Observable patterns exist with respect to shadows, day and night, and stars in the night sky. What patterns do we notice when observing the sky? Guiding Questions: Part B: What effect does Earth's gravitational force have on objects? Part B: What effect does the relative distance from Earth have on the apparent brightness of the sun and other stars? 21st Century Themes/Skills: Student Learning Differentiated Activities Benc	Rig Idea:								
Section of the control of the contro	What patterns do we notice when of	pect to shadows, day and night, and sta observing the sky?	ars in the night sky.						
DO (Disciplinary Care Material State 2) Concessant and Explanation of Processant Intelligence of Proce	Guiding Questions: Part A: What effect does Earth's gravitational force have on objects?								
Seption of the production of the control of the con	11st Century Themes/Skills:			Student Learning		Posouroes/Technology	Formative Assessments	Benchmark Assessment	
PSEAS Types of interactions are an an anomal (S-PSS-1) (S-PSS-1) The sum is a size in tail agreement and proving a size of the size of th					,	Resources/Technology	Formative Assessments	Assessment	
PRO 28. Types of intractions from the control of th	PS2.B: Types of Interactions • The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center. (5-	Evidence • Support an argument with evidence, data, or a model. (5-PS2-1), (5-ESS1-	Cause and effect relationships are routinely identified and used to	of gravity by holding up and releasing a variety of objects from a variety of heights and	objects would fall the fastest. Slide 2 of Gravity and Sun power point.				
ESSIA: The Universe and its Stars and pepara is greated or formation of the period of				pulls objects to the Earth's	Up, Must Come Down" to support an argument that the gravitational force exerted by Earth on objects.	com/techbook/concept/conceptGuid/5 F39AA32-E0DE-4978-BF94- 6B37885AFCDB/unitGuid/5C989220- 96C7-4C17-8724- 04CC2BF1FA67#/tab=explore-			
ESST A: The Universe and Its Sarrs Analyzing and interpreting Date and groupers with evidence stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable patients. These distance from another stars because it observable and office and another office from another stars because it is observable and office and another office from another stars because it is observable and office and another office from a distance and progresses to the another office from a distance and progresses to the another office from a distance and progresses to the another office from a distance and progresses to the control of the monoton around Earth, together with the rotation of the distance and progresses to the control of the monoton around Earth, together with the rotation of the distance and progresses to the control of the monoton around Earth, together with the rotation of the distance and progresses to the control of the monoton around Earth, together with the rotation of the distance and progresses to the control of the monoton around Earth, together with the rotation of the distance and progresses to the control of the distance				pulls objects to the Earth's	gravity Lab: Washer Activity Lab: Universal Gravity	Washer Lab (activities folder) Universal Gravity (activitiy folder)			
ESS1.A: The Universe and its Stars The sun is a star that appears ingrea and brightnam of the stars because it is greatly in their distance from ESS1.1 (c) FBS2.1 (c) E-BS1.1				pulls objects to the Earth's		http://www.iss-casis. org/Portals/0/education/lesson- plans/Gravity%20%E2%80%A6% 20Depends%20on%20Where% 20You%20Are.pdf http://www.slcschools.			
ESS1 A: The Universe and Its Start hat appears larger and trighter than other stars because it is core of Earth around the sun and offer in South poles, cause observable patterns. These other is North and South poles, cause observable patterns. The other direction of shadow, and different positions of the sun, moon, and stars at different positions					mass and the pull of gravity.	Grade-7-to-8/Grade- 8/documents/Gravity-3-day.pdf			
SESIA: The Universe and Its Stars The Sun is a star that appears larger and brighter than other stars because it. Support an argument with evidence stars range greatly in their distance from Exh. (S-ESS1-1) Matural objects exist from the stars because it. Support an argument with evidence stars range greatly in their distance from Exh. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Matural objects exist from the ways mail to the memersely large. (S-ESS1-1) Attail provided part of the memersely large is provided by the memory of stars. Intelligent may be a star of different of the memory of				pulls objects to the Earth's	for better understanding. Brain Pop: Gravity OR Study Jams: Solar System- Gravity and	com/science/motionsforcesandtime/gr avity/ http://studyjams.scholastic. com/studyjams/jams/science/solar-	video quin		
support an argument with evidence date or an origination of the relative because it is discored. Shars range grade (S-ESS1-1) grade in the distance from Earth (S-ESS1-1) grade in the solar system. The orbits of Earth and the Solar System. The orbits of Earth and the solar system with the rotation of Earth about an axis between its Noth and South poles, cause observable patterns. These include day and night; daily large is not because it the length and different being different times of the day, month, and year. (5-ESS1-2) The orbits of Earth around a solar short and south and south and south poles, cause observable patterns. These include day and night; daily large is not because it will be repaired displays behaviors. When possible and elasticity of the day and night; daily large is not because it is decided and sale and conducting and the solar system. The orbits of Earth around into the sum and of the su	its Stars		Quantity		Using various analogous	http://www.perkinselearning. org/accessible-science/apparent-vs-	video quiz		
ESS1.B: Earth and the Solar System - The orbits of Earth around the sun and of the moon around Earth, together of Earth about an axis between its North and South poles, cause observable patterns. These include day and night, daily changes in the length and direction of shadows; and different times of the day, month, and year. (6-ESS1-2) - Earth's movement. - Earth's movement. - Earth's movement. - Earth and the Solar Analyzing data in 3-5 builds on Microscopes to collecting data and conducting misple triats for disable, digital tool should be used Represent data in graphical displays (bar graphs, pictory et al.) to reveal patterns that indicate relationships. (6-ESS1-2) - Earth's movement. - Earth's movement. - Extension activities. - Build/Star Finder (Project Astro) http://www.stonges. - Similarities and differences used to day ingring demonstrated displays (demonstrated displays (bar graphs, pictory et al.) to reveal patterns in the indicate relationships. (6-ESS1-2) - Extension activities. - Similarities and differences used to day ingring demonstrated displays (demonstrated displays (demonstrated displays) (demonstrated	appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from	Support an argument with evidence, data, or a	the very small to the immensely large. (5-ESS1-	simulations to replicate the effect of variable distances	of distance as it relates Sun and other stars. Using a fan with various settings at various distances to model				
moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observations. When possible and feasible, digital tools should be usedRepresent data in graphical displays (bargaphs, pictographs and/or picharts) to reveal patterns. These include day and night, daily changes in the length and direction of shadows; and different positions of the sun, monn, and stars at different times of the day, month, and year. (5-ESS1-2)	ESS1.B: Earth and the Solar System * The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and	Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. –Represent data in graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate	Similarities and differences used to sort, classify, commu simple rates of change for na	E	Engage: show video model and ask students if they can describe what is being	com/books/earth_science/terc/content /visualizations/es0408/es0408page01			
South poles, cable observable patterns. These include day and night, daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different itmes of the day, month, and year. (5-ESS1-2) The students will use a penny and a quarter to model the Moon's rotation on its axis and revolution to miss and revolution on the Earth and demonstrate that the Moon keeps the same face toward the Earth. The students will use a penny and a quarter to model the Moon's rotation on its axis and revolution where the same face toward the Earth. The students will use a penny and a quarter to model the Moon's rotation on its axis and revolution where the same face toward the Earth. In the students will use a penny and a quarter to model the Moon's rotation on its axis and revolution where the same face toward the Earth. In the students will use a penny and a quarter to model the Moon's rotation on its axis and revolution where the same face toward the Earth. In the students will use a penny and a quarter to model the Moon's rotation on its axis and revolution where the same face toward the Earth. In the students will use a penny and a quarter to model the Moon's rotation on its axis and revolution where the same face toward the Earth. In the students will use a penny and a quarter to model the Moon's rotation on its axis and revolution where the model the Moon's rotation on its axis and revolution where the model the Moon's rotation on its axis and revolution where the model the Moon's rotation on its axis and revolution where the model the Moon's rotation on its axis and revolution where the model the Moon's rotation on its axis and revolution on its axis and re					textual information to explain the difference between revolution and				
length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year. (5-ESS1-2) To understand the concept of day/night and the four seasons connecting to the Earth's movement. Earth's movement. Earth's movement. Description of the sun, moon, on its axis and revolution on its axis and revolution on the Earth, and demonstrate that the Moon keeps the same face toward the Earth. Description of the sun, moon, on its axis and revolution on the Earth and demonstrate that the Moon keeps the same face toward the Earth. Extension activities: Build Star Finder (Project Astro) http://www.strongnet.org/cms/ibio/Hol/100884/Centricity/Dom ain/115/Star%20Finding%20With%20a% 20Star%20Finding%20With%20a%									
Build Star Finder (Project Astro) http://www.strongnet. org/cms/lib6/H01000884/Centricity/Dom ain/116/Star/s2/Drinding%20With%20a% 20Star/s2/Drinding%20With%20a%				day/night and the four seasons connecting to the	penny and a quarter to model the Moon's rotation on its axis and revolution around the Earth, and demonstrate that the Moon keeps the same face toward	gov/musical/interactive/ssmPdfs/Penn			
Build Star Finder (Project Astro) http://www.strongnet. org/cms/lib6/H01000884/Centricity/Dom ain/116/Star/s2/Drinding%20With%20a% 20Star/s2/Drinding%20With%20a%									
Build Star Finder (Project Astro) http://www.strongnet. org/cms/libbO/H01000884/Centricity/Dom ain/116/Star/s20Finding%20With%20a% 20Star/s20Finding%20With%20a%									
Build Star Finder (Project Astro) http://www.strongnet. org/cms/libbO/H01000884/Centricity/Dom ain/116/Star/s20Finding%20With%20a% 20Star/s20Finding%20With%20a%									
						Build Star Finder (Project Astro) http://www.strongnet. org/cms/lib6/OH01000884/Centricity/Dom ain/115/Star%20Finding%20With%20a%			