

# The Sky Tonight

## Grades 3-8

### Live interactive program

This program is a full-length tour of the night sky. The exact content and emphasis of this show changes depending on the current nighttime sky. For example, when the planet Mars is visible, there will be an in-depth discussion of that planet. It is completely tailored to the current sky, and can be tailored to your needs. Therefore, a specific listing of topics with emphasis is not possible. The following list is simple the standards that can be discussed during the show to varying degrees. In this case, you can request an emphasis on a specific topic when you make your reservations.

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### OHIO Standards

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

Grade Level	Benchmark	Indicator
2	A	1. Recognize that there are more stars in the sky than anyone can easily count.
2	A	2. Observe and describe how the Sun, Moon, and stars all appear to move slowly across the sky.
2	A	3. Observe and describe how the Moon appears a little different every day, but looks nearly the same again about every four weeks.
5	A	1. Describe how night and day are caused by Earth's rotation.
5	A	2. Explain that the Earth is one of several planets to orbit the Sun, and that the Moon orbits the Earth.
5	A	3. Describe the characteristics of Earth and its orbit about the Sun.
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.

8	A	1. Describe how objects in the Solar System are in regular and predictable motions that explain such phenomena as days, years, season, eclipses, tids, and Moon cycles.
8	A	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.
8	A	3. Compare the orbits and composition of comets and asteroids with that of Earth.
8	A	4. Describe the effect that asteroids or meteoroids have when moving through space and sometimes entering planetary atmospheres (e.g. meteor-"shooting star").
8	B	5. Explain that the universe consists of billions of galaxies that are classified by shape.
8	B	6. Explain that interstellar distances are measured in light years.
8	B	Examine the life cycle of a star, and predict the next likely stage of a star.
8	B	8. Name and describe tools used to study the universe.

### **K-2**

**Benchmark A:** Observe constant and changing patterns of objects in the day and night sky.

### **3-5**

**Benchmark A:** Explain the characteristics, cycles, and patterns involving the Earth and it's 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.

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## MICHIGAN Standards

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

S.C.# (Strand)	S.C.# Grade Level	Indicator
1	Elementary	1. Compare and contrast the characteristics of the Sun, Moon, and Earth.
2	Elementary	2. Describe the motion of the Earth around the Sun, and the Moon around the Earth.
1	Middle School	1. Compare the Earth to other planets and moons in terms of supporting life.
2	Middle School	2. Describe and explain common observations of the night skies.
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.

L.O.	Grade Level	Indicator
1	5	Know that the Solar System is composed of the Sun, planets, moons, asteroids, comets, and meteors.
1	5	Know and investigate the phases of the Moon.
1	5	Investigate and observe constellations, and explore legends associated with them.
1	5	Examine the Earth's rotation and revolution.
1	5	Discuss how the Earth's tilt on its axis and the angle at which the Sun's light strikes the Earth determines seasonal changes.
1	8	Examine the origin, evolution, composition, and <b>RELATIONSHIP</b> of celestial bodies (rotation, revolution, seasons, orbit, tilt, moon phases, tides).
Unit	H.S. Int.	The learner will explain the cause of phases of

<b>I:B</b>	<b>Science</b>	<b>the Moon, the tides, and day and night.</b>
<b>Unit I:B</b>	<b>H.S. Int. Science</b>	<b>The learner will distinguish a planet, moon, star, asteroid, and comet.</b>

#### **Grade 5**

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

#### **Grade 8**

**Learning Objective 1:** Understands structure and composition of the universe, and the Earth's place through a study of space exploration and the universe.

#### **UNIT 1: Earth/Space Science**

##### **B. Earth, Moon, and Sun**