

# BEN: Scientific Inquiry (BUEI)

Expedition- 3

November 17, 18,19

Cambridge Objectives:

## PHYSICS

### Unit 5.5 How We See Things

**SPI 8** We see light sources because light from the source enters our eyes.

**SPI 9** Beams/rays of light can be reflected by a mirror, the reflected light enters our eyes and we see the object.

**SPI 10** When a beam of light is reflected from a surface it changes direction.

### Unit 5.3 Light and Shadows

**SPI1** Shadows are formed when light travelling from a source is blocked

**SPI2** Size of a shadow is affected by the position of the object

**SPI3** Shadows change in length and position throughout the day

**SPI7** Opaque objects/materials do not let light through and transparent objects/materials let lots of light through

(AM Group) 9:30  (PM Group) 1:00	Arrival	<p><b>What Students need:</b></p> <ol style="list-style-type: none"><li>1. Pencils</li><li>2. Flashlights</li><li>3. Masks worn and temperature checked at the door.</li><li>4. Sanitizer upon entry to classrooms.</li></ol> <p>Welcome Housekeeping (bathrooms, bags...) Introduction of BUEI teachers and staff Organize students into 2 groups.</p>
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		<p><b>Group 1:</b> <b>(45 Minutes)</b></p> <p><b><u>Lesson Hook:</u></b></p> <ul style="list-style-type: none"> <li>• Notice and Wonder- Light</li> <li>• Short discussion at the start of the lesson to activate prior knowledge.</li> </ul> <p><b><u>Inquiry Stations:</u></b></p> <ul style="list-style-type: none"> <li>• Students will work in groups of 4 in a light inquiry activity.</li> <li>• Light travels so quickly that sometimes we can forget it even travels at all. Learn all about light travel and direction while</li> </ul> <p>Teaching Points:</p> <p>1. Have you ever put a drinking straw in a cup of water? If your answer is yes, you may have noticed that the straw seems to bend in the water. The vision of the straw in the air doesn't perfectly line up with the way you see the straw in the water. Why is this? The answer is in a physics principle called refraction. During refraction, light bends as it enters different mediums.</p>
9:30- 11:15		
1:00- 2:45	Light Labs	<p>Materials Needed:</p> <p>1. Large pieces of paper taped to stations. Students are able to write observations, draw illustrations, ask questions.</p> <p><b>Group 2 :</b> <b>(45 Minutes)</b></p> <p><b><u>Lesson Hook:</u></b></p> <ul style="list-style-type: none"> <li>• <b>Video:</b> Students will have a card/ post- it. During the film they will record one thing that stood out to you.</li> </ul> <p><b><u>Inquiry Stations:</u></b></p> <ul style="list-style-type: none"> <li>• Students will work in groups of 4 as they rotate between 2 stations.</li> <li>• Station 1- Light Lab</li> <li>• Station 2- Light Penetration Station</li> </ul> <p>( ***Room 3- Refraction, light and water exploration tasks)</p> <p>Materials Needed:</p> <p>1. Large pieces of paper taped to stations. Students are able to write observations, draw illustrations, ask questions.</p>

11:15-11:30  2:45- 3:00	Closure  Social Emotional	<p><b>(Think-pair-Share)</b></p> <p>1. The thing that made the most sense to me today was...</p> <p>2. One thing that I just don't understand is...</p> <p>3. When someone asks me what I did in math today, I can say...</p> <p>4. One thing I would like more information about is...</p> <p>5. I need more examples of...</p> <p>6. I enjoyed...</p>
		<p><b>At School Tasks:</b></p> <p>1. Packets given to classes from BUEI (Eco Awareness)      2. Shadow Puppet Theatre      3. <b>Extension Activity:</b> Add coffee grounds to water. Create a data sheet and table recording the changes. (SBG)</p>
11:55  2:55	Dismissal	Mr. Degriff- Will collect and drop-off from the front of BUEI.