

Chapter

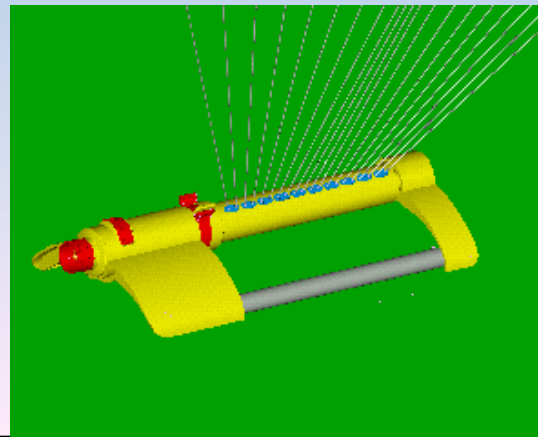
Water Beneath the

6.3

Surface

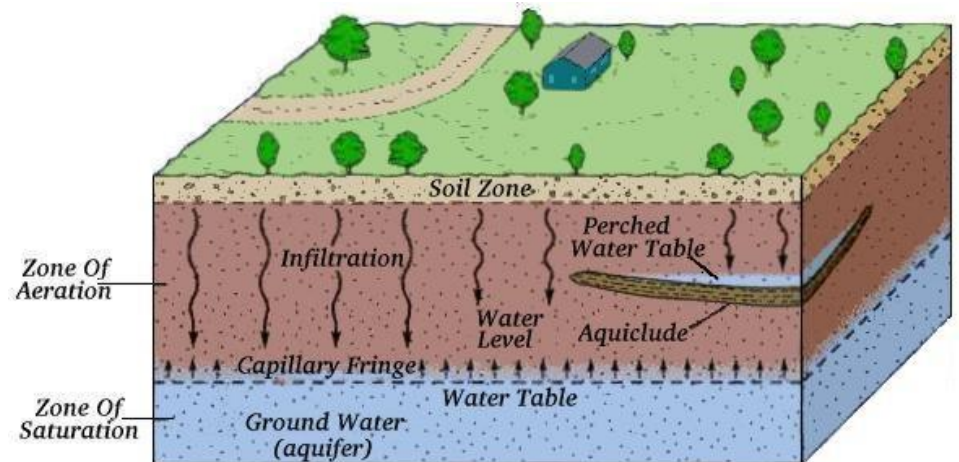
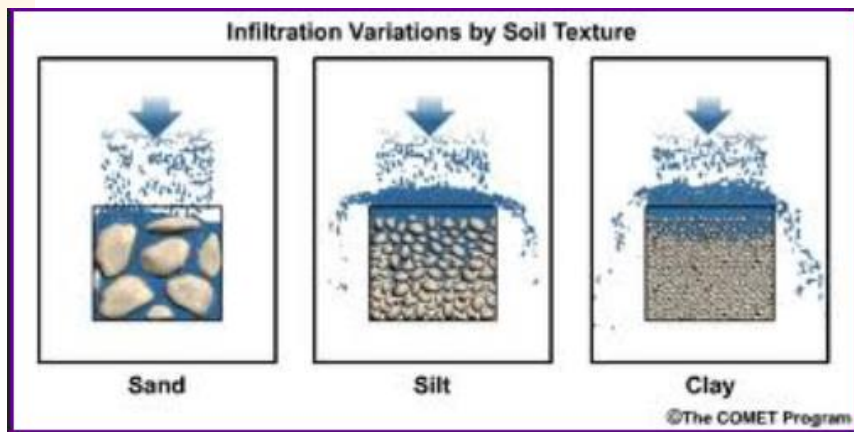
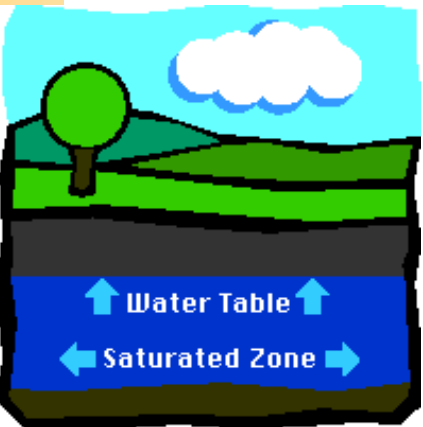
You will be able to...

- *Describe the location and movement of groundwater.*
- *Identify ways we contaminate our groundwater*



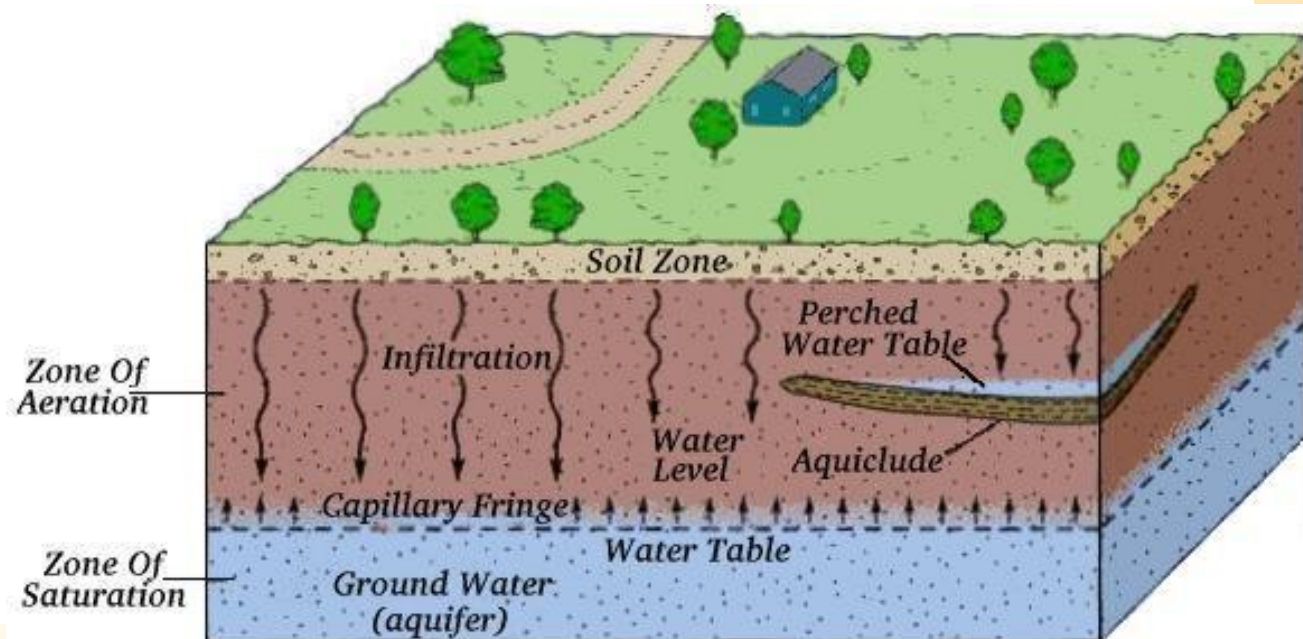
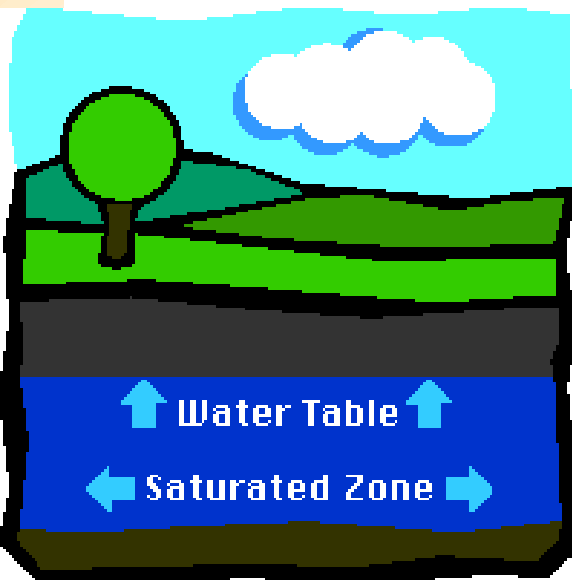
6.3 Water Beneath the Surface

- ◆ Much of the water in soil seeps downward until it can't pass through the soil and will gather in this location.
- ◆ This area where the water sits underground is called the **zone of saturation**.



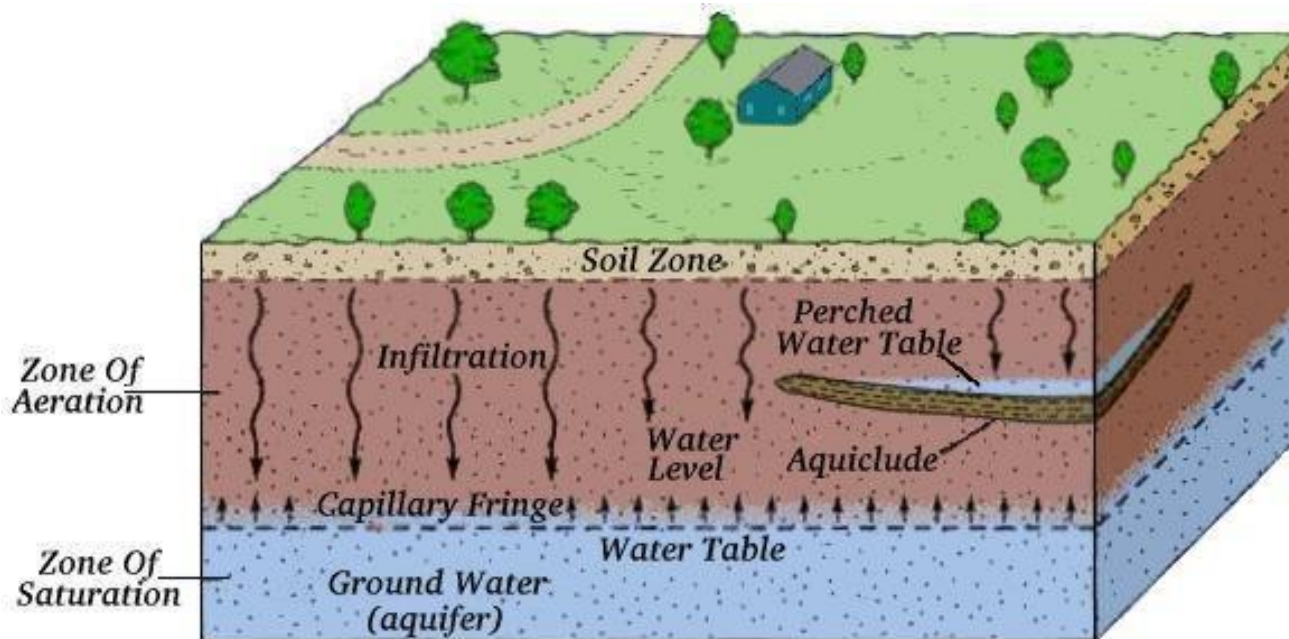
6.3 Water Beneath the Surface

- **Groundwater** is the water within this zone.
- The **water table** is the upper level of the saturation zone of groundwater.



6.3 Water Beneath the Surface

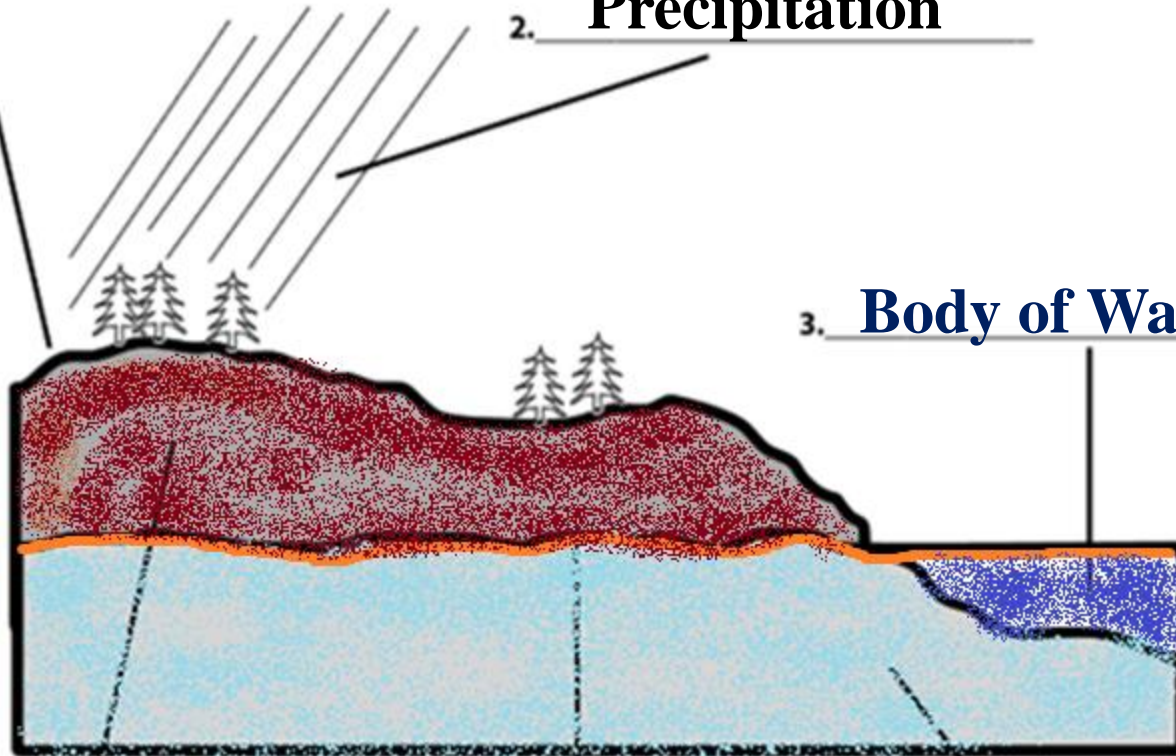
- Above the water table is soil, sediment, and rock are not saturated is the **zone of aeration**.



1. Earth's Surface

2. Precipitation

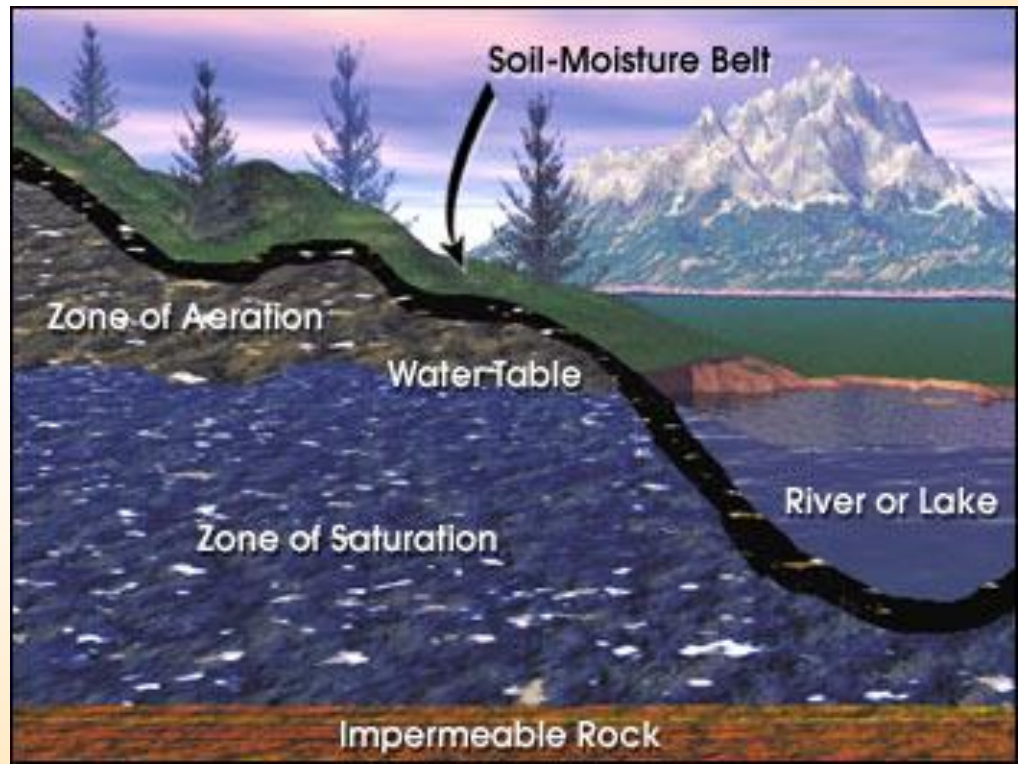
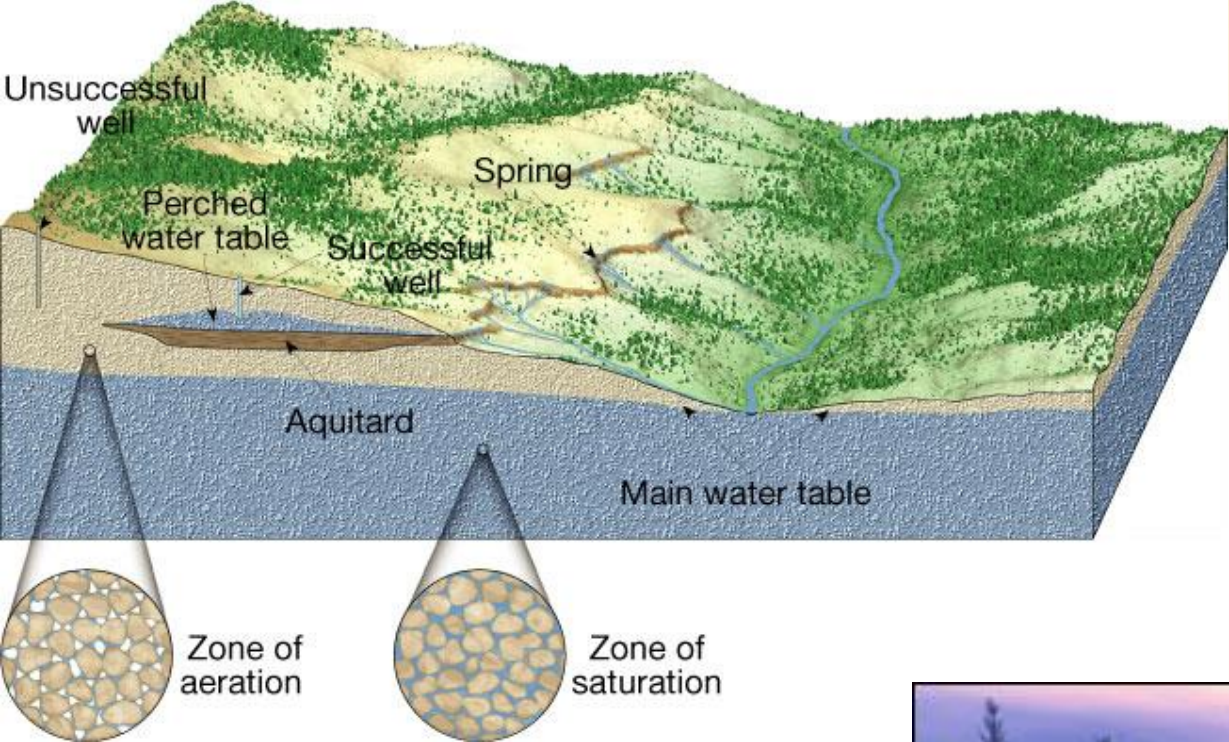
3. Body of Water



4. Zone of Aeration

5. Water Table

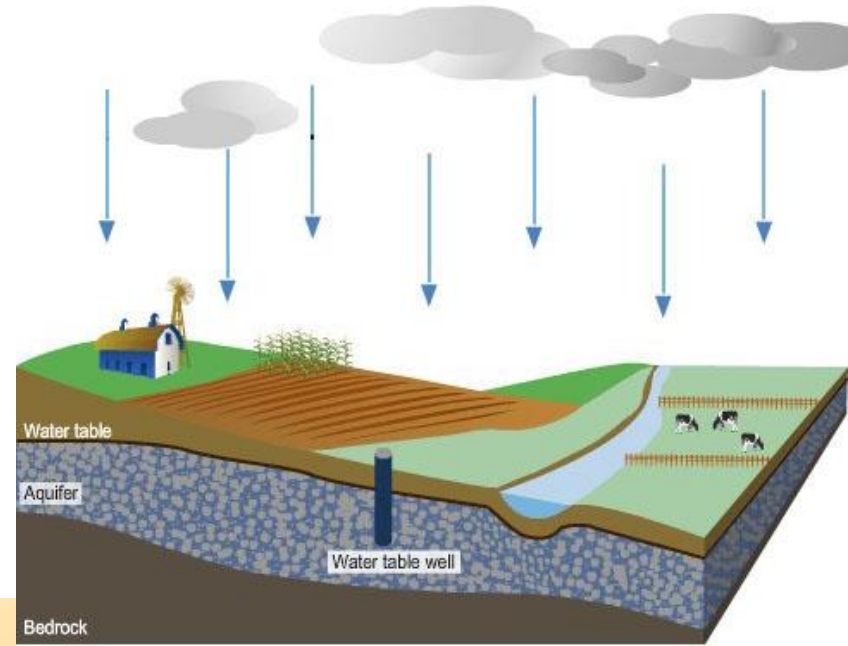
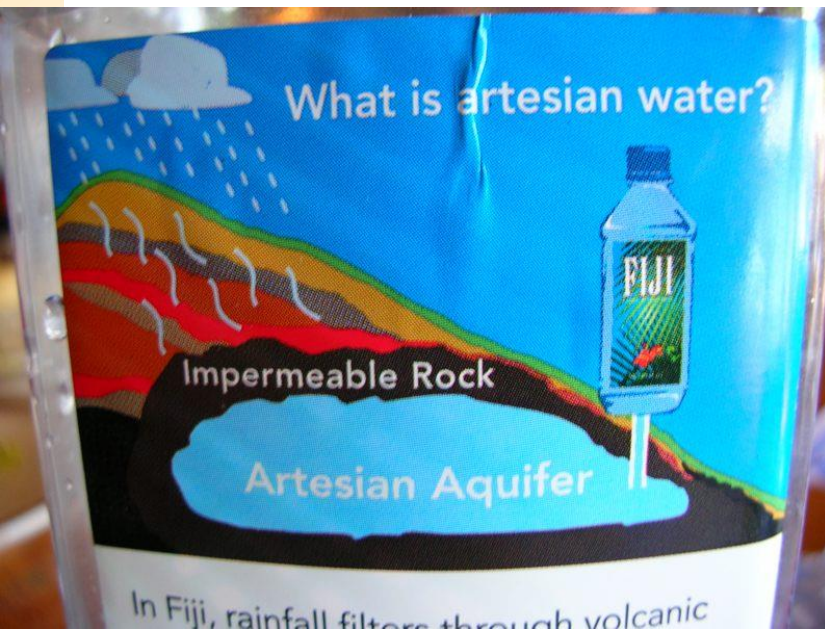
6. Zone of Saturation



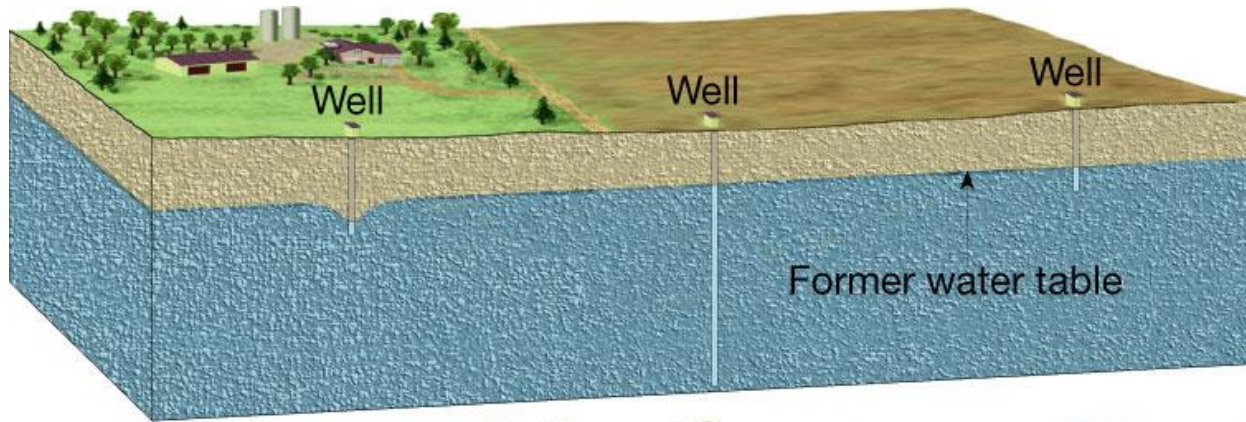
6.3 Wells



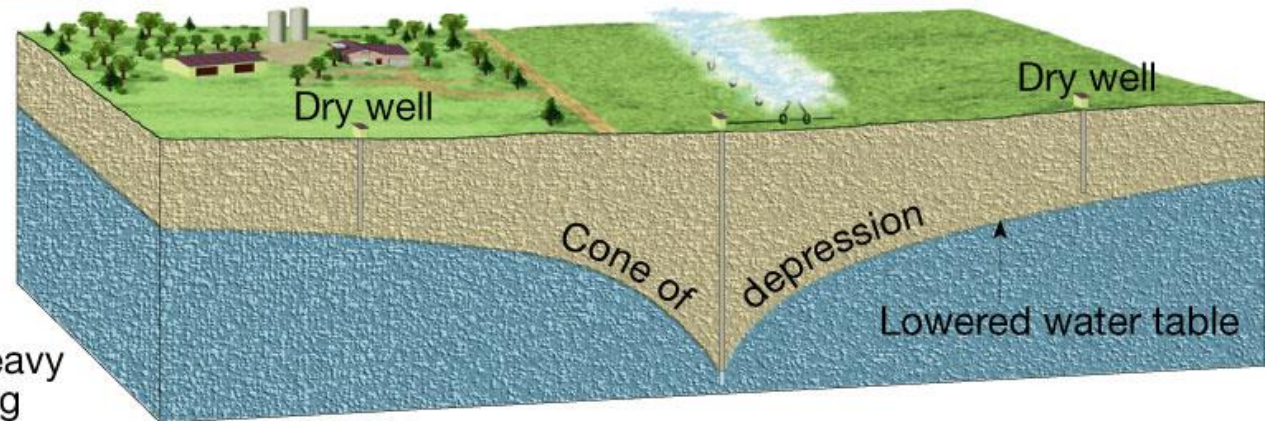
- ◆ A **well** is a hole bored into the zone of saturation.
 - An **artesian well** is any formation in which groundwater rises on its own under pressure.



Cone of Depression



Before heavy pumping



After heavy pumping

6.3 Groundwater Contamination

Environmental Problems Associated with Groundwater

- ◆ Overuse and contamination threatens groundwater supplies in some areas.
- ◆ Sewage from septic tanks, farm wastes, broken sewers.



Figure 18 The marks on the utility pole indicate the level of the surrounding land in years past. Between 1925 and 1975 this part of the San Joaquin Valley sank almost 9 meters because of the withdrawal of groundwater and the resulting compaction of sediments.



Groundwater Contamination



Figure 20 Agricultural chemicals sprayed on farm fields can seep into soil and contaminate underground water supplies.

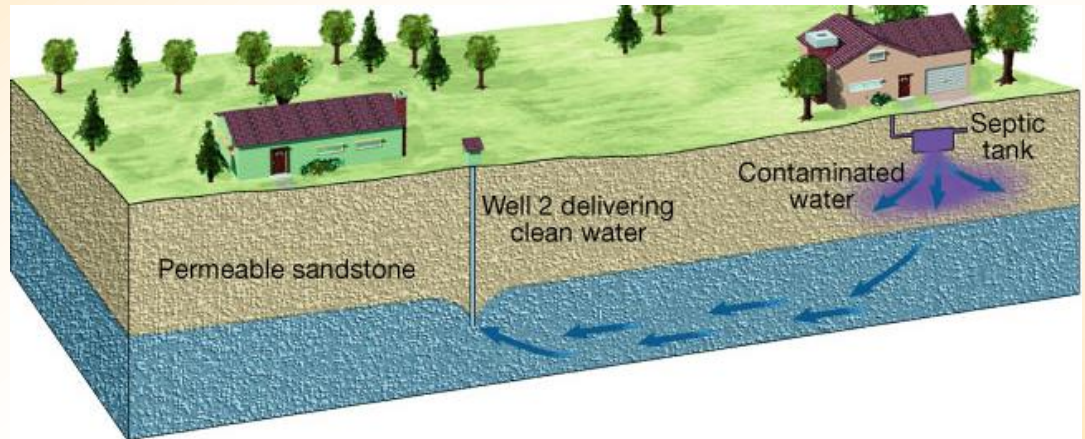


Figure 21 If landfills leak, harmful waste buried in them can escape into groundwater.

