

**Astro-Adventures-3<sup>rd</sup> Grade**  
October 17, 2012-DRAFT

Timeframe 10 weeks
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Standards	Assessment/ Student Evidence	Academic Vocabulary	Resources
SYSA A system is a group of interacting parts that form a whole.	Give examples of simple living and physical systems (e.g., Sun, Moon, Earth system)	System	<i>Astro-Adventures</i> Teacher Guide by Pacific Science Center  Class book sets of: <i>The Moon Seems to Change</i> by Branley <i>What Makes Day and Night</i> by Branley
INQB A scientific investigation may include making and following a plan to accurately observe and describe objects, events, and organisms; make and record measurements, and predict outcomes.	Work with other students to make and follow a plan to carry out an investigation. Actions may include accurately observing and describing objects, events, and organisms; measuring and recording data; and predicting outcomes	Observe/observation Prediction	
INQE Models are useful for understanding systems that are too big, too small, or too dangerous to study directly.	Use a simple model to study a system (e.g., Sun-Moon-Earth system). Explain how the model can be used to understand the system.	Model	
INQF Scientists develop explanations, using observations (evidence) and what they already know about the world. Explanations should be based on evidence.	Accurately describe results, referring to the graph or other data as evidence. Draw a conclusion about the question that motivated the study using the results of the investigation as evidence.	Conclusion	

Power Standards in green

Complementary Standards in yellow

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INQC Inferences are based on observations.			
INQG Scientists make the results of their investigations public, even when the results contradict their expectations.			
ES1A (K-1) Many things can be seen in the sky. Some change minute by minute, while others move in patterns that can be seen if they are observed day after day.	Observe and communicate the many things that can be seen in the sky that change minute by minute (e.g., birds, airplanes, and clouds) and those that change their shape or position in observable patterns day after day (e.g., apparent shape of the moon)	Position Shape Pattern	
ES1A (2-3) Outdoor shadows are longest during the morning and evening and shortest during the middle of the day. These changes in length and direction of an object's shadow indicate the changing position of the Sun during the day.	<ul style="list-style-type: none"> <li>• Mark the position of shadows cast by a stick over the course of a few hours, and infer how the sun has appeared to move during that time.</li> <li>• Observe that the length of shadows is shortest at about noon, and infer that this is because the Sun is highest in the sky (but not directly overhead) at about that time.</li> <li>• Explain how shadows could be used to tell the time of day.</li> </ul>	Shadow Sun Length	
ES1B (K-1) The position of the Sun in the sky appears to change during the day.			

Power Standards in green

Complementary Standards in yellow

Standards	Assessment/ Student Evidence	Academic Vocabulary	Resources
ES1C (K-1) The Moon can be seen sometimes during the day and sometimes during the night. The Moon appears to have different shapes on different days.		Moon phases	
ES1B (4-5) Earth's daily spin relative to the Sun causes night and day.	Use a physical model or diagram to show that Earth's spin causes night and day.	Spin Earth	
ES1C (4-5) Earth's nearly circular orbit around the Sun causes us to see different constellations at different times of year.		Orbit Constellations Stars	

Power Standards in green

Complementary Standards in yellow