



Science Lessons



by Ms. P

Pennies

Shiny Pennies

Show the class a collection of pennies. Sort them according to color and shininess. Discuss possible ways to clean the pennies. Experiment with different possibilities. Use three different solutions in clear plastic cups: soap and water, water and salt, vinegar and salt (use $\frac{1}{2}$ cup vinegar and 1 tablespoon salt). Make predictions. Which one will work the best? Add the pennies to each cup and stir as you count to 25. Which one worked? Explain that when two things are combined and mixed together it can create a reaction. Explain that the vinegar and salt make the dark coating on the pennies dissolve.

Pepper

Pepper and Water

Will pepper dissolve in water like salt and sugar? Add a spoonful of pepper to a clear glass of water. Can you see the pepper? Stir the pepper while counting to thirty. Did the pepper disappear (dissolve)? The pepper will not disappear in the water. The grains of pepper are **lighter** than water. They float to the top.

Pepper Scatter Fill a clear pie plate or bowl with water and wait until the surface appears smooth. Sprinkle pepper on the surface until it is mostly covered. Dip the end of a Q-Tip into dishwashing soap (you may also just squirt the soap). Watch closely. Touch the swab to the very center of the pie plate. Did you see the pepper flakes scatter toward the side of the pie plate? Why does this happen? All water has a 'tension' about it. The soap breaks the layer (surface tension) of the water. The pepper is carried along

with the water whose tension was broken. Baby powder reacts the same.

Popcorn

Dancing Popcorn

Put several pieces of unpopped popcorn kernels in a clear glass of water. Discuss how to make the kernels move or dance without touching them. Add one teaspoon of vinegar and a teaspoon of baking soda. Watch them dance! Explain that the water, vinegar and baking soda mixed together makes little bubbles that carry the kernels up and down the glass. Explain that mixing things together can create a reaction.

Penguins

Blubber Experiment How do penguins stay warm in the cold weather? You will need two baggies. In one baggie put a fair amount(at least 2cm thick) of Crisco or some other **solid shortening**. Seal the bag shut. Leave the other baggie empty. Layer a cookie sheet with ice cubes. Lay both baggies on the cubes of ice. Have the children take turns put one hand on each bag. Which hand gets cold? Which one does not? Whales, seal and penguins all have **blubber** that acts as a shield, much like the shortening.