

## Quest Lesson Guide: Upgrade the Rover Ramp with Lights

<b>Pillar:</b> SCIENCE	<b>Concept:</b> Physical Sciences	<b>Code:</b> SP1.1	<b>Level:</b> 1
<b>Summary:</b> Upgrade the Rover Ramp with Lights			
<b>STEAM Integration:</b> Engineering (Making)			
<b>Learning Objectives</b>			
<b>Students will learn about...</b>		<b>Students will learn to...</b>	
Transforms energy into light.		Recognize that forces can affect the behavior of objects. Recognize that energy can be transformed and transferred from one form to another.	

### Quest Introduction:

Upgrade the rover parking ramp by adding lights to mark the platform so its easily seen at night.

*Students add lights to the Rover Ramp so its easily seen at night*



### Fun Facts:

Light is a form of energy made of tiny photons that travel as waves. Light can be seen by the human eye and is needed for the sense of sight. We can only see light waves when they are bounced off an object. This is called reflection. Light travels super-fast, almost 300,000 km per second. Wowzers!

Light is super important and helps us see in the dark, especially in colors. Lights can be used to create a boundary to ward off predators. Lights are also used for signals like traffic lights which use different colors like red for stop, orange for danger, and green to signal go.

**In-Game Assessment:**

The students earn XP in the following badges: 1. Energy – 25% 2. Motion & Matter – 25%	Related in-game quiz that tests concepts: 1. Quiz: Power & Energy
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**Formative Assessment:**

Once the student finished a quest, you can also assess them based on observation and discussion, and according to the following scale. If assessing a student's partially completed project, use the "Notes" section. In this case, assess the child based on their understanding of the projected learning outcomes and how effectively they implemented them on the part of the project they did complete.

5	4	3	2	1
Complete Achievement of goal/task/ understanding	Mostly Complete Achievement of goal/task/ understanding	Partially Complete Achievement of goal/task/ understanding	Very Incomplete Achievement of goal/task/ understanding	Did Not Complete goal/task/ understanding

**Notes:**

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