems This unit examines how systems are organized and function to support the health of an organism. The human body consists of interconnected organ systems and each performs specific, essential functions for life. Students will identify and model the main functions of the systems of the human organism. In this unit, students will describe the hierarchical organization within plants and animals.	13AB
4 days	MD Anderson - ASPIRE Vaping and tobacco prevention modules.	
18 days	Unit 11: Inherited Traits This unit bundles the student expectations that create opportunities for the exploration of organisms and focus on reproduction. Students will examine the correlation between reproduction and evolution by looking at how traits are passed from one generation to the next.	13CD
14 days	Unit 12: Investigating Taxonomy This unit bundles the student expectations that address the taxonomic system, including how organisms are characterized into kingdoms and their importance in ecosystems. Students will further investigate organisms and their kingdoms by asking questions about the characteristics of a species and by identifying patterns within a classification system.	14AB