

# Ancient Worlds

## Grades 4-12

Live interactive program

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### OHIO Standards

Earth & Space Sciences (unless otherwise marked)

Rating Scale	Grade Level	Benchmark	Indicator
<b>1</b> (main topic)	<b>5</b>	<b>A</b>	<b>2. Explain that the Earth is one of several planets to orbit the Sun, and that the Moon orbits the Earth.</b>
<b>2</b> (covered in detail)	<b>5</b>	<b>A</b>	<b>1. Describe how night &amp; day are caused by the Earth's rotation.</b>
<b>2</b> (covered in detail)	<b>5</b>	<b>A</b>	<b>4. Explain that stars are like the Sun, some being smaller and some larger, but so far away they look like points of light.</b>
<b>3</b> (briefly discussed)	<b>8</b>	<b>A</b>	<b>2. Explain that gravitational force is the dominant force determining motions in the Solar System and in particular, keeps the planets in orbit around the Sun.</b>
<b>3</b> (briefly discussed)	<b>8</b>	<b>B</b>	<b>5. Explain that the universe consists of billions of galaxies that are classified by shape.</b>
<b>3</b> (briefly discussed)	<b>9</b>	<b>A</b>	<b>1. Describe that stars produce energy from nuclear reactions and that processes in stars have led to the formation of all elements beyond hydrogen and helium.</b>
<b>3</b> (briefly discussed)	<b>9</b>	<b>A</b>	<b>3. Explain that gravitational forces govern the characteristics and movement patterns of the planets, comets, and asteroids in the Solar System.</b>

### 3-5

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

### 6-8

**Benchmark A:** Describe how the positions and motions of the objects in the universe cause predictable and cyclic events.

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

### 9-10

**Benchmark A:** Explain how evidence from stars and other celestial objects provide information about the processes that cause changes in the composition and scale of the physical universe.

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## **MICHIGAN Standards**

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

<b>Rating Scale</b>	<b>S.C.# (Strand)</b>	<b>S.C.# Grade Level</b>	<b>Indicator</b>
<b>1 (main topic)</b>	<b>2</b>	<b>Middle School</b>	<b>3. Describe and explain common observations of the night sky.</b>
<b>3 (briefly discussed)</b>	<b>1</b>	<b>Middle School</b>	<b>1. Compare the Earth to other planets and moons in terms of supporting life.</b>
<b>3 (briefly discussed)</b>	<b>1</b>	<b>High School</b>	<b>1. Compare our Sun to other stars.</b>
<b>3 (briefly discussed)</b>	<b>2</b>	<b>High School</b>	<b>2. Describe the position and motion of our Solar System in our galaxy and the overall scale, structure, and age of the universe.</b>

**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.

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## **TOLEDO DIOCESE Guidelines**

**Earth & Space Sciences (unless otherwise marked)**

<b>Rating Scale</b>	<b>L.O.</b>	<b>Grade Level</b>	<b>Indicator</b>
<b>2</b> <b>(covered in detail)</b>	<b>1</b>	<b>5</b>	<b>Investigate and observe constellations, and explore legends associated with them.</b>
<b>3</b> <b>(briefly discussed)</b>	<b>1</b>	<b>5</b>	<b>Know that the Solar System is composed of the Sun, planets, Moon, asteroids, comets, and meteors.</b>
<b>3</b> <b>(briefly discussed)</b>	<b>1</b>	<b>5</b>	<b>Examine the Earth's rotation and revolution.</b>

**Grade 5**

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