

U. S. Curriculum Correlations by State

Michigan

Solar System, Galaxy and Universe

Compare the Sun to other stars.

Key Concepts: Temperatures, colors, sizes, apparent and absolute brightness; double stars.

Starry Night Lesson Plans

In order of relevance

F1 F2 F3 G1 G2

Describe the position and motion of our Solar System in our galaxy and the overall scale, structure, and age of the Universe.

Key Concepts: Stars, Galaxies, Milky Way, spiral structure, speed of light, light year, travel times, Big Bang, red shift.

G1 G2 H1 H2 H3

Tools: Telescopes, binoculars, spectroscopes.

I1 I2

Real-world contexts: Observations of other stars, star clusters, nebulas and galaxies, observations of other potential planetary systems, accounts of possible travel to other star systems.

G1 G2 H1 H2 H3 I1 I2

Explain how stars and planetary systems form and how stars produce energy.

Key Concepts: Processes of formation- coalescence from clouds of dust and gases by gravity; explosions of stars producing heavy elements; hydrogen, helium. Production of energy- fusion, radiation. Planetary systems may form during this process- heavy and light elements, hot interiors of Earth-like planets. Age of the Solar System.

F1 F2 F3 G1 G2

Real-world contexts: Nebulas considered to be starforming regions, supernovas, nuclear fusion research.

F1 F2 F3 G1 G2

Explain how technology and scientific inquiry have helped us learn about the Universe.

Key Concepts: Information-radiant energy, radio waves, light, spectra, color of stars, Moon and meteor samples.

H1 H2 H3

Devices: Radio, optical and other types of telescopes, space probes, satellites, computer imaging/modeling.

I1 I2