Activity: Exploring Shadows

A shadow occurs when light is blocked by an object. Experiment with shadows to begin exploring some of the properties of light.

Shadow play is also great for storytelling. Create or tell a story using puppets that you have made.

Materials
- Backboard for projecting shadows (for example, a light colored wall or a hanging sheet)
- One or more flashlights
- Little critters or toys
- Blocks
- Other objects (made or found to create shadows)

Instructions
1. Begin by looking around and seeing if you can spot a shadow. Can you tell what is creating the shadow and what the light source is? How is a shadow different from a reflection?
2. Darken the room as much as possible.
3. Use the flashlight to illuminate a toy. Do you see its shadow?
4. Can you make the shadow:
   - Move?
   - Get bigger?
   - Get smaller?
   - Get dimmer?
   - What happens if you have two flashlights?
   - What happens if you cover the flashlight with a colored filter?
   - What if you add something that is translucent (where some but not all the light goes through)?
   - What happens if the item has a small slit or cutout and you move the flashlight around?
   - What happens if you rotate something like a roll of tape?

Extension: Create a puppet show
Write a story that you can act out with shadow puppets that you make. Puppets can be as simple as an outline cut-out attached to a stick, or elaborate with internal cut-out or moveable parts. You can even create a large performance area by hanging a sheet from the ceiling and using a projector or work light to illuminate the large screen.