

6th Grade Earth Science Syllabus 2023-2024 AIM Academy



Course Rationale:

AIM's 6th-grade Earth Science program focuses on building students' knowledge of science concepts as well as exploring the process of being a scientist. Students engage in the scientific method, hands-on experiences, and labs that utilize technology and traditional scientific instruments to deepen their scientific understanding. Students continue to work on general reading and writing development with a particular focus on disciplinary literacy skills and strategies.

In addition, the 6th-grade science classes engage in the creation and planting of a community garden. Students apply their learning to researching and studying the garden. They also learn from outside speakers about horticultural science and environmental stewardship. Students read and analyze poetry by artists who engage directly with nature and science in their work.



- **Key Topics:** Intro to Science, Scientific Inquiry, Scientific Investigations, Scientific Instruments, Intro To Earth Science, Layers of the Earth/Fossils, Tectonic Plates, Earthquakes, Volcanoes, Weathering Erosion and Deposition/Soil Formation, Water Cycle and Watersheds, Atmosphere, Weather vs. Climate, Earth, Features of the Oceans, Tools of Astronomy, and Constellations & Planets
 - **Overarching Themes:** Cycles, Systems & Effects, and Growth
 - **Critical Questions:** What is a science and what is a scientist? How can questions be answered through scientific inquiry? How do we use observations and/or experimental results to support inferences and claims about an investigation? How do you use evidence to develop explanations, predictions, and models? What are the branches of Earth Science and why are they studied? What are the layers of the Earth, their makeup, and their roles? What is the relationship between weathering, erosion, and deposition? How does the water cycle affect Earth's systems? How does weather and climate affect Earth's systems? How do living organisms alter Earth's processes and structures? How do ocean currents and cycles affect Earth's systems? How have people learned and thought about space throughout time?
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- **Vocabulary** will focus on breadth and depth, indirect and direct instruction, the precise use of content-specific words, morphology with a focus on scientific Latin and Greek prefixes, roots, and suffixes, multiple exposures and rehearsal, and building independent word learning skills.
 - **Content Specific Knowledge & the Scientific Method** will focus on inquiry and asking questions, making observations, formulating hypotheses, researching background knowledge and evaluating other information sources, experimenting, analyzing data, and developing conclusions.
 - **Text Structure** will focus on annotation skills, multiple slow readings of authentic science text, paired oral reading for practice with fluency and understanding, and decoding data, charts, and graphs.
 - **Discussion and Investigation** will focus on asking "Why?", considering details, developing extensive questioning skills, conducting labs, analyzing evidence, proposing explanations, creating solutions, and strengthening collaboration skills.
 - **Scientific Writing** will focus on incorporating scientific vocabulary, using exact wording and the passive voice, using a systematic framework, integrating and supporting conclusions with evidence and data, and incorporating writing skills being taught in ELA.
 - **Creative Writing** will focus on using broader scientific concepts and vocabulary to create short stories, poetry, and mini-graphic novels while also incorporating creative writing skills being taught in ELA.