



## **Properties of Solid Objects**

### **Introduction**

The study of solids is important because it enhances the students' awareness of the physical world.

### **Where's the Science?**

Solids are one of the three states of matter. Solid materials have properties that separate them from other states of matter. We use our senses, such as sight, to observe the properties of solids. Solid objects can be classified into three categories: transparent, translucent, and opaque. Students should be provided time and experiences to explore and communicate their findings using the new vocabulary words.

### **Materials**

Vocabulary Chart- list transparent, translucent, and opaque

One object per group: notebook paper, construction paper, foil, paper plate, water glass, tissue, wax paper, plastic wrap. Three squares: one that is transparent, one translucent, and one opaque. The squares should be large enough to cover your face.

Light source- overhead or flashlights

Worksheet- student record sheet and science notebook

### **Procedures**

1. Begin with the three squares that are the same size. Hold up the transparent square so that it is in front of your face and ask the students how well they can see you. Repeat using all three squares.
2. Introduce vocabulary by constructing a simple chart.

Transparent = light goes through easily

Translucent = some light goes through

Opaque = no light goes through

3. Hold up one item, such as wax paper and ask students to predict if it will be transparent, translucent, or opaque by making the symbol from the chart on the prediction line of the worksheet. Have children continue to make predictions for each item on the record sheet.
4. Students will work in small groups using flashlights to test each item by shining the light on it. Students will write the results on the record sheet by each object.
5. Compare predictions with results.
6. Test other objects in the classroom. First predict, and record prediction in the students' science notebooks. Next, test with the flashlight.

7. After items have been tested and record sheets have been completed students will discuss findings and see if everyone got the same results. Retest if necessary to clear up any misconceptions.
8. Summarizing- ask students to share something they learned today and review the vocabulary words by asking students to identify one object that is transparent, one translucent, and one that is opaque.

Accommodations: Students may be grouped by pairing strong writers with students that may have difficulty with writing due to a second language or disabilities.

Assessments: The students will enter their finding in their science notebooks. The students will enter a heading and date in their science notebooks followed by one example of an object seen or used in everyday life for each of the vocabulary words introduced today. The responses will be written in complete sentences. Students will assess themselves then the teacher will use the same rubric to assess the students. One point will be given for each sentence and one point will be given for each property visually displayed by a picture or chart. Smiley faces can also be used instead of points. A total of 6 points is possible.

Example: Properties of Solid Objects May 5, 2007

The glass in a window is transparent

Enrichment: A collage can be made using pieces of opaque, translucent, and transparent materials such as waxed paper, foil, tissue etc.

#### **Nevada State Standards:**

**P2A1 Students know matter can exist as solids and as liquids. E/S**

**P2A3 Students know matter can be categorized by observable properties such as color, size, shape and weight. E/S**

**P2A4 Students know different objects are made of many different types of materials. E/S**

Additional resources:

FOSS- Solids and Liquids - 2<sup>nd</sup> grade  
Light , Evan-Moor grade 3-6 ISBN 1-55799-294-0

Submitted by: Linda Kraft

**Rubric**

The sentences are complete and describe the object correctly.			
Each property is visually displayed on the object. Several examples. (3 or more)			
<b>Total</b>			

**Rubric**

			
The sentences are complete and describe the object correctly.			
Each property is visually displayed on the object. Several examples. (3 or more)			
<b>Total</b>			