SCIENCE OF LIGHT EXPERIMENT

Museum of Science

Hood®

Thank you to our partner Hood® for helping to make this experiment possible.

Which Materials Block the Sun?

Ages 4 – 8
Test the light-blocking properties of different materials using the sun as a source of light.

Activity Time
Set-up - 10 minutes / Wait time 2-3 hours.

Materials

- Hood® Milk in the LightBlock Bottle® (cut into flat pieces)
- Black Construction Paper (not acid-free)
- Silver marker or white crayon
- Scissors
- Tape
- A pair of sunglasses
- A glass bowl
- A clear plastic food container
- Other materials such as fabric, paper, metal

Questions to Foster Learning

- Which materials do you predict will block the most sunlight? The least sunlight?
- What do you think will happen to the part of the black paper where there are no objects?
- What do you think will happen to the black paper underneath each object?
- When done, what do you notice about the black paper?
- Which objects blocked most of the sunlight?
- Which objects blocked some of the sunlight

Procedure

1. Have caregiver cut a clean Hood LightBlock Bottle® into several flat pieces.
2. Locate a sunny location outdoors that
3. will be sunny for several hours.
4. Lay a piece of black construction paper
5. in the sun. You may want to anchor the corners against wind with rocks.
6. Place one or more pieces of the Hood LightBlock Bottle® on top of the construction paper.
7. Outline and label each piece.
8. Place sunglasses, a glass bowl, and a clear plastic food container on the paper.
9. Outline and label each item.
10. If space allows, add additional materials, outline, and label.
11. Wait 2-3 hours.
12. Remove items and move black paper out of the sunlight.

Background for Grown-ups

Why Does this Matter?

Keeping fresh foods, like milk, in the dark protects their taste. Sunlight as well as artificial light can cause chemical reactions. In fresh foods like milk, these chemical reactions can alter taste. Certain packaging materials like the LightBlock Bottle® are engineered to block most of this light which helps reduce chemical reactions in our food and protect the fresh taste.

Extension Activities

Now that you know something about the light blocking properties of materials can you:

- Make a pleasing pattern by arranging certain materials on black construction paper and setting it in sunlight
- Create light-based artwork by taping different materials on a sunny window or windowsill
- Try using different types of dark colored paper to see which fade in the sun more quickly than others
- Were there any objects that blocked none of the sunlight?

Additional Resources
https://www.mos.org/mos-at-home/family-stem-activities

https://hoodmilk.hood.com