

The Stargazer

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)	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.
1 (main topic)	9	A	3. Explain that gravitational forces govern the characteristics and movement patterns of the planets, comets, and asteroids in the Solar System.
1 (main topic)	12	A	2. Explain how the large-scale motion of objects in the universe is governed by gravitational forces, and detected by observing electromagnetic radiation.
2 (covered in detail)	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.
2 (covered in detail)	8	B	7. Examine the life cycle of a star and predict the next likely stage of a star.
2 (covered in detail)	9	A	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.

2 (covered in detail)	12	A	1. Explain how scientists obtain information about the universe by using technology to detect electromagnetic radiation that is emitted, reflected, or absorbed by stars and other objects.
2 (covered in detail)	12	A	3. Explain how information about the universe is inferred by understanding that stars and other objects in space emit, reflect, or absorb electromagnetic radiation, which we then detect.
3 (briefly discussed)	8	B	8. Name and describe tools used to study the universe.

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.

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.

11-12

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

MICHIGAN Standards

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

Rating Scale	S.C.# (Strand)	S.C.# Grade Level	Indicator
1	4	High	4. Explain how technology and

(main topic)		School	scientific inquiry have helped us to learn about the universe.
2 (covered in detail)	3	High School	3. Explain how stars and planetary systems form, and how stars produce energy.
3 (briefly discussed)	1	High School	1. Compare our Sun to other stars.
3 (briefly discussed)	2	Middle School	2. Describe, compare, and explain the motions of Solar System objects.
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 #3: All students will explain scientific theories as to the origin of the Solar System.

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

Rating Scale	L.O.	Grade Level	Indicator
1 (main topic)	Unit III:D	H.S. Int. Science	Demonstrate an understanding of the different regions of the electromagnetic spectrum.
2 (covered in detail)	1	5	Investigate and observe constellations and explore legends associated with them.
2 (covered in detail)	1	8	Examine the origin, evolution, composition, and relationship of celestial bodies.
3 (briefly discussed)			

Grade 1

Learning Objective 2: 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 III: Physical Science D. Sound & Light - Science Concepts