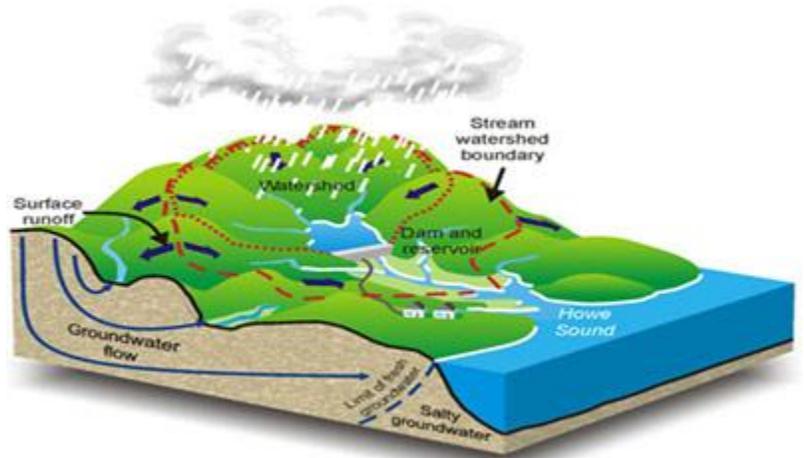


Watersheds, Aquifers & Groundwater 101

When rain falls on the ground, some of it travels slowly down through the ground to the aquifer. As water makes its slow journey, it is filtered by soil, sand and gravel. This water is called groundwater.

Some of the rainwater runs over the land into lakes, rivers, and streams. This water is called surface water.

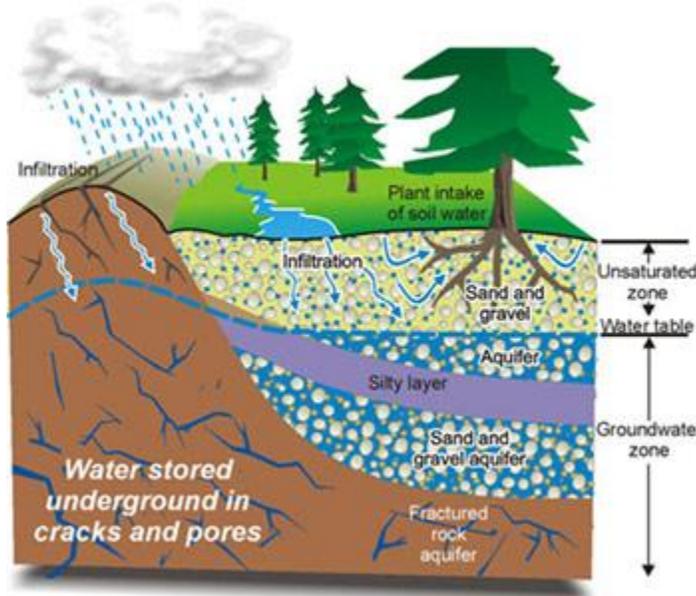
What is a Watershed? A watershed is an area of land that catches rain and snow and where water flows downward into a specific river, stream, lake, or aquifer. All land is part of a watershed and we all live in a watershed.



Think about your local creek, river, or stream. Where does it come from? What type of landscapes does it pass through? All of the area covered is a watershed. What happens on the land affects the water in the ground as well as the local creeks, river, streams, and the fish that live in them.

What is an Aquifer? An aquifer is the area underground where spaces between gravel, sand, clay, or rock fill with water. Water stored underground is called groundwater. There are different types of aquifers. When water is found in cracks and pores in the rock, we call this a 'bedrock' aquifer. When water is found in the spaces between sand and gravel, we call this a 'sand and gravel', or 'unconsolidated' aquifer.

What is groundwater? Groundwater is precipitation (rain, snow or sleet) that seeps into the soil below us. It moves downward (because of gravity) and fills up the spaces between particles of rock, gravel, sand, and soil. If you're at the beach and you dig a hole in the sand near the water it doesn't take long before you hit soggy sand does it? This water is *groundwater*.



Some areas underground can hold a lot of water. This is because some types of rock can hold more water. For example, they may have a lot of holes, or be very soft and soak up water like a sponge. Sometimes it is easy to bring this water to the surface through a pipe called a well. The pipe, or well, is drilled into the rocks. Groundwater is then pumped through the well and into pipes that eventually end up at our houses. There are many wells beneath our houses pumping water for people.

These areas underground that hold a lot of water, and can be pumped with a well are called aquifers. Sometimes, aquifers can have flowing streams or even caves filled with water.

Groundwater and surface water can trade places. Groundwater can move through the ground into the ocean, or a lake, or stream. Surface water, like in a lake, can soak down into the ground and become groundwater.

The water in our aquifers isn't always at the same level. It rises and falls, depending on how much it has rained, or how much we are pumping. What do you think might happen if there isn't much rain, like in the summer? What do you think might happen if people are using a lot of water? If you guessed that the aquifer might run dry, you're right. If the water level drops below the well, water can no longer be pumped into our homes. This happens if water is used up faster than it is 'recharged' (remember infiltration in the water cycle). When this happens, there is a water shortage. This means there isn't enough water for people to do the things they usually do. During a water shortage people often must stop watering lawns and gardens, or filling up swimming pools.

Your Assignment - Be sure you answer in complete sentences

1 sheet of loose leaf paper	Materials: 1 pencil	THINKING brain!
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1. Make this chart on your paper completing the information below (RI 8.1 COMPREHENSION):

	What is it? Explain.	How is it formed?
Aquifer		
Watershed		
Groundwater		
Surface water		

2. What are at least 2 differences between a bedrock (consolidated) OR sand and gravel (unconsolidated) aquifer?(COMPREHENSION)
3. Where do watersheds exist? How can we protect them?(APPLICATION)
4. Do aquifers, groundwater, and watersheds only store freshwater? Explain. (ANALYSIS)
5. How are aquifers, groundwater, and watersheds impacted by drought (explain how)? (APPLICATION/COMPREHENSION)
6. What role does the water cycle play in aquifers, groundwater and watersheds? Explain(APPLICATION)
7. Describe at least 3 methods (1 for each) of water conservation that we can do to protect our aquifers, watersheds, and ground water. Write 5 sentences, and use the text to support your information.(APPLICATION)