

**Arkansas**  
Middle School

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

**Standard 10: Objects in the Universe**

**Students shall demonstrate and apply knowledge of objects in the universe using appropriate safety procedures, equipment, and technology.**

**Grade 5**

ESS.10.5.1

Compare the physical characteristics of the sun to other stars

F1-F3

G2

ESS.10.5.2

Demonstrate the order of planets and other space objects in our solar system

B1-B2

C1-C4

D1-D3

ESS.10.5.3

Compare the properties of planets in our solar system:

B1-B2

C1-C4

D1-D3

ESS.10.5.5

Compare the human body's mass to weight on Earth, the moon, and other planets in our solar system

App. C, E

ESS.10.5.6

Investigate careers, scientists, and historical breakthroughs related to planets

E4

I2

**Grade 6**

ESS.10.6.1

Explain how planets seem to wander against the background of the stars

C2

E4

ESS.10.6.2

Compare the distance of the following:

from the sun to Earth (light minutes)

B2

from the next nearest star to Earth (light years)

G1

ESS.10.6.3

Describe how astronomers measure distance to stars

G1

ESS.10.6.4

Calculate the rate at which we would have to travel to other stars and planets in our solar system using current technology

I2

ESS.10.6.5

Explain the effect of the sun on comets

D2

ESS.10.6.6

Compare and contrast comets, meteors, and asteroids

D1-D3

ESS.10.6.7

Model moon phases demonstrating the position of Earth, moon, and sun

A3-A5

ESS.10.6.8

Compare and contrast solar eclipse and lunar eclipse

A5

ESS.10.6.9

Investigate careers, scientists, and historical breakthroughs related to the sun and space travel

F2

I1

I2

# Arkansas

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### Grade 7

ESS.10.7.1 Identify and model the causes of night and day	A1		
ESS.10.7.2 Compare and contrast Earth's day to those of other planets in our solar system	C1	C4	App. C, E
ESS.10.7.3 Identify and model the cause of planetary years	C2	B1-B2	
ESS.10.7.4 Compare and contrast Earth's year to those of other planets in our solar system	C2	B1-B2	
ESS.10.7.5 Identify and model the causes of seasons	A2		
ESS.10.7.6 Investigate careers, scientists, and historical breakthroughs related to rotations and revolutions of bodies in space	I1-I2	E4	

### Grade 8

ESS.10.8.1 Summarize the effects of gravity on bodies in space	C2	F3	G3
ESS.10.8.2 Identify variables that affect the amount of gravitational force between two objects:	C2		
ESS.10.8.3 Relate the effects of the moon's gravitational force on Earth's ocean tides	A3		
ESS.10.8.5 Define the terms galaxy and universe	H1-H2		
ESS.10.8.6 Illustrate the appearance of galaxies as seen through a telescope:	H1-H2		
ESS.10.8.7 Compare and contrast the Milky Way Galaxy to other galaxies	H1-H2		
ESS.10.8.8 Illustrate the position of our solar system within the Milky Way Galaxy	H1	G1	
ESS.10.8.9 Investigate careers, scientists, and historical breakthroughs related to gravity, galaxies, and the universe	H1-H2	G3	