



Science Activities

Title: **Rechenka's Eggs**

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What A Relief

Key Words: mixing substances, properties of water

Concept: Water cannot go through wax.

Ukrainian egg dyeing, or pysanky, is done using layers of wax and different colors of dye to create detailed designs. This very old process, known as wax relief, works because wax and water do not mix, so new colors of dye cannot get to parts of an egg shell covered by a protective layer of wax. You can paint a design on paper using layers of wax and watercolor in much the same way.

Materials: white construction paper, uncolored wax (or paraffin) candle, watercolor paints, water, pencils

Directions:

1. With a pencil, draw a simple geometric shape on white construction paper. Fill in a portion of the shape using an uncolored wax candle as if it were a crayon. Then paint the inside of the geometric shape yellow. As you paint, notice what happens to the watercolor paint in the portion of the shape with wax, and what happens in the areas without wax. The portion of the shape covered with wax will be protected from the dye and will remain white.
2. After the painting has completely dried (several hours later), use the wax candle to fill in another portion of the shape. Then paint the inside of the geometric shape orange. The portion of the shape covered with wax this time will remain yellow and the portion of the shape covered in Step 1 will continue to remain white.
3. Repeat Step 2, this time using red paint. Then again using brown paint. Be sure to let the painting dry completely before adding the wax and each new color.
4. After you have made this picture, you may wish to try making another picture using different colors or creating a more detailed design.

Just Marble-ous

Key Words: mixing substances, properties of water

Concept: Oil and water do not mix.



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In addition to Ukrainian eggs, LeVar talks about several other decorated eggs including one created using marbled paint, which can be made from oil and water-based paint. Like wax and water, oil and water also do not mix. Mix art and physical science to make marbled paper.

Materials: small sheets of white paper about 4 by 6 inches, a teaspoon, cooking oil, food coloring, a small clear jar with a lid such as a baby food jar, a pan or tub of water larger than the sheets of white paper, newspapers

Directions:

1. Place a teaspoon of oil and a teaspoon of food coloring in a jar and then put the lid on the jar. Look at the oil and food coloring in the jar. The food coloring is water-based and does not mix with the oil. After making sure the lid is on tightly, gently shake the jar. Now what has happened to the oil and food coloring? Wait a few minutes and take another look. Shaking the jar caused the oil and food coloring to break up into small droplets of each, but after several minutes the oil and food coloring will be separated again.
2. Gently shake the jar again, then quickly take off the lid and pour the oil and food coloring into the pan of water. Gently stir the water.
3. Lay a sheet of white paper on the water in the pan. Count to 20 then take the paper out of the pan and lay it colored side up on some newspaper to dry. You will see patterns made by the oil and colored water on the paper.
4. After you have made a few sheets of marbled paper, you may enjoy experimenting with the process. Try using more than one color of dye, using colored water in the tub, or starting with colored paper. You can even try using a boiled egg instead of paper.