

Maryland
Middle School

Starry Night Lesson Plans
In order of relevance

Grade 5

Standard 2.0 Earth/Space Science, TopicD. Astronomy

Indicator 1. Identify and compare properties, location, and movement of celestial objects in our solar system. A1-A5 B1-B2 C1-C4 D1-D3 I2

Objectives

Recognize that like all planets and stars, the Earth is spherical in shape.	A1	A2	C1
Identify the properties of the planet Earth that make it possible for the survival of life as we know it.	C1		
Compare the properties of at least one other planet in our solar system to those of Earth to determine if it could support life, as we know it.	C1-C4	I2	
Identify and describe physical properties of comets, asteroids, and meteors.	D1-D3		
Provide evidence that supports the idea that our solar system is sun-centered.	B1-B2	C2	F3 I2

Indicator 2. Recognize and describe the causes of the repeating patterns of celestial events. A1-A5 B1 E1-E4

Objectives

Describe the rotation of the planet Earth on its axis.	A1	E2	
Recognize and describe that the rotation of planet Earth produces observable effects	A1	E2	
The day and night cycle.	A1		
The apparent movement of the sun, moon, planets, and stars	A1-A5	E1-E4	
Describe the revolution of the planet Earth around the sun.	A2	B1	C2
Recognize and describe that the revolution of the planet Earth produces effects.	A2	E3	E4
The observable patterns of stars in the sky stay the same although different stars can be seen in different seasons.	E1-E4		
Length of year	B1-B2	C1	C2
Verify with models and cite evidence that the moon's apparent shape and position change.	A3	A4	A5

Grade 6

Standard 2.0 Earth/Space Science, TopicD. Astronomy

Indicator 1. Recognize that objects of our solar system are interrelated. B1-B2 C1-C4 D1-D3

Objectives

Recognize that Earth and its closest star, the sun, are part of a disk-shape galaxy of stars and that our galaxy is one of billions of galaxies.	G1	G2	H1-H2
Construct models with accurate scale that represent the position of the Earth relative to the sun and to other planets.	B1-B2	C1	
Identify and describe the general pattern of movement of all objects in our solar system.	B1	C1-C4	F3
Recognize that the pull of gravity causes the pattern of motion of celestial objects.	C2	F3	G3

Maryland
Middle School (cont'd)

Starry Night Lesson Plans
In order of relevance

Grade 8

Standard 2.0 Earth/Space Science, TopicD. Astronomy

Indicator 1. Identify and describe the components of the universe.	F3	B1	G1-G3	H1-H3
Objectives				
Recognize that a galaxy contains billions of stars that cannot be distinguished by the unaided eye because of their great distance from Earth, and that there are billions of galaxies.	G1-G3	H1-H3		
Identify that our solar system is a component of the Milky Way Galaxy.	G1	H1		
Identify and describe the various types of galaxies	H2			
Identify and describe the type, size, and scale, of the Milky Way Galaxy.	H1			
Indicator 2. Identify and explain celestial phenomena using the regular and predictable motion of objects in the solar system.	A1-A5	B1	C2	E2 E3 F3 I2
Objectives				
Identify and describe the relationships among the period of revolution of a planet, the length of its solar year, and its distance from the sun.	C2	B2		
Identify and explain the relationship between the rotation of a planet or moon on its axis and the length of the solar day for that celestial object.	A3	A1	A2	C1
Identify and explain the cause of the phases of the moon.	A4			
Describe how lunar and solar eclipses occur.	A5			
Identify and describe how the shape and location of the orbits of asteroids and comets affect their periods of revolution.	D1-D3			
Indicator 3. Recognize and explain the effects of the tilt of Earth's axis.	A2			
Objectives				
Recognize and describe that Earth's axis is tilted about 23¼° from vertical with respect to the plane of its orbit and points in the same direction during the year.	A2	E2		
Recognize and describe that the tilt of Earth's axis causes	A2			
Changes in the angle of the sun in the sky during the year	A2			
Seasonal differences in the northern and southern latitudes	A2			
Recognize and describe how the tilt of Earth's axis affects the climate in Maryland.	A2			
Indicator 4. Recognize and explain how the force of gravity causes the tides.	A3			
Objective				
Identify and describe the cause of high and low tides.	A3			