

Grade 8 Science Curriculum Map

By the end of eighth grade, students will describe how stability and change and the process of cause and effect influence changes in the natural world. Students will apply energy principles to chemical reactions, explore changes within Earth and understand how genetic information is passed down to produce variation among the populations. Student investigations focus on collecting and making sense of observational data and measurements using the science and engineering practices: ask questions and define problems, develop and use models, plan and carry out investigations, analyze and interpret data, use mathematics and computational thinking, construct explanations and design solutions, engage in argument from evidence, and obtain, evaluate, and communicate information. While individual lessons may include connections to any of the crosscutting concepts, the standards in eighth-grade focus on helping students understand phenomena through cause and effect, energy and matter, and stability and change.

Notes:

- The standards referenced in this document can be found linked [here](#)
- The standard number is designed for recording purposes and does not imply instructional sequence or importance.
- In all disciplines, educators should incorporate scientific measurement skills appropriate to that discipline.

Unit #	Unit Title	Key Content	Standards
1	Energy and Waves	<ul style="list-style-type: none"> • Wave characteristics and interactions • Energy transfer & solutions to increase efficiency • Energy transfer & energy storage 	8.P4U1.4 8.P4U2.5 8.P4U1.3
2	Matter: Properties and Change	<ul style="list-style-type: none"> • Substances: physical & chemical properties • Chemical reactions, new compounds, and atomic & molecular structure 	8.P1U1.2 8.P1U1.1

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3	Reproduction, Natural Selection, Adaptation	<ul style="list-style-type: none"> ● Genetic variations & inheritance of traits ● Genetic research: positive & negative effects <hr/> <ul style="list-style-type: none"> ● Natural selection and impact on specific traits in populations ● Biodiversity and genetic variation 	<p>Part 1: 8.L3U1.9 8.L3U3.10</p> <hr/> <p>Part 2: 8.L4U1.11 8.L4U1.12 8.L3U3.10 8.E1U1.6</p>
4	Earth and Human Activity	<ul style="list-style-type: none"> ● Plate tectonics, plate movements and distribution of rocks minerals within Earth's crust ● Natural hazards and geological events: data & historical patterns ● Impact of human activities on biosphere 	<p>8.E1U1.6 8.E1U3.7 8.E1U3.8</p>

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