

Wright City Science Curriculum

5th Grade

Grade	5th Grade
Unit of Study	Astronomy
Length of Unit	Three Weeks
Sample Essential Questions	Sample Corresponding Big Ideas
What creates day and night? Why do shadows move throughout the day?	The Earth rotates in 24 hours, creating day and night and causing shadows to move.
What creates our year?	The Earth revolves around our Sun creating our year.
What are the reasons for the seasons?	We have seasons due to the Earth revolving around the Sun and the Earth's tilt on its axis. The Northern Hemisphere receives indirect sunlight during winter and direct sunlight during summer.
Why does it get darker earlier in the winter?	The Northern Hemisphere receives more sunlight during the summer months than the winter months.
How do we stay on Earth's surface?	Gravity depends on the size of the objects and the distance the objects are from each other.
Why is the Sun so big if it is a star?	The sun is an average star, it only looks larger in our sky because it is so close to our Earth.

Missouri Learning Standards
Priority Standards
5.ESS1.B.2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. (Examples of patterns could include the position and motion of the Earth with respect to the sun and selected stars that are visible only in particular months.)
5.PS2.B.1. Support an argument that the gravitational force exerted by Earth on objects is directed towards the planet's center. ("Down" is a local description of the direction that points toward the center of the spherical Earth.)
5.ESS1.A.1. Support an argument that relative distances from Earth affects the apparent brightness of the sun compared to other stars.
3.ESS.2.D.1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

5.ESS1.B.1. Make observations during different seasons to relate the amount of daylight to the time of the year. (Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.)

3.ESS2.D.2 Obtain and combine information to describe climates in different regions of the world.

Unit 1 Sequence			
MLS	Topic(s)	Learning Targets	Academic Vocabulary
5.ESS1.B.2.	Shadows, Day and Night, and Stars	I can analyze the changes in length and directions of shadows throughout the day. I can analyze the changes in length and directions of shadows throughout the seasons. I can explain day and night. I can explain the seasonal appearance of some stars in the night sky.	Rotation Revolution Orbit Universe Gravity Season Shadow Daylight Axis Equator Apparent Brightness Lunar Eclipse Solar Eclipse Constellation Galaxy Solar System Moon Phases Stars Climate Weather
5.PS2.B.1.	Gravity	I can describe gravity. I can construct an argument that gravity is a pull to a planet's center. I can explain why "down" is not a good description of gravity.	
5.ESS1.A.1.	Stars	I can determine which star would be closer to the Earth based on size and brightness. I can explain why the sun is so much brighter in our sky than other stars.	
5.ESS1.B.1.	Daylight	I can observe the amount of sunlight in different seasons. I can explain why we have seasons. I can explain the pattern of sunlight throughout the year. I can explain revolution. I can explain rotation.	

MLS	Learning Activities	
	Astronomy Brain Dump	Can Do ▾
	Gravity in Space	Must Do ▾

	Earth's Revolution- Years	Must Do ▾
	Earth Rotation- Days	Must Do ▾
	Season Observations and Constellations	Must Do ▾
	Reasons for the Seasons	Must Do ▾
	Sunlight Graphing	Must Do ▾
	Apparent Brightness- Flashlight Activity	Must Do ▾
	Eclipses	Must Do ▾
	Moon Phases	Can Do ▾
	Planets	Can Do ▾

Assessments		
MLS	Description or Location	Rubric/Location
	Rotation Exit Ticket	Google Drive
	Rotate and Revolve Assignment	Pear Assessment
	Astronomy Unit Test	Pear Assessment

Additional Resources
MO Leap Blocks Daylight Patterns (5th Grade)
MO Leap Block Brightness of Stars (5th Grade)
MO Leap Block Moving Shadows (5th Grade)
Fletcher and the Falling Leaves by Julia Rawlison
<i>Sun! One in a Billion</i> by Stacy Mcanulty
<i>The Year at Maple Hill Farm</i> by Alice and Martin Provenson

<i>The Sun is Kind of a Big Deal</i> by Nick Seluk
<i>The Moon Seems to Change</i> by Franklyn M. Branley
<i>Stars</i> by Mary Lyn Ray
<i>Oscar and the Moth: A Book About Light and Dark</i> by Geoff Waring
<i>The Magic School Bus Sees Stars</i> by Joanna Cole