

Activity #1	
Activity #1	What things are pollution?
Time	Approximate time to complete this activity 15 min.
Materials	<ul style="list-style-type: none"> • Who Polluted the Water Power Point • Teach Populations’ “Who Polluted the River?” Story • Large clear bowl • Toy fish • Polluter cards • Container labeled “Trees” containing crumbled leaves • Container labeled “Building Site” containing dry soil • Container labeled “Farmer” containing baking soda • Container labeled “Family Picnic” containing assorted litter • Container labeled “People Fishing” containing pieces of fishing line • Container labeled “Barnyard” containing water colored with food coloring • Container labeled “Factory” containing water colored w/red food coloring • Container labeled “Cars/Drivers” containing vegetable oil • Container labeled “Washing the Car” containing soap • Container labeled “ Motorboat” containing vegetable oil • Examples of man-made filters
Guiding Questions	
<p>A. Question 1 – What is pollution?</p> <p>B. Question 2 – How can pollution be filtered?</p>	
Plan	
<ul style="list-style-type: none"> • Plans for part 1 of activity: What do we know <ul style="list-style-type: none"> ○ Guiding Questions to ask during this part of the activity: <i>Where does pollution come from?</i> <p>Anticipated Student Responses to guiding questions: Litter and factories</p> <p>Procedures</p> <ol style="list-style-type: none"> 1. Ask students to brainstorm local sources of water. Encourage students to think about where these water sources start. Discuss how these sources are connected and form watersheds. 2. Ask students if they know where pollution comes from. Come up with a list of possible pollution sources. Tell students you are going to share a story with them about sources of pollution and they will need to figure out who is responsible for the pollution. 3. Pass out polluter cards to students. Explain they will be helping to act out the story. When their card is read in the story, they will come up to do something to the river. Have a bowl of water in the front of the classroom as well as the matching containers. Present Teaching Populations’ “Who Polluted the River” story. When the students come up to the river, have them put a spoonful of the pollution. Throughout the story ask students what they think about the quality of the water. Would it be safe for you to drink the water? Is the water safe to swim in? Is it safe for animals? Once the story is finished, ask students to identify the sources of pollution. Ask, “Who is responsible for the pollution?” Students should come up with everyone is responsible for the pollution. How do we clean it up? 4. Use power point to discuss natural filters like wetlands and filter feeding animals. Also to discuss how humans use different types of filters to clean the water. Who Polluted the Water PowerPoint <ul style="list-style-type: none"> • Plans for part 2 of activity: <ul style="list-style-type: none"> ○ Guiding Questions to ask during this part of the activity: <i>What are the best materials to filter pollution from water?</i> ○ Anticipated Student Responses to guiding questions: Nets and rocks <p>Activity: Build a Filter</p>	

	<ol style="list-style-type: none"> 1. Tell students they will now have the chance to clean up the river. Put students into groups of two. Explain that they will have their choice of two materials to make their filters. Each group will get a cup of polluted water filled to the blue line; an empty cup; and a cup with holes in the bottom. Review the materials with students. Students will design a filter using the materials given. Students will predict which materials will work best and why. 2. Before students use their filter they will need to make observations about their water. They will also need to weigh their filter to the nearest hundredth. Students will hold the cup with the holes over the empty cup and pour the polluted water into the filter. Emphasize that the purpose of this filter is to allow the water to flow through the filter, cleaning out/trapping the pollution. We are trying to retrieve all of the water we started with (marked with the blue line) but there will be no pressing out of water from the filter because that involves a mechanical component to the filter and that is not what we were testing in this experiment. Also have students consider if the material chosen holds the water, then is it really filtering the water? Students should aim for less than 10 grams, finishing weight, to be considered a good filter. 3. After the water has been filtered have students make observations about the filtered water and then weigh their filter. Students will calculate the difference between the before and after weight to determine how much pollution was removed. 4. Discussion about what materials worked best should be done after results are recorded. Students should be reminded of the overall goal at the end of the unit and the product that will be produced.
Differentiation	<ul style="list-style-type: none"> • Strategy 1- Visuals • Strategy 2- Visuals of the types of pollution
ELL Modification	<ul style="list-style-type: none"> • Modification 1- Visuals used • Modification 2- social interaction
Check for Understanding	<p>How you will assess or check for student understanding throughout this activity.</p> <p>Have students pair and share with a partner their ideas of what matter and water are. Students will also journal about the things they used to filter and how they worked for later reference.</p>