Hide and Seek with Sunlight and Shadows

Summary:
This sequence of activities promotes student understanding of the properties of an object that affects shadows. Allow for students to explore outdoors and see different types of shadows; encourage them to draw, outline, or sketch these shadows with a partner. Inside of the classroom students can use a variety of objects attached to construction paper to form permanent shadows when the construction paper is left in the sun. This activity illustrates how opaque objects block light. Student understanding of the role objects play with shadows is reinforced by allowing students to explore with both opaque and translucent objects inside of the classroom with a light source and by seeing how these shadows differ. As a summative activity, the cutouts made while exploring outside and the cutouts used for the permanent shadows can be a starting point for creating a shadow puppet show within the classroom where each student gets to create their own characters.

Learning Goals:

- Shadows are created by objects blocking light
- Shadows vary by the materials used, opaque objects and translucent objects have different shadows
- Shapes and images can be created by shadows
- The shape of an object and the angle of the light alters the way the shadow appears
- Shadows can be used to tell a story

Grades: Pre-K, K-3

Time: varies by class and depth of inquiry

Materials:

- Construction paper
- Scissors
- Leaves or other small objects
- Picture frames (optional)
Sequence:

1. To Catch a Shadow activity  
   from [Scholastic Lesson Plans](http://www.noao.edu/education/stemazing.php)

2. Permanent Shadows activity  

3. Making Shadows activity  

4. Shadow Puppets activity  