

## Core Skills Analysis

### Science

- Explored the concept of shadows and how they are formed when an object blocks light.
- Observed changes in the size and shape of shadows based on the position of the light source relative to the object.
- Developed an understanding of the relationship between light direction and shadow orientation.
- Engaged in hands-on experimentation that fosters observational skills and curiosity about natural phenomena.

### Art

- Experimented with shapes and outlines created by shadows, encouraging visual creativity.
- Noticed the contrast between light and dark areas, which can deepen appreciation for shading in drawing.
- Used shadows as a tool for imaginative play, possibly tracing or creating shadow figures.
- Practiced fine motor skills by possibly manipulating objects and light sources to shape shadows.

### Tips

To deepen understanding of shadows, invite the child to experiment with different light sources such as a flashlight or sunlight at various times of day to observe how shadows change. Incorporate drawing shadow shapes on paper to connect science with art and improve fine motor skills. Explore storytelling using shadow puppets to combine creativity and learning about light. Encourage predictions about shadow changes before experimenting and discuss the outcomes to develop critical thinking and scientific reasoning.

### Book Recommendations

- [What Makes a Shadow?](#) by Catherine Ripley: A simple, engaging book that explains the science behind shadows and how they form.
- [Shadow Play](#) by Anne-Marie Anderson: This book invites children to explore shadows through creative play and imaginative stories.
- [Sunshine Makes the Seasons](#) by Franklyn M. Branley: A science book that helps children understand sunlight's role in nature, connecting to shadow formation.

### Learning Standards

- NGSS K-PS3-1: Use observations to describe patterns of what happens when light interacts with objects.
- CCSS.ELA-LITERACY.SL.K.1: Participate in collaborative conversations with diverse partners about kindergarten topics and texts.
- CCSS.MATH.CONTENT.K.MD.B.3: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

### Try This Next

- Create a worksheet where the child can draw objects and then sketch their corresponding shadows.
- Set up a shadow puppet theater and have the child make characters to tell a story using light and shadow.

### **Growth Beyond Academics**

This activity likely nurtures curiosity and focused attention as the child experiments with the changing shadows. The hands-on aspect encourages independence and problem-solving, while creative story-making with shadows can boost confidence and expressive abilities.