

POLLUTION & WATER Stewardship

WATER POLLUTION

Watch the following clip and answer the questions. Via: https://www.youtube.com/watch?v=m_mAZynphXM

1. What is water pollution?
2. THINK– What is the main difference between point source and nonpoint source pollution?
3. What role do federal and state governments have in attempting to control point source pollution sites?
4. Identify at least one way you can decrease nonpoint pollution.

A. Pollution types

1. Point source pollution = source of pollution is _____ and _____.
Real life examples= _____ from a factory, and _____
_____ = chemicals or fluid that flows out.
2. Nonpoint source pollution = source of pollution is _____ to _____ or _____
Real life examples= _____ from _____ and _____,
_____ from _____, _____ such as pig waste or pesticides, and _____ from fisheries.

NONPOINT SOURCE POLLUTION

1. What is the leading source of water pollution?
2. What are some sources of nonpoint source pollution? Give examples.
3. What are some ways the nonpoint source pollution can be controlled? Explain how they work.
4. What is bioretention? How does it work?
5. What are some ways to decrease nonpoint source pollution?

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B. Ways to correct

a. Nature

1. Water is recycled through the _____. Water is filtered through _____. This method is mostly _____ but time _____.

PERCOLATION <https://www.youtube.com/watch?v=vmoOFRAVgkM>

1. Identify the two things that can happen after the water hits the ground.
2. What influences the way the water flows through the soil?
3. What is the dominate force that moves water through the soil?
4. Why is soil percolation important to know and understand when you are developing an area?

b. Legislation

1. _____ (19 ___) = a law that works to correct _____ from _____ through establishing _____, _____, and _____. What kind of pollution does it mostly correct?

CLEAN WATER ACT via: <https://www.youtube.com/watch?v=PrQdBx-lgNw>

1. Why was the Clean Water Act put into place in 1972?
2. What was the goal of the 1972 Clean Water act?
3. Has this law been successful?
4. What are some things that are polluting our water? Identify 3.
5. What is the goal of organizations like the Tennessee Water Keepers?

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2. _____ (19____)- a law that works to _____
what is _____ to drink. What vocab word does the Safe Drinking Act protect?

SAFE DRINKING WATER ACT 1974 via: <https://www.youtube.com/watch?v=inLZwGZSvSc>

1. What did the Safe Drinking Water Act of 1974 protect?
2. Why are laws like the Safe Drinking Water necessary at the federal level?
3. Where does the Safe Drinking Water Act protect water?
4. How effective is water treatment?

c. Stewardship = to _____ the environment

1. Ways to be a good steward:
 - a. _____ of _____ EX.
 - b. _____ areas EX. "Adopt-a-Stream" "Adopt-a-Highway"
 - c. _____ and wildlife areas

STEWARDSHIP <https://www.youtube.com/watch?v=ScQE7Dd5h-4>

1. THINK- Identify the benefits of corporate stewardship. Are corporations truly altruistic?

d. Water Treatment

1. Water treatment plants= where they _____, remove, and chemically _____ to provide _____ water.

WATER TREATMENT PROCESS <https://www.youtube.com/watch?v=tuYB8nMFxQA>

1. How does treated water gets to your home?

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2. Define:
 - a. Coagulation=
 - b. Flocculation (Floc)=
 - c. Clarification=
 - d. Filtration=
3. How does water become disinfected (removal of pathogens)

Putting it all together

MAKE SURE YOU HAVE THE ANSWERS TO THESE!

1. Why would the federal government and city government find it necessary regulate water standards?
2. How does advancing technology improve water quality standards? (developing standards, monitoring water-quality, and providing treatment)
3. How do chemicals, hazardous wastes, oils, etc contribute to pollution and water quality (collect on ground surface, water runoff percolating in to the soil can transfer into the ground water.)?
4. Explain how environmental stressors such as urban and/or agricultural runoff, industrial inputs and over-fishing can impact all aquatic populations.