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.
Activities:
- Label a river diagram: [https://k8schoollessons.com/courses-of-a-river/](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](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](https://www.youtube.com/watch?v=1QWlwr5RWwM)
- Articles:

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