

It's Raining!

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Subject/Grade: Science/6th



1-2 Sentence Lesson Summary

Lab -It's Raining!

Driving Question that Students Will Explore

Where does most of the pollution come from that goes into streams, rivers and lakes?

Water Industry Connection (e.g., an industry-related career, skill, or challenge; addresses **reducing water pollutants, conserving water resources, and/or inspiring watershed stewardship**)

Reducing water pollutants by understanding the sources of nonpoint pollution and reducing adding pollutants from cars into a watershed.

Learning Goals: Make sure to address how your lesson will:

- Involve your students in a [Community Environmental Action](#)
- Develop Critical Thinking Skills (e.g. CERs, Student Inquiry)

Students will be able to visualize where nonpoint pollution comes from and potentially reduce water pollutants

Instructional Outline: This should be the bulk of your writing. Bullets of what the students will do throughout the lesson to reach the learning goals you have set.

Hook/Intro... students will use an app called river runner to place a drop of water anywhere in the US and then see where it goes
During...students will color a large piece of paper with buildings, streams, roads, plants and then spray with water. Everything is drawn with permanent markers except the roads. The black marker bleeds and so the students can see that the oil, gas and other car "fluids" create non- point source pollution.
Reflection...Students answer questions about the lab and submit it.

Student Sheet:

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Materials:

Large white paper

Red permanent marker- to represent houses and other buildings

Green permanent marker - to represent trees, shrubs and grass

Blue permanent marker- to represent creeks, rivers, ponds and lakes

Brown marker - farm fields (used to represent the fertilizer and pesticides used)

Black marker - roads and parking lots

Procedure:

1. Crumple up your paper to represent a hill. Draw houses, buildings, trees, creeks, rivers and ponds, roads and farm fields on your paper. Use the colors as described in the materials section.
2. Spray the hill with water to simulate rain. Use a paper towel to collect some of the water, noting what color the runoff is.

What happened to the roads when it “rained”?

What does the black materials coming off the road represent?

Look up nonpoint source pollution and explain which part of this activity represents non point pollution. Here's a [video](#) that explains nonpoint source pollution.

What does the brown material coming off of the farm fields represent?

Why is it bad to have fertilizer leach into ponds, lakes and the ocean? (What is an algal bloom?)

Can you think of any actions that you or your family can do to reduce water pollution?

Make a meme that shows either 1. How you can conserve water or 2. Actions that you and/or your family can take to reduce water pollution (by using less fertilizer on your lawn, using organic gardening, using fewer or no pesticides on your outside plants, pick up pet waste, use biodegradable laundry detergents and cleaning products, or anything else you can think of)

Insert your meme in the presentation on the slide that matches your number in the class.

Here is the [Meme presentation](#). We will be viewing everyone's meme in class.

Many of these memes (the ones that are unique so there won't be duplicates) will be printed and posted around the building.

Standards: Common Core, NGSS, CTE, GoalBook or another state or national list.

[MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.](#)

Assessment: How will you check your students' understanding? Check out these [creative assessments](#) if helpful.

Student answers to questions about the lab. Students make a meme showing how they can conserve water or how they can prevent water pollution. The memes are shown to the whole class so that the students can learn from each other.

Materials/Resources

[River Runner link](#)