

	Concepts and practices	3	2	1
Disciplinary core ideas	ESS1.A Patterns of the motion of the Sun, Moon, and stars in the sky can be observed, described, and predicted. (NGSS p. 14)	Students draw the Sun in five positions in the sky, can describe the pattern as an arc, and can predict another position of the Sun along the arc.	Students draw the Sun in the five positions and can describe the pattern as an arc, but cannot predict another position of the Sun along the arc.	Students can draw the five positions of the Sun, but cannot describe the pattern or predict the Sun's position at another point along the arc.
	ESS1.B Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (NGSS p. 14)	Students say they drew the Sun having a lower and shorter arc pattern in the winter because there are less hours of daylight in the winter. They can predict the summer pattern as being a higher and longer arc.	Students say they drew the Sun having a lower and shorter arc pattern in the winter because there are less hours of daylight in the winter; but they cannot predict the summer pattern as being a higher and longer arc.	Students say they drew the Sun having a lower and shorter arc pattern in the winter but they cannot tell you why and cannot predict the Summer pattern.
Science and Engineering Practices	Analyzing and interpreting data	Students analyze their daylight pattern data to correctly interpret that there is more daylight in the summer compared to the winter.	With guidance, students analyze their daylight pattern data to correctly interpret that there is more daylight in the summer compared to the winter.	Students need to be told that there is more daylight in the summer compared to the spring.
	Developing models	Students develop a model of the Sun's pattern of motion in the spring that is clearly longer than the Sun's pattern of motion in the winter.	Students develop a model of the Sun's pattern of motion in the winter but have difficulty adding spring to this same model.	Students cannot develop a model of the Sun's pattern of motion in the sky.

Crosscutting concepts	Patterns	Students draw the Sun in five positions that form an arc pattern in the sky.	Students draw most of the Suns, but may draw straight lines from sunrise to noon or noon to sunset.	Students do not draw enough different positions of the Sun to make a pattern.
------------------------------	----------	--	---	---