

All substances, natural and manufactured, are chemicals. Our society relies heavily on manufactured chemicals such as paints, plastics, fertilizers, and pesticides. Issues involving the use of chemicals go beyond whether the product we end up with is safe. It includes concerns about the health of workers exposed to toxic substances during manufacture. It also means preventing toxic substances from escaping into the environment.

INSTRUCTIONS

Read the assigned section(s) and then answer the question(s) on a separate sheet of paper.

PART 1 - Working with Toxic Elements (P.200)

1. In the 18th and 19th centuries, mercury was used in hat making. Why was this a problem?
2. Who else might be in danger? How can they be protected?

PART 2 - Heavy Metals in Fish (P.201)

3. What are the main causes of heavy metal pollution?
4. Suppose you go fishing at a pond contaminated with mercury and catch a minnow (a fish at the bottom of the food chain) and a large trout (a fish at the top of the food chain, which eats other fish). Which fish would have a higher concentration of mercury in its body? Why?
5. Why might Aboriginal people and people in remote communities feel the effects of heavy metal contamination of fish more than most groups in Canada?

PART 3 - Diamonds: Responsible Mining and Production (P.205)

6. List 3 benefits and 3 drawbacks to diamonds and diamond mining.

PART 4 - Elements and Compounds in the Environment (P.232-235)

7. What are some of the health problems associated with exposure to mercury?
8. What is the effect of ozone in the upper atmosphere?
9. CFCs were originally thought to be safe and useful. Why were they determined to be unsafe?
10. List four ways to aid in the safe handling of regulated substances.

PART 5 - POPs and Pesticides (P.236)

11. What does POPs stand for? What is it? Why are they of a concern?
12. What four properties of POPs allow them to bioaccumulate and biomagnify?

PART 6 - Fluoridation of Drinking Water (P.237)

13. Fluoride is often added to drinking water to help prevent tooth decay. However, some people argue that fluoridation of drinking water is unsafe. Why is tooth decay a complicated process?