

Shine on!

Light – Unit 4

Standards & Objective:

S4P1 - Students will investigate the nature of light using tools such as mirrors, lenses, and prisms.

- a. Identify materials that are transparent, opaque, and translucent.
- b. Investigate the reflection of light using a mirror and a light source.
- c. Identify the physical attributes of a convex lens, a concave lens, and a prism and where each is used.

Students will piece together a window sample using a variety of objects provided. At the end of this project, students will be able to identify objects that transparent, translucent, and opaque. They will also be able to explain the differences between those mediums and how light shines through each. Students will receive differentiated tasks and instruction to hit all three standards throughout the project.

Problem:

After months of applying for window engineer positions, you have finally been offered a job! Your first set of clients have asked that you create a window pane for them that allows different types of light in their homes. Client #1, Ms. Peters, really enjoys all of the natural light that she can get. Client #2, Mrs. Jones, requests a window pane that allows some light in, but not strong, direct light in her home. Client #3, Mr. Thomas, does not like any light coming in.

Your Job Assignment:

Part 1: In order to please your clients, you must design a window for each client. Using the materials provided, you are to make a mini, hand-held model of what the client's window would look like to show them before you add it to their homes.

Part 2: It is important to advertise for your company! Please create a brochure describing your three windows that you have designed. The brochure must explain how the materials are used and how they interact with light.

Project Due Date:

Your window samples are to be turned in to your clients this Friday, December 18th!