

## Environmental Medicine - Class 1 - Water

1. Water can act as both a health support and an exposure source primarily because:  
**A. It interacts with the body in multiple ways depending on its quality and movement**  
B. It always contains microbes  
C. It is only harmful when contaminated  
D. It is only beneficial when filtered
2. Which of the following is NOT considered a major water exposure pathway?  
A. Drinking water  
B. Cooking water  
C. Bathing and showering  
**D. Air-only exposure**
3. Which of the following best explains why water exposure is not limited to drinking water alone?  
A. The body only absorbs water through digestion  
**B. Water can contact the body through skin and inhalation during everyday activities**  
C. Water only affects the body when contaminated  
D. Water exposure only happens outdoors
4. Which statement best describes well water?  
A. It is always cleaner than municipal water  
B. It contains no microbes  
**C. It can contain natural and human-made contaminants depending on the environment**  
D. It is automatically filtered by soil
5. The “water cycle as an exposure cycle” concept means:  
**A. Water can transport contaminants through multiple environments before human exposure**  
B. Contaminants stay where they are released  
C. Water only moves in nature  
D. Water becomes purified naturally over time
6. Which of the following is a chemical contaminant in water?  
A. Sand  
**B. Nitrates from fertilizers**  
C. Bacteria  
D. Rust particles
7. Why might water sitting in pipes overnight be different from freshly flowing water?  
A. It becomes sterile  
B. It may contain fewer minerals  
C. It loses all contaminants  
**D. It may accumulate metals and support microbial growth**

8. What is a biofilm?
- A. A layer of minerals in water
  - B. A thin, sticky community of microorganisms attached to surfaces**
  - C. A type of filtration system
  - D. A disinfectant used in treatment plants
9. Which factor BEST explains how the built environment affects water quality?
- A. Pipe materials, leaks, and water stagnation**
  - B. Weather patterns
  - C. The color of water
  - D. The time of day water is used
10. Which of the following is the BEST example of a practical way to improve water-related health conditions?
- A. Only drinking bottled water
  - B. Ignoring plumbing issues
  - C. Using filtration, fixing leaks, and controlling moisture**
  - D. Boiling water once per year

## Home Activity Key

### Activity 1 – Answer Key (Spot the higher risk scenario)

#	Higher Risk Scenario	Why this fits
1	Slow stagnant pond	Stagnant water allows buildup of microbes, algae, and contaminants, while moving water is less likely to accumulate these.
2	Water sitting overnight	Water sitting in pipes can pick up metals and support microbial growth compared to freshly run water.
3	Untreated well near farmland	Well water near farmland may contain nitrates, pesticides, microbes, and runoff contaminants without treatment.
4	Long hot steamy shower	Heat and steam increase inhalation exposure and skin absorption of substances in water.
5	Home with hidden leaks	Moisture and leaks promote mold growth and microbial contamination in the built environment.
6	Rarely used guest bathroom sink	Low use leads to water stagnation, increasing risk of metal leaching and microbial growth.
7	Hot water from the tap used for cooking	Hot water can increase leaching of metals from pipes and fixtures compared to cold water.
8	Open container left sitting out	Open water can collect dust, microbes, and environmental contaminants over time.

### Activity 2 – Answer Key

SITUATION	OPTION
Water has been sitting in pipes overnight	Install a shower filter
Strong chlorine smell during showers	Boil water or use UV light treatment
Visible dirt or cloudiness in water	Replace old plumbing or address corrosion issues
Concern about bacteria or microbes in drinking water	Install a reverse osmosis filter.
White crust buildup on faucets and showerheads	Run the water for a short time before using it
Metallic taste in water (possible pipe-related issues)	Test the water regularly with a water test kit
Musty smell or signs of mold near a sink or wall	Use a water distiller or water softener to remove excess minerals
Water from a private well with unknown water quality	Improve drainage and eliminate standing water
Standing water in drains or around the home around gutter exits	Fix leaks and improve moisture control
There is a wide range of dissolved contaminants in your drinking water, some too small for regular filters to remove	Use a sediment filter