

Lives & Deaths of Stars

Grades 6-12

Live interactive program

OHIO Standards

Earth & Space Sciences (unless otherwise marked)

Rating Scale	Grade Level	Benchmark	Indicator
1 (main topic)	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	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)	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)	8	B	5. Explain that the universe consists of billions of galaxies that are classified by shape.
3 (briefly discussed)	8	B	6. Explain that interstellar distances are measured in light years.
3 (briefly discussed)	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.
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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 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.

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 (main topic)	3	High School	3. Explain how stars and planetary systems form and how stars produce energy.
2 (covered in detail)	2	Middle School	2. Describe and explain common observations of the night sky.
2 (covered in detail)	1	High School	1. Compare our Sun to other stars.
3	2	High	2. Describe the position and

(briefly discussed)		School	motion of our Solar System in our galaxy, and the overall scale, structure, and age of the universe.
3 (briefly discussed)	4	High School	4. Explain how technology and scientific inquiry have helped us to learn about the universe.

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.

TOLEDO DIOCESE Guidelines

Earth & Space Sciences (unless otherwise marked)

Rating Scale	L.O.	Grade Level	Indicator
1 (main topic)	1	8	Examine the origin, evolution, composition, and relationship of celestial bodies.
2 (covered in detail)	1	5	Investigate and observe constellations, and explore legends associated with them.
3 (briefly discussed)	1	8	Use light years to measure distance in space.
3 (briefly discussed)	Unit II	H.S. Physics	Describe how astronomers use light years to measure distance.

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.

H.S. Physics

Unit II: Relativity - Science & Technology