



## Backpack-tivity: An @Home Learning Activity

### Gelatin Fun

#### Introduction:

As you complete this activity, you will learn what friction is and how to reduce it.

#### Materials:

You'll need a mixing bowl, unflavored gelatin, hot water, a square baking pan, vegetable oil, liquid dishwashing detergent, two small bowls, a watch with a second hand, and a measuring cup.

#### Directions:

In a mixing bowl, dissolve four envelopes of gelatin in two cups of hot tap water. Coat the inside of the pan with vegetable oil. Pour the gelatin mixture into the pan and refrigerate until firm. Cut the gelatin into 64 cubes, about 1 inch x 1 inch. Place 15 cubes into a bowl. Place a second bowl about 6 inches away from the first bowl.

Student: Pick up the gelatin cubes one at a time with your thumb and index finger and see how many cubes you can move to the other bowl in 15 seconds. Record the number of cubes you move. Put all the cubes back in the first bowl, pour 1/4 cup of dishwashing liquid over them, and gently mix the detergent and the cubes so the cubes are well coated. Again, try to move as many cubes as possible to the second bowl in 15 seconds and record the results. Throw away the first group of cubes, wash and dry both bowls, and put 15 new cubes into a bowl. Pour 1/4 cup water over the cubes, make sure they are thoroughly coated, and see how many cubes you can move in 15 seconds. Record the results. Again, throw away the used cubes, put 15 new cubes into a bowl, pour 1/4 cup of vegetable oil over the cubes, and make sure they are well coated. See how many cubes you can move to the second bowl in 15 seconds and record the results. Which group of gelatin cubes were the easiest to move? Which were the hardest?

Family Partner: Explain to your child that when one object moves against another, the result is friction. Friction is a resistance to motion. Lubricants are substances that reduce friction.

#### Talk About It:

Which liquid in your experiment was the best lubricant?

#### Learn More:

Investigate and report on friction at <http://teacher.scholastic.com/dirtrep/friction/index.htm>.

This activity was completed by \_\_\_\_\_ and \_\_\_\_\_.