**Unit Title: Light**

**Grade Level:** Grade 3

**Subject Area:** Science

**Duration/Length/Number of class periods:** 5

**Description:**
Hands on discovery learning key vocabulary: absorption, redirection, reflection,transparent, translucent, and opaque. These experiments will allow them to apply these terms in real life situations.

**Established Goals (National, State, Local):**

3.2.3.1.2. Explain how shadows form and can change in various ways.

3.2.3.1.3 Describe how light travels in a straight line until it is absorbed, redirected, reflected or allowed to pass through an object. For example: Use a flashlight, mirrors and water to demonstrate reflection and bending of light.

**What Enduring Understandings are desired?**

I can determine materials that will absorb, redirect, reflect, or allow light to pass through.

I can identify items or materials that can take in, change direction, bounce off, or will allow light to go through.

**What Essential Questions will be considered?**

Why do we need light?

What are some things that produce a light source?

Why does light go through some things and not others?

What types of material does light go through?

Can we survive without light?

**Students will know / be able to:**
Students will understand different types of light sources and how different materials can impact what happens to the light, such as if the light will redirected,reflected, or absorbed. They will understand what transparent, opaque and translucent means.

| **Description** *Units must include at least one of each formative, summative, introductory activity and learning activity. Check the appropriate box; one per row.* | Formative | Summative | Introductory Activity | Learning Activity | Student Technology Used | Teacher Technology Used | ISTE Standards |
|---|---|---|---|---|---|---|---|
| Day 1: Think like an optical engineer.<br>Read from the "Color and Light" (focus on page 4 and 5). Discuss<br>Experiment: Give students bag of materials to see what will be able to transmit light through. Record and Discuss results from what they observed. | | | | ✓ | | | |
| Day 2: "Let the little light out"<br>Do the shoebox experiment.<br>Watch Magic School Bus: Get's a bright idea. | | | | ✓ | | ✓ | |
| Day 3: "Mirror, Mirror"- Reflection<br>Do Mirror drawing experiment. Looking in the mirror, students will try to trace their original shape. Journal - Which of the shapes what easier to draw and why? Which of the shapes was harder to draw and why? | | | | ✓ | | | |
| Day 4: Review and Reflection<br>Have students respond to flipgrid post from google classroom about what they have learned. Practice "Transparent, Translucent, Opaque" (rock, paper, scissors game). | ✓ | | | | | | |
| Day 5: Assessment and Reflection<br>Have students do Google form assessment | | ✓ | | | ✓ | | |

**Materials, tools and resources**
**Day 1:**
-Bag: Contents-black paper, mylar, tissue paper, white paper with holes, transparency paper, flashlight, science notebook for recording data
-Color and Light (Foss Kit book).
**Day 2:**
-Shoebox experiment kit (Foss Kit book), movie projector.
**Day 3:**

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| -Mirror experiments-shapes, mirrors, science journal, pencil.<br>**Day 4:**<br>-Flipgrid<br>**Day 5:**<br>Google Form assessment |
| **Unit Plan Author (name, school and optional email address or hyperlink to teacher's web page)** Julie Sturges, Lincoln Elementary |
| **Additional credit given to** N/A |