

Where Have All the Martians Gone?

Grades 6-12

Taped program with liver interactive component

OHIO Standards

Earth & Space Sciences (unless otherwise marked)

| Rating Scale | Grade Level | Benchmark | Indicator |
|--------------------------|-------------|-----------|--|
| 1 (main topic) | 11 | D | 15. Use historical examples to show how new ideas are limited by the context in which they are conceived; are often rejected by the social establishment; sometimes spring from unexpected findings; and usually grow slowly through contributing factors from many different investigators. |
| 2 (covered in detail) | 8 | B | 8. Name and describe tools used to study the universe. |
| 2 (covered in detail) | 11 | A | 1. Describe how the early Earth was different from the planet we live on today, and explain the formation of the Sun, Earth, and rest of the Solar System from a nebular cloud of dust and gas approximately 4.5 billion years ago. |
| 3 (briefly discussed) | 5 | A | 2. Explain that the Earth is one of several planets to orbit the Sun, and that the Moon orbits Earth. |
| 3 (briefly discussed) | 5 | A | 4. Explain that stars are like the Sun, some being smaller and some larger, but so far away they look like points of light. |
| 3 (briefly discussed) | 11 | B | 3. Explain heat and energy transfers in and out of the atmosphere and its involvement in weather and climate |

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|--|--|--|---|
| | | | (radiation, conduction, convection, and advection). |
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3-5

Benchmark A: Explain the characteristics, cycles, and patterns involving the Earth and its place in the Solar System.

6-8

Benchmark B: Explain that the universe is composed of vast amounts of matter, most of which is at incomprehensible distances, and held together by gravitational force. Describe how the universe is studied by the use of equipment such as telescopes, probes, satellites, and spacecraft.

11-12

Benchmark A: Explain how technology can be used to gather evidence and increase our understanding of the universe.

Benchmark D: Summarize the historical development of scientific theories and ideas, and describe emerging issues in the study of Earth and space sciences.

MICHIGAN Standards

Standard V.4 Solar System, Galaxy, and Universe (ES)

| Rating Scale | S.C.# (Strand) | S.C.# Grade Level | Indicator |
|----------------------------------|---------------------------|------------------------------|---|
| 1 (main topic) | 1 | Middle School | 1. Compare the Earth to the other planets and moons in terms of supporting life. |
| 2 (covered in detail) | 4 | High School | 4. Explain how technology and scientific inquiry have helped us to learn about the universe. |
| 3 (briefly discussed) | 2 | Middle School | 3. Describe and explain common observations of the night sky. |

Standard component #1: All students will compare and contrast our planet and Sun to other planets and star systems.

Standard component #2: All students will describe and explain how objects in our Solar System move.

Standard component #4: All students will explain how we learn about the universe.

| Rating Scale | L.O. | Grade Level | Indicator |
|----------------------------------|-------------|--------------------|--|
| 1 (main topic) | | | |
| 2 (covered in detail) | 1 | 5 | Investigate and observe constellations, and explore legends associated with them. |
| 3 (briefly discussed) | 1 | 6 | Reinforce the theory of plate tectonics, including movement, boundaries, faults, and sea floor spreading. |

Grade 5

Learning Objective 1: Understands the composition and structure of the universe and the Earth's place in it.

Grade 6

Learning Objective 1: Understands Earth's composition and structure.