

## Math

- The 2 year old will develop understanding of shapes and patterns as they play with light and shadows, noticing how the light creates different shapes and patterns when objects are placed in its path.
- Through exploration of light play, the child will begin to comprehend the concepts of transparency and opacity as they observe how some objects block the light completely, while others allow light to pass through partially.
- During light play, children can begin to grasp the concept of distance and depth as they observe how shadows change in size and shape in relation to the distance between the light source and the objects casting the shadows.

## Science

- The activity will help the child understand the concept of light as a source of energy, as they observe how different materials react to the light source by casting shadows or allowing light to pass through.
- As they experiment with different materials and light sources, the child can begin to understand the concept of reflection and absorption of light, noticing how some materials reflect light while others absorb it.
- The child will develop an early understanding of cause and effect as they manipulate light sources and objects to observe how the position of the light source affects the size and shape of the resulting shadows.

Encourage continued development by introducing more complex shapes and objects for the child to explore during light play. You can also incorporate colored lights to introduce the concept of mixing colors through light. Additionally, discussing the concept of light and shadow in storytelling or using shadow puppets can further enhance the child's understanding and creativity.

## Book Recommendations

- [Light: Shadows, Mirrors, and Rainbows](#) by Natalie M. Rosinsky: This book introduces young children to the science of light and its properties through simple and engaging explanations.
- [Shapes, Shapes, Shapes](#) by Tana Hoban: This book introduces children to different shapes and patterns, complementing their understanding from light play activities.

If you click on these links and make a purchase, we may receive a small commission.