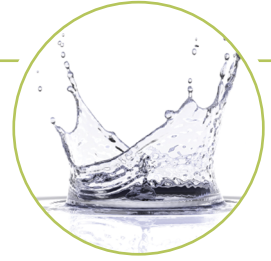


Water Quality Awareness

A Carolina Essentials™ Activity

Student Worksheet



Overview

Are you aware of the current state of global water quality? The United Nations releases a comprehensive water quality report annually. The report describes global water quality and availability, identifies how water is used, indicates where there are water shortages, and documents incidences of waterborne diseases, among other topics. Water quality is connected to how water is used.

Essential Question

What is the current state of the global water supply?

Activity Objectives

1. Increase student awareness of global water quality.
2. Increase student awareness of global water use.

Directions

Answer each question below. For each question that is incorrect, you will “pollute” your cup of water as your teacher directs. Within your group, discuss the answers to the follow-up questions.

Questions

1. What percent of people worldwide do NOT have access to improved sources of drinking water? _____
A. 11% B. 33% C. 55% D. 77%
2. What percent of people worldwide do NOT have access to improved sanitation? _____
A. 11% B. 33% C. 55% D. 77%
3. In developing countries, _____ of sewage is discharged untreated directly into water bodies.
A. 20% B. 40% C. 60% D. 80%
4. Industry dumps about _____ MT of polluted waste in water every year.
A. 100–200 MT B. 300–400 MT C. 500–600 MT D. 700–800 MT
5. The most common agricultural chemical contaminant found in groundwater aquifers is _____.
A. ammonia B. nitrate C. phosphate D. sulfate
6. About how many people die each year due to inadequate water supply, sanitation, and hygiene? _____
A. 3,500 B. 35,000 C. 350,000 D. 3,500,000
7. Which ecosystem has suffered the greatest degradation in biodiversity? _____
A. estuaries B. fresh water C. oceans D. salt water marshes

Discussion

1. Look inside your cup. If this represents global fresh water and water quality, what inferences can you make about human health?
2. What might be local contributions to fresh water pollution?
3. What can you do to reduce fresh water pollution?

MATERIALS

- 1 8-oz plastic cup (clear) or 50-mL beaker
- Clean tap water
- Soil to represent sediment runoff and pollution
- Green food coloring to represent agricultural pollution
- Yellow food coloring to represent industrial waste
- Cocoa powder or hot chocolate mix to represent sewage