Subject	Grade	Standard	Objective
Science	**K**	**2. Earth and Space Science**	**2. Observe and describe changes in day and night.**

Content Big Ideas	Standard 1 Big Ideas – Intended Learning Outcomes	Science, Technology, and Society Big Ideas
(E) Change is something that happens to many things. (E) Some changes are so slow or so fast that they are hard to see.	(PoS) People can often learn about things around them by just observing those things carefully (raise questions about the world around them, be willing to seek answers to some of those questions by making careful observations). (CoS) People are more likely to believe your ideas if you can give reasons for them (ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same questions). (NoS) When doing science activities, it is often helpful to work with a team and to share findings with others.	(T) People use appropriate tools and models to investigate the world. (A) People working alone or in groups often invent new ways to solve problems and get work done. (S) The tools and ways of doing things that people have invented affect all aspects of life.

Indicators: Measureable Outcomes framed by Standard 1 Big Ideas

Indicator 1. Compare and contrast light and dark in a day-night cycle and identify the changes as a pattern.
Indicator 2. Investigate, interpret, and explain to others that the sun provides heat and light to Earth.
Indicator 3. Examine what happens when you block the sun's light. Explore shadows and temperature changes.

Science language students should be able to use correctly: pattern, change, heat, light, temperature, shadow.

Guidance for Combining Content and Process	Guidance for Combining Science, Technology, and Society
Suggested Strategies Have the student explore shadows moving as the light source moves. Investigate the following questions (and others that you or your students choose): (PoS) • How are shadows different at different times of the day? How can you use a camera to explore shadow movement? • What happens to a shadow as a light source (like a flashlight) moves? Investigate activities that can be done easier in the light than in the dark. Compare results (e.g., name writing, line up for recess, sleep, storytelling). (L) (PoS) Investigate how the Earth blocks the sun's light using a flashlight and a globe. (PoS) Have the students place an ice cube outside in the sunshine and another in the shade. Investigate: Does an ice cube melt faster in the shade or in sunlight? (PoS) During literacy seat work time have students create word and picture reports of their findings on the above investigations. (L) (CoS) (NoS)	(T) Students use age-appropriate tools to investigate (camera, flashlight, world globe, ice cube). (A) Some devices are made to use during the day, others to use at night. (S) Staying up all night is not healthy.

Earth and Space Science	Curriculum Connections		Processes, Communication, and Nature of Science	Applications: Science, Technology, and Society
(E) Earth science	(M) Mathematics	(FA) Fine Arts	(PoS) Processes of science	(T) Tools of science
(SS) Space science	(L) Language Arts	(SS) Social Studies	(CoS) Communication of science	(A) Applications of science
			(NoS) Nature of science	(S) Implications of science for people