



PA Denny River Education Center
Pre and Post Program Student Test

Name (optional) _____ Grade _____

School _____

Class _____

Please Check One: Pre-Test Post-Test

1. What is a watershed?

- A. A place where groundwater can be accessed for drinking water and other uses.
- B. The amount of water stored in a river, lake, or stream.
- C. The total area of land that drains into a river, lake, stream, or other water body.
- D. A place where water is stored by industries for use in processing goods.

2. You can define the boundaries of a watershed on a topographic map by looking at which of the following?

- A. Where vegetation is located.
- B. The highest elevations located around a body of water.
- C. The distance between streams and roads.
- D. The banks of a stream, river, lake, or other water body.

3. Contour lines forming a "v" pattern on a map indicate:

- A. A rise in elevation.
- B. A road.
- C. A ditch, drainage channel, or stream.
- D. None of the above.

4. Which of the following factors influence water quality in rivers, lakes, and streams?

- A. Precipitation.
- B. Vegetation and ground cover.
- C. Land use activities in the surrounding watershed.
- D. All of the above.

5. Which of these conditions is NOT a source of nitrates in a stream?

- A. Manure run-off from a cattle farm.
- B. Oil that has washed into a stream from a storm sewer.
- C. Fertilizer run-off from a country club golf course.
- D. Sewage leaking from a malfunctioning septic system.

6. Which of the following could result from straightening, (or channelizing) the natural bends in a stream?

- A. Erosion would increase because of faster moving waters.
- B. Water quality would improve because of decreased non-point pollution.
- C. Erosion would not be affected.
- D. Erosion would decrease because of slower moving waters.

7. Which of the following is NOT a designated use of the Ohio River?

- A. Contact Recreation.
- B. Trash removal.
- C. Drinking water source.
- D. Aquatic Life Support.

8. Which of the following water quality conditions could be harmful to aquatic organisms?

- A. A pH of 7.
- B. A dissolved oxygen reading of 8mg/L.
- C. Very low levels of ammonia.

D. High turbidity levels.

9. Which of the following reasons explains how zebra mussels can be detrimental to aquatic and human systems in the Ohio River?

- A. As proficient filter feeders, they out compete native mussels for food.
- B. They can cause blooms of cyanobacteria.
- C. They can clog intake pipes of water treatment plants.
- D. All of the above.

10. Which of these sources of pollution is most likely to cause an increase in *E.coli* bacteria being released into the Ohio River?

- A. Sediment washing off from a construction site.
- B. A combined sewer overflow (CSO) discharging into the river on a rainy day.
- C. Pesticides washing off from a soybean farm.
- D. Endocrine disrupting compounds from pharmaceuticals that are excreted in human urine and discharged into the river in *treated* wastewater.

11. Which of the following is a benefit of using barges instead of tractor trailer trucks (semis) to transport goods?

- A. Barges are smaller and take up less room than tractor trailer trucks.
- B. A single barge can transport as much as 60 tractor trailers, thereby decreasing fuel use.
- C. Barges require less manpower to operate than tractor trailers.
- D. Barges run on wind power and do not require fuel.

12. An "impaired" waterway is one that:

- A. Is violating water quality criteria.
- B. Is not protected under the Clean Water Act.
- C. Is not meeting its designated uses.
- D. A and C only.

13. Which of the following reasons explains why scientists study macroinvertebrates to determine water quality conditions?

- A. All macroinvertebrates spend their entire lives in the water and, therefore, always feel the affects of pollution.
- B. Certain species of macroinvertebrates are intolerant to pollution while others are tolerant to pollution.
- C. Macroinvertebrates are fairly easy to catch using devices like nets and Hester-Dendy plates.
- D. B and C only.

14. Where does most of the pollution in the Ohio River come from?

- A. Discharges of raw sewage from sewage treatment plants.
- B. Illegal discharges from factories and industries.
- C. Dumping of trash into the river.
- D. Non-point sources, which are generally associated with land use.

15. When studying fish from the Ohio River which of the following is NOT a desired population characteristic?

- A. A high percentage of species that are intolerant to pollution.
- B. A low number of physical deformities.
- C. A high number of non-native individuals.
- D. A high amount of biodiversity.

16. Which of the following types of food webs indicates a healthy river ecosystem?

- A. A simple food web with few species and few connections.
- B. A food web that only contains producers.
- C. A food web that excludes humans.
- D. An intricate food web with many species and many connections.

17. If you were sampling a stream for macroinvertebrates and found a majority of intolerant individuals, you could conclude that the water quality at that time was:

- A. Excellent for supporting aquatic life.
- B. Would not be suitable for aquatic life.
- C. Not safe for swimming.
- D. None of the above.

18. A designated use of a waterway is established by:

- A. Water Quality Standards that are part of the Clean Water Act.
- B. Non-profit agencies made up of local citizens and recreation groups.
- C. Industries that discharge into waterways.
- D. City laws that regulate chemicals getting into a waterway.

19. Which of these pollutants is NOT an example of NON-POINT pollution?

- A. Antifreeze washing off a parking lot into a nearby stream.
- B. A combined sewer overflow (CSO) discharging directly into the river on a rainy day.
- C. Dog feces carried by rainwater from the street into a storm sewer that connects to the river.
- D. Trash strewn on the side of the road.

20. Which of the following is NOT true of the Ohio River?

- A. The Ohio River is 981 miles long.
- B. The Ohio River is formed by the confluence of the Allegheny and Monongahela Rivers in PA.
- C. The Ohio River is home to approximately 73 species of fish.
- D. The Ohio River is a drinking water source for over three million people.

Please list 5 words that describe what YOU think about the Ohio River.

1. _____

2. _____

3. _____

4. _____

5. _____

Please list 5 things you will do to minimize pollution in the Ohio River.

1. _____

2. _____

3. _____

4. _____

5. _____