7th Grade Syllabus

Course Description/Goals:

In Middle School Science, students build on prior knowledge through hands-on exploration and critical thinking as they investigate natural phenomena across life, earth, and physical science. Students engage in 3D science instruction, which integrates science and engineering practices, crosscutting concepts, and disciplinary core ideas. Through the 5E instructional model, students ask questions, plan and conduct investigations, and design solutions to real-world problems. Across the three years, students study topics such as matter and energy, force and motion, Earth systems, space, ecosystems, and the structure and function of organisms. Emphasis is placed on analyzing data, building and using models, and developing evidence-based explanations that reflect the nature and processes of science.

Course TEKS/Objectives:

The 7th Grade Science TEKS are organized into reporting categories that reflect essential areas of science learning: Matter and Energy; Force, Motion, and Energy; Earth and Space; and Organisms and Environments. Students build understanding of physical and chemical changes, elements and compounds, and solution properties. They calculate speed, graph motion, and investigate forces and energy transfers including thermal energy. In Earth and space science, students explore the solar system, plate tectonics, and the impact of human activity on water systems. Life science topics include energy flow in ecosystems, human body systems, reproduction and heredity, and classification of organisms. Students apply scientific practices to analyze, model, and explain systems and interactions in the natural world. Each category contains specific standards (TEKS) that students are expected to master and can be referenced here.

Course Outline:

Semester 1	Semester 2
-Elements & Compounds -Changes in Matter -Speed & Motion, Newton's First Law -Thermal Energy -Components of the Solar Systems	-Plate Tectonics -Earth's Hydrosphere -Energy Flow in Ecosystems -Reproduction & Inherited Traits -Classification of Organisms -Body Systems