

ABSORPTION

Identify the positive and negative aspects of man's impact on the environment and its effect on living things. Identify the interdependence of organisms in food chains, food webs, and energy pyramids.

Teacher Background:

In Mississippi, some of the major food crops grown are soybeans, corn and sweet potatoes. Farmers use fertilizers for better yields and pesticides and herbicides to control pests. Other landowners and homeowners also use these products. Water runoff from land either leaches into the soil or runs off into nearby lakes and streams.

Materials:

Stalks of celery
Food coloring (red and blue)
Water
Glass

Sample Questions:

1. What does contaminate mean?
2. Why are chemicals used in farming?
3. What are ways run-off can be prevented or slowed down?

Procedures:

1. Display a piece of celery. Ask students, "How does the celery get to the grocery store? Who grows celery? Why?" Note: This is to stimulate students to think about agriculture.
2. Place celery in a glass of water. Note: Cut off end of celery for better absorption. Add several drops of red or blue food coloring and "pollute" the water celery is in.
3. Let the celery stand for one or two days.
4. Then follow up and explain that the celery has turned "dirty" colors. Explain that many things are added to our water from runoff that we cannot see. Examples: fertilizers, chemicals, pesticides. When we eat the colored celery, we see the food coloring, we are eating, but many times we cannot see the contaminants. These chemicals go into our bodies. If our bodies are not able to break the chemicals down and get rid of them they can accumulate and make us sick.
5. For evaluation students should explain in a short paragraph or verbally how chemicals can enter food chain from runoff water and how we will gradually be affected by these chemicals when eating food or drinking water.

Supplemental Activities:

1. Use vinegar instead of food coloring and let students take a bite of the celery after absorption has taken place.
2. Take a field trip to a farm where conservation is practiced. View terraces, grassed waterways, and other methods used to prevent or slow down water runoff.

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Resources: Mississippi Department of Environmental Quality, Environmental Protection Agency, USDA Soil Conservation Service