Groundwater Video

1. How does water end up underground?

2) How is groundwater extracted?

**Reading Purpose: What is groundwater and how is it being contaminated?**

**The Hidden Resource - Groundwater**

Every day Americans rely on a resource that is “hidden” in its natural surroundings. Hidden beneath layers of soil and rock is the Earth’s largest freshwater supply: groundwater. The estimated supply of groundwater in the lower 48 states is 65 quadrillion gallons or about 4 times the amount of water in the Great Lakes. It is the source of water for about half of the U.S. residents and nearly 97 percent of the rural population.

Groundwater originates as precipitation. It seeps into the ground, filling the spaces and pores between soil particles or the fractures and fissures in rocks. The underground area where all the pores and spaces are filled with water is called the saturated zone. Different geological formations hold varying amounts of water, but those that yield water in usable quantities are called aquifers. Usually, groundwater flows slowly through an aquifer; the rate can be as little as half an inch per year. The flow can be considerably faster in

limestone caverns, volcanic lava tubes, or large rock formations where groundwater may resemble underground streams.

1. What is the difference between groundwater and aquifers?

As water travels through the soil and rock, it picks up water-soluble materials and carries them along. Some of the materials in groundwater occur naturally, but many constituents in groundwater are the result of human land use activities. Different soils have different capacities *(abilities)* to filter and absorb wastes. However, once groundwater is contaminated *(polluted)*, it is difficult and may be impossible to clean up. When possible, cleanup is very expensive and may require many years. In many geological formations, groundwater moves so slowly that contamination can remain undiscovered for years until the contaminated groundwater is brought to the surface by springs or wells. During that time, the pollutants can spread and contaminate large volumes of otherwise usable groundwater.

1. Why is it difficult to clean groundwater of contamination?

3) Which spheres are interacting with groundwater?

**Homework: Research an article about the hydrosphere online. Summarize the article in two paragraphs. Each paragraph must be 3 to 5 sentences. Remember to list your source!**