

IES Correlations to Michigan Middle School Earth Science Benchmarks

Correlation Key: "XX" - In-depth coverage of concept in Student Edition "X" Coverage in Student Edition and/or Teacher Edition supports the development of the concept.	Climate and Weather	Dynamic Planet	Energy Resources	Fossils	Materials and Minerals	Oceans	Rocks and Landforms	Soil	Water as a Resource
Strand I. Constructing New Scientific Knowledge									
Standard I.1 All students will ask questions that help them learn about the world; design and conduct investigations using appropriate methodology and technology; learn from books and other sources of information; communicate their findings using appropriate technology; and reconstruct previously learned knowledge.									
1. Generate scientific questions about the world based on observations	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Design and conduct investigations.	XX	XX	XX	XX	XX	XX	XX	XX	XX
3. Use tools and equipment appropriate to scientific investigations.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Use metric measurement devices to provide consistency in an investigation.	XX	XX	XX	XX	XX	XX	XX	XX	XX
5. Use sources of information in support of scientific investigations.	XX	XX	XX	XX	XX	XX	XX	XX	XX
6. Write and follow procedures in the form of step-by-step instructions, formulas, flow diagrams, and sketches.	XX	XX	XX	XX	XX	XX	XX	XX	XX
Strand II. Reflecting on Scientific Knowledge									
Standard II.1 All students will analyze claims for their scientific merit and explain how scientists decide what constitutes scientific knowledge; how science is related to other ways of knowing; how science and technology affect our society; and how people of diverse cultures have contributed to and influenced developments in science.									
1. Evaluate the strengths and weaknesses of claims, arguments, or data.	XX	XX	XX	XX	XX	XX	XX	XX	XX
2. Describe limitations in personal knowledge.	XX	X	X	X	XX	X	X	X	X
3. Show how common themes of science, mathematics, and technology apply in real-world contexts.	XX	XX	XX	XX	XX	XX	XX	XX	XX
4. Describe the advantages and risks of new technologies.	XX	X	XX	X	XX	X	X	X	XX
5. Develop an awareness of and sensitivity to the natural world.	XX	XX	XX	XX	XX	XX	XX	XX	XX
6. Recognize the contributions made in science by cultures and individuals of diverse backgrounds.	X	X	X	X	XX	X	X	X	X

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Strand V. Using Scientific Knowledge in Earth Science

In the earth sciences, real-world contexts are often described in terms of systems and subsystems, such as atmospheric systems, crystal systems, solar systems, or galaxies, which are useful in explaining phenomena, including volcanic eruptions, earthquakes, thunderstorms, and eclipses. Four standards are under the broad heading of Using Scientific Knowledge in Earth Science:

Standard V.1 The Geosphere: All students will describe the earth's surface; describe and explain how the earth's features change over time; and analyze effects of technology on the earth's surface and resources.

1. Describe and identify surface features using maps.		X	X	XX	X		XX	XX	XX
2. Explain how rocks are formed.		X	X	X			XX	X	
3. Explain how rocks are broken down, how soil is formed and how surface features change.		X		X			XX	XX	
4. Explain how rocks and fossils are used to understand the age and geological history of the earth.				XX			X		
5. Explain how technology changes the surface of the earth.			XX		XX	X	X	X	

Standard V.2 The Hydrosphere: All students will demonstrate where water is found on earth; describe the characteristics of water and how water moves; and analyze the interaction of human activities with the hydrosphere.

1. Use maps of the earth to locate water in its various forms and describe conditions under which they exist.	X					XX			XX
2. Describe how surface water in Michigan reaches the oceans and returns.	X						X		X
3. Explain how water exists below the earth's surface and how it is replenished.									XX
4. Describe the origins of pollution in the hydrosphere.			X		X				XX

Standard V.3 The Atmosphere and Water: All students will investigate and describe what makes up weather and how it changes from day to day, from season to season and over long periods of time; explain what causes different kinds of weather; and analyze the relationships between human activities and

1. Explain patterns of changing weather and how they are measured.	XX								
2. Describe the composition and characteristics of the atmosphere.	X								
3. Explain the behavior of water in the atmosphere.	XX								
4. Describe health effects of polluted air.			X						

Standard V.4 The Solar System, Galaxy and Universe: All students will compare and contrast our planet and sun to other planets and star systems; describe and explain how objects in the solar systems move; explain scientific theories as to the origin of the solar system; and explain how we learn about the universe.

1. Compare the earth to other planets and moons in terms of supporting life.									
2. Describe, compare, and explain the motions of solar system objects.									
3. Describe and explain common observations of the night skies.									