]

2024-2025 7th Grade Science Syllabus

Welcome to 7th grade science! 7th grade science is full of hands-on experiments as you learn how to think and perform the skills of a scientist. You will have the opportunity to explore your curiosity for the world while learning about a variety of topics in life, earth, and physical sciences.

Check out the table below for more detailed information about the units we will be covering.

Unit	Learning Targets and Timelines	Unit Description	Common Lab Experiences	Formative/Summative Assessments and Study Resources
Lab Safety Contract			-Lab Safety Contract Google Form Permission Slip -Lab Safety Rules and Guidelines	
Forces and Motion	Forces and Motion Learning Targets *4 - 6 Weeks*	• Apply Newton's 3 Laws to explain and predict phenomena. • Utilize the engineering design process to develop solutions to problems.	• Color Me Pink • A Momentous Propulsion Lab • Puffmobile Lab • Marshmallow Shooter Lab • Newty's Lab Stations • All New Tons of Fun Lab Stations • Bottle Rocket Design Challenge	*Content Summative (Multiple Choice, No Resources Permitted)* *Newton's Cars Performance Summative (Lab Based, Resources Permitted)* - *Variables/Testable Questions* - *Graphing Data in Google Sheets* - *Diagrams as Models* - *Claim (Relationship Statements) and Text Evidence*

				Summative Study Resources
Waves	Waves Learning Targets 🙂 *3 - 5 Weeks*	• Identify the differences between longitudinal and transverse waves. • Develop models that shows how waves can be reflected, transmitted and absorbed. • Explain the relationships between various wave properties (ex. Frequency, wavelength, amplitude, etc.) • Trace the path of light between two transparent medium (refraction).	• Slinky Wave Models • Intro to Waves Unnotes Labs • Behavior of Waves Unnotes Labs • Singing Glasses Lab • Mystery Box Activity • Behavior of Wave Labs • Refraction Labs • CER Models (Slinky's, Tuning Forks, Whorly Tubes, etc)	*Content Summative (Multiple Choice, No Resources Permitted)* *Telescope and Graphing Performance Summative (Lab Based, Resources Permitted)* - *Claim, Evidence, Reasoning (CER)* - *Graphing Wave Properties* *Waves Study Resources*
Chemistry	*Chemistry Learning Targets* *10 - 12 Weeks*	• Develop models of atoms and simple molecules. • Analyze the changes in the properties of matter to determine if a chemical or physical reaction has occurred. • Predict and describe how thermal energy affects the motion of molecules. • Describe how mass is conserved in physical and chemical reactions.	• *Marshmallow Molecules Activity* • *Crack That Marble Lab Series* • *Liquid Molecular Lab Series* • *S'Mores Lab* • *Polymers Lab* • *Ice Cream Lab* • *Chemical/Physical Changes Lab Rotation* • *Move That Mustard Lab Rotation* • *Once You Pop Lab Rotation* • *Household pHun Lab* • *Acid/Base Labs* • *Chemical Reactions Demos (Elephant's Toothpaste, etc)*	*Content Summative (Multiple Choice, No Resources Permitted)* *Blow It Up With Butane Performance Summative (Lab Based, Resources Permitted)* - *ABCDE Paragraphs* - *Ladder of Discourse* - *Student Led Discussions* *Chemistry Study Resources*

Cells	*Cells Learning Targets* *8 - 10 Weeks*	• Provide evidence that living things are made of cells and that there are many different types of cells. • Describe ways the parts of a cell contribute to the function of a cell. • Provide evidence how the body is a system of interacting subsystems composed of groups of cells. • Explain the role of photosynthesis in the cycling of matter and energy in organisms.	• *If Cells Could Talk (Cell Theory)* • *Rap Battle (Unicellular vs Multi Cellular)* • *Cell Theory Breakout EDU* • *Microscope Mania Lab* • *Cell City Project* • *Incredible Edible Cell* • *Insane in the Membrane Lab* • *Plants Store Food Investigation* • *Membrane Mania Models* • *Do Plants Breathe Lab* • *Radical Radish Lab* • *Texting on the Celly Lab* • *Eggsellent Eggsperiment Lab*	*Content Summative (Multiple Choice, No Resources Permitted)* *Model of a Cell Performance Summative (Lab Based, Resources Permitted)* - *Double Bubble (Evaluating Models)* - *Ladder of Discourse* *Cells Study Resources*
Weather	Weather Learning Targets 3 - 5 Weeks	• Explain how the interactions of air masses result in changes in weather systems. • Describe that the cycling of water through the earth is driven by energy and gravity. • Describe how the uneven heating of the earth results in regional climate patterns. • Design solutions for minimizing human impact on the environment.	• *Heat Transfer Labs* • *Do the Dew Lab* • *All Bottled Up Lab* • *Air Pressure Labs* • *Weather Forecasting Activity* • *Ocean Currents Breakout EDU*	*Content Summative (Multiple Choice, No Resources Permitted)* *Weather Broadcast Performance Summative (Lab Based, Resources Permitted)* - *Create a Weather Map* - *Analyzing data/Using Data as evidence*
Science and Engineering Practices and Crosscutting Concepts	*Embedded throughout each unit*	• Throughout each unit, students will learn how to think like scientists by learning about the "Crosscutting Concepts."	*Utilized in all labs and activities*	*Assessed in performance summatives*

		• Embedded throughout each unit, students will learn how to engage in the actions of a scientist (ex. Analyzing data, Modeling, Engaging in argument from evidence, Designing investigations, etc)		
Reproductive Health	*Curriculum and all used resources are approved by the SEAB*	• *Lesson 1: Animal Reproduction* • *Lesson 2: Human Reproduction* • *Lesson 3: Growth and Development*	• *Permission Slip* • *SAS Reproductive Health CurriculuRoehm Reproductive Health Unit Permission Slipm Overview*	*There is no Summative Assessment for this unit.*