# Curriculum Map: Seventh Grade Integrated Science I

Course: 7 Science  Sub-topic: General

Grade(s): 7

**Course Description:** Through the Nature of Science and Next Generation Science Standards, the seventh grade students will complete coursework in the Disciplinary Core Ideas of:

Biology: **Structures, Functions & Adaptations of Organisms, Human Impacts of Environments & Ecosystems.**

Physical: **Forms of Energy, Energy Transformations, Heat Transfer, Force and Motion, Work & Simple Machines & Mechanical Advantage.**

Earth & Space: **The Universe, Solar System, Earth-Sun-Moon System, Rocks & Fossils, Landforms & Geological Processes, Soil, Earth-Water Systems, The Water Cycle, Atmosphere, Weather & Climate.**

**Essential Questions:**

| Week | Topic | Essential Questions |
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| 1-8 | Nature of Science (Structures/Functions/Adaptations) (Human Impact on Environment & Ecosystems) | 1. What are the relationships among science, engineering, and technology?<br>2. How do science, engineering, and the technologies that result from them affect the ways in which people live?<br>3. How do they affect the natural world?<br>4. How do the structures of organisms enable life's functions? |
| 9-12 | Earth, Sun, Moon | 1. What are the predictable patterns |

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| | | caused by Earth's movement in the solar system? |
| 13-15 | Solar System & the Universe | 1. What is the universe, and what is Earth's place in it?<br>2. What makes up the universe, and what goes on in the stars? |
| 16-19 | Forces and Motion | 1. How can one predict an object's continued motion, change in motion, or stability?<br>2. What underlying forces explain the variety of interactions observed?<br>3. Why are some physical systems more stable than others? |
| 20-22 | Work, Simple Machines & Mechanical Advantage | 1. What is work & what designs make work easier?<br>2. What are the criteria and constraints of a successful solution?<br>3. How can various design solutions be compared and improved? |
| 23-24 | Water Cycle & Water Systems | 1. How do the properties and movements of water shape Earth's surface and affect its systems? |
| 25-28 | Atmosphere, Weather & Climate | 1. What regulates weather and climate?<br>2. How do people model and predict the effects of human activities on Earth's climate? |
| 29-33 | Soil, Rocks & Fossils | 1. How can one explain the structure, properties and interactions of matter?<br>2. How do particles combine to form the variety of matter one observes? |

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| | | 3. How do living organisms alter Earth's processes and structures? |
| 34-36 | Landforms & Geologic Processes | 1.Why do the continents move, and what causes earthquakes and volcanoes? |

** From https://scienceinthecity.stanford.edu/resources/ngss-core-ideas-essential-questions/

**Course Textbooks, Workbooks, Materials Citations:**

Houghton Mifflin Harcourt Dimensions Textbook and online resources

Canvas and Chromebooks

Study Island and Mobymax

Various websites and print resources

Lab materials & equipment to develop lab skills and support classroom instruction

**Resources:**

https://scienceinthecity.stanford.edu/resources/ngss-core-ideas-essential-questions/

thewonderofscience. com

**Course Interdisciplinary Connections:**

Interdisciplinary learning is addressed through cross curricular activities with an emphasis on engineering skills.

**Course Notes:** Study Island will be used with each unit to reinforce concepts, prepare students for standardized tests, and assess student learning and performance levels.

"Outdoor education", data acquisition & analysis is critical to implementing the objectives of Integrated Science I

We plan to begin using the basics of the Next Generation Science Standards within our classrooms.

**Unit:**

This Curriculum Map Unit has no Topics to display