

**Michigan**  
High School

**Starry Night Lesson Plans**  
*In order of relevance*

Compare our Sun to other stars.	F1-F3	G1-G3	
<i>Key concepts:</i> Temperatures, colors, sizes, apparent and absolute brightness; double stars.	F1-F3	G1-G3	
Describe the position and motion of our solar system in our galaxy and the overall scale, structure and age of the universe.	G1-G3	H1-H3	I1-I3
<i>Key concepts:</i> Stars, galaxies, Milky Way, spiral structure, speed of light, light year, travel times, big bang, red shift.	G1-G3	H1-H3	
<i>Tools:</i> Telescopes, binoculars, <i>spectroscopes</i>	I1-I2		
<i>Real-world contexts:</i> Observations of other stars, star clusters, nebulas, and galaxies, observations of other potential planetary systems, accounts of possible travel to other star systems.	G1-G3	H1-H3	I1-I3
Explain how stars and planetary systems form and how stars produce energy.	F1-F3	G1-G3	
<i>Key concepts:</i> Processes of formation—coalescence from clouds of dust and gases by gravity; explosions of stars producing heavy elements; hydrogen, helium.	F1-F3	G1-G3	
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-F3	G1-G3	
<i>Real-world contexts:</i> Nebulas considered to be starforming regions, supernovas, nuclear fusion research.	F1-F3	G1-G3	
Explain how technology and scientific inquiry have helped us learn about the universe.	H1-H3	I1-I3	G1-G3
<i>Key concepts:</i> Information—radiant energy, radio waves, light, spectra, color of stars, moon and meteor samples. Devices—radio, optical and other types of telescopes, space probes, satellites, computer imaging/modeling	H1-H3	I1-I3	