

Light and Shadow Exploration

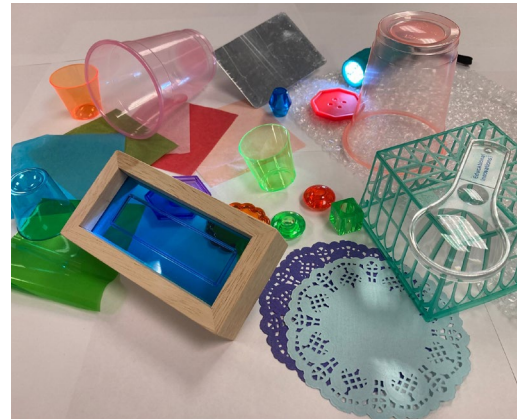
Playing and exploring with light and shadows is an interactive, fun way to introduce young children to making predictions and observations. The activity can be very simple by using flashlights or sunlight outdoors. Or, it can be made more complex using other mediums, such as colored filters and an overhead projector.

Try It

Option #1: Outside

If you're able to go outside in the sunlight:

1. Children can use their shadows on the ground to discover that their body is blocking the light.
2. They can trace the shadow using chalk and learn math terms such as long, short, tall, wide, etc.
3. Discussions can be shaped around objects being translucent, transparent, and reflective, as well as predictions on which objects will produce a shadow.



Option #2: Indoors

If you're indoors:

1. Give children flashlights and objects to place in front of the light.
2. Put paper on the wall so children can trace their shadows or the shadows of shapes they're putting in front of the flashlight.
3. When shining the flashlight, move it to help them understand the difference between the light being close, making a smaller shadow, and the light being farther away, creating a giant shadow.
4. Use colored filters, such as cellophane or transparent color pages, to explore with the children. Do the colors appear on the wall or stay black like their shadow? What happens if you mix the colors together?
5. If you're using an overhead projector, explore the relationship between the light shining up and what's the same and different about how the image appears on the wall.



Learning Opportunities

However you decide to do your explorations, children will be gaining awareness about different light sources and exploring the following ideas and concepts:

- Shadows are created when you block the light source.
- You can change the size of a shadow.
- Colors can be combined and filtered through a light source.
- Some materials are translucent while others are opaque.

Open-Ended Questions

- How can we make a shadow?
- What can we do to change the shape of a shadow?
- Where does the light come from?
- How do the colors of shadows change?
- How can we change the shape of a shadow?

WORDS AND CONCEPTS TO EMPHASIZE

- Shadow
- Light source
- Filter
- Translucent
- Transparent
- Opaque
- Reflection
- Bigger, smaller, closer, farther, larger, taller, shorter
- Prediction
- Observation