



ACTIVITY DESCRIPTION:

Key Messages:

1. Make children aware of chemical hazards around the home and the importance of recognizing hazard symbols
2. Explain the three methods of human exposure to chemicals including oral, inhalation and absorption routes
3. Make children aware of contamination of ecosystems and how contaminants cycle through the food chain (e.g. fish contamination)
4. Increase knowledge of environmental contamination

MATERIALS

Blue Rubbermaid container for lake demonstration

Flash cards for hazard symbols exercise

Cans of common household chemicals

2 fishing rods with magnets

Magnetic plastic fish with numbers

Numbered flash cards for questions and answers

Guide to Eating Fish for Women, Children and Families (Fish consumption brochure)

Guide to eating Ontario Sport Fish

*Clean water

Make sure you have all items before the students arrive!

BEGIN THE ACTIVITY

What will I be doing?

You may be assisting the York Region Community and Health Services Dept. representative running the activity outlined below or you may be performing the activity with a fellow volunteer.

To prepare display (before children arrive):

1. Ensure that the table is steady
2. Prepare hazard symbol posters, flash cards and cans of chemicals for demonstration
3. Ensure that the Rubbermaid lake container is full of water and plastic fish
4. Get fishing rods ready for activity
5. Get questions and answers ready to quiz students

Gather everyone around the display. Show the children cans of common chemicals that can be found around the home. Ask if any of them know the meaning of the hazard symbols found on cans of chemicals.

Quickly run through the meaning of each hazard symbol by running an interactive flash card exercise. Ask for a volunteer to demonstrate the three routes of exposure; to explain to the students that hazardous chemicals can be absorbed into their bodies orally, inhaled or through their skin. So, emphasize the danger of playing with containers that have one of the hazard symbols on the label. Ask them what they would do if they were accidentally exposed to a hazardous chemical. Make sure the Poison Control Centre is called and/or rushed to the hospital.

Talk about how hazardous chemicals contaminate ecosystems (air, water and soil) and how many of these chemicals end up in our food chain. For example, when we burn coal for our electricity generation, mercury is emitted to the air and settles into waterways and is ingested by fish. Big fish eat the little fish, bioaccumulating the mercury to potentially harmful levels.

Emphasize the connectiveness of earth, sky and water and how our actions impact all parts of the ecosystem.

Ask for two volunteers and give them each a fishing rod in order to do some fishing. Once the student catches a plastic fish you ask them to tell everyone the number on the fish. You

will then find that question in the list of flashcards and ask that student the question in order to increase their knowledge of environmental contamination. If the student answers correctly you will then give the student either a fish consumption brochure, sport fish guide or Health Canada's Aim for Safety brochure. If they are unable to answer the question then you open it to the group for a response. Elicit more volunteers as needed or until all questions answered.

Numbered Questions and Answers:

1. Name some hazardous chemicals found in fish. *Answer: Mercury, PCBs, Dioxins, Furans, pesticides (DDT, Mirex, Aldrin)*
2. Name a hazardous chemical or product in your house. *Answer: cleaners, pesticides, fertilizers, gasoline, pharmaceuticals, paint, oil*
3. True or False. Burning wood creates pollution in our water. *Answer: True*
4. True or False. Driving your car to school cleans our air. *Answer: False*
5. True or False. Eating fish is good for you. *Answer: True but choose low mercury fish*
6. True or False. To avoid idling, your parents should turn their car engine off when they are stopped for more than 10 seconds (except in traffic) *Answer: True. Idling for more than 10 seconds uses more gas than restarting your engine. This unnecessary pollution gets into our air and water and harms our ecosystems and ourselves.*
7. True or False. Pouring paint or motor oil down the sink is won't harm the environment. *Answer: False. All paint and motor oil should be dropped off at a household hazardous waste depot*
8. True or False. Mercury will disappear from the environment in a few years. *Answer: False. Mercury cycles through the environment but is not destroyed*
9. True or False. The laundry detergent used in our washing machines pollutes our lakes. *Answer: True - unless it is phosphorus free detergent*

10. True or False. Medications flushed down the toilet or sink can end up in lakes and rivers and in fish. *Answer True. It is important that all medications be taken to a Household Hazardous Waste depot and not flushed or thrown in the garbage.*

To summarize remind the children of these points:

1. Hazardous chemicals are dangerous and any container with a hazard symbol should not be touched.
2. Remind children the three routes of exposure
3. Hazardous chemicals can end up in our streams and rivers and hurt the species there
4. Everything is connected - everything we do can impact something else. Therefore, it is important that:
 - a. We take hazardous waste to the household hazardous waste depots
 - b. We reduce air pollution by trying to bike, skateboard or walk as often as possible instead of being driven
 - c. We reduce air pollution and save energy at home by turning off the lights and computers when not in use
 - d. We save water by not leaving the tap running

WHAT HAVE WE LEARNED?

Not to take water for granted and not to waste water! It can be used for more important things!

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