# Seepy Sandwich

Adapted from: http://www.nps.gov/archive/ozar/seepy.htm

If a farmer in central Mississippi uses too many pesticides on his cotton field, how does it get to the Ross Barnett Reservoir? Complete this activity to find out.

**Materials:**

1. Food coloring to represent pesticides.
2. Slices of bread to represent the soil and rock.
3. A sprayer to produce rainwater.
4. A waterproof work area.

**Procedure:**

Student No. 1 - hold a slice of bread vertically.

Student No. 2 - add a drop of food coloring (pesticide) to the top crust edge of the bread

Student No. 3 - spray water (rain) on the food coloring (top of the bread only – do not spray the front of the slice)

Let the drainage (water) seep through the crust into the bread. As the polluted water seeps down it spreads out, making it difficult to locate where the pollution originated. The water and food coloring will remain together as the water moves.

This illustrates three facts about pesticides as pollutants.

1. Pesticides are carried by water
2. Pesticides are not filtered out by the ground
3. Human activities can affect groundwater quality.

**Questions:**

1. How did the pesticides (food coloring) move through the bread? Were they filtered out, leaving only clean water to progress downward, or did they spread throughout the bread, polluting larger and larger areas?

2. Describe the pattern of movement of the water as it moved through the bread.

3. How do human activities on the surface have effect groundwater quality?

4. What kinds of pesticides might come from common household products?

5. What kinds of pesticides come from landfill seepage?

6. How can groundwater contamination be prevented?