



Grades K–12: Sophisticated Shadows

Dancing Shadow Puppets (Pre or Post)

Students will either be introduced to different concepts involving shadows or review the different concepts discussed during the actual virtual visit.

Materials

- Strong light source (an overhead projector works well)
- Surface to project shadows onto such as blank wall, sheet or screen
- Poster board or cardstock
- Scissors
- Crayons
- Tape or glue
- Tongue depressors or dole rod or pencil

Preparation/ Setup: For Each Student

- Make sure all materials are available and ready to use for students.

Procedure

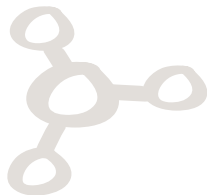
1. Have students design and cut out puppet patterns.
2. Decorate the shadow puppet patterns with crayons.
3. Tape or otherwise attach to tongue depressor or other stick like device.
4. Hold the shadow puppet in front of a light source. Observe what happens when the shadow puppet is brought close to the light and then moved away from it. Lead a discussion asking questions such as: How is the size affected? What color is the shadow? How does how you designed and decorated your puppet affect the shadow it makes?

Background Information

When the shadow puppet blocks the light from passing through it, a shadow is formed in the shape of the object. When the shadow is brought closer to the light, the shadow enlarges however when the object is moved away from the light, it shrinks to a smaller size. While students may have decorated their puppets with many different colors, only a gray or black shadow will appear.

Activity Extensions

- Have students write and perform a shadow puppet show with their puppets.
- Have students design new puppets with the new information about what kind of shadows they create.
- Project the shadow puppets onto paper and trace their shadows to create a mural.





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National Standards (K)

NS.K-4.2 PHYSICAL SCIENCE

As a result of the activities in grades K-4, all students should develop an understanding of

- Properties of objects and materials.

NS.K-4.1 SCIENCE AS INQUIRY

As a result of activities in grades K-4, all students should develop

- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

NS.K-4.5 SCIENCE AND TECHNOLOGY

As a result of activities in grades K-4, all students should develop

- Abilities of technological design
- Understanding about science and technology

