

WATER



Grades 3–6

Water: Hydrology / Watersheds and Human Impact

Objectives:

- Discuss and observe parts of the hydrologic cycle by following the course of a river.
- Understand what a watershed is.
- Identify types of point source and non-point source pollution, and how to manage them in your local environment.

Vocabulary: Watershed, Non-point source pollution, Point source pollution, Ridge line, Ground water, Aquifer, Transpiration, Infiltration, Evaporation, Condensation, Runoff, Ocean, Lake, Stream, River, Floodplain

Materials:

- Paint tray
- Plastic animals
- Small toy car
- Felt
- Plastic houses
- Water in a spray bottle
- Chocolate syrup
- Different colored juice mix
- Cupcake sprinkles

Lesson:

What is a watershed?

- Water naturally occurs on earth in many ways - rain, snow, and groundwater are just a few examples. The water we get in our homes comes from a watershed - land that drains rain into a river or bay.
- Over 40% of our nation's waterways are not fishable, swimmable, or potable because of pollution. In the continental US there are 2,110 watersheds (2,267 including Alaska, Hawaii, and Puerto Rico).
- Watersheds or drainage basins can be characterized according to topography, geology, and climate, all of which are reflected in the response of the system to different land use practices.
- Naturally occurring water flows are one way of learning how water moves on the surface of the earth.
- This lesson includes both a course of a river and a closer look at a watershed model.

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Activities:

- Label a river diagram: <https://k8schoollessons.com/courses-of-a-river/>
- Modeling a watershed:
 - Using all the materials listed above, add the models to the paint tray as it will represent your watershed.
 - Add the sprinkles, colored juice and chocolate to show pollution in your watershed
 - Use a spray bottle of water to show the naturally occurring water cycle. Observe the effects once water is added to the watershed.
 - What happens to the models?
 - What happens to the pollutions?

Tools:

- Website:
 - Review PA Watersheds: <https://www.fishandboat.com/Fish/PennsylvaniaFishes/GalleryPennsylvaniaFishes/Pages/PASpeciesWatershed.aspx>
- Video:
 - Something we can do to save water: <https://www.youtube.com/watch?v=1QWlwr5RWwM>
- Articles:
 - ANS Blog: <https://www.anspblog.org/science-never-stops/>
 - ANS Blog: <https://www.anspblog.org/how-do-you-manage-a-river/>

PA Academic Standards:

4.2.3.A, 4.5.3 C

4.2.4. A, 4.3.4.B, 4.5.4.D 4.5.5.C

