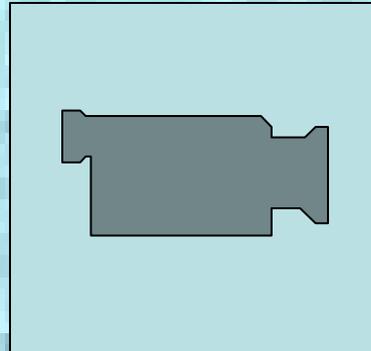


Do Now!!!

-Get and begin notes packet

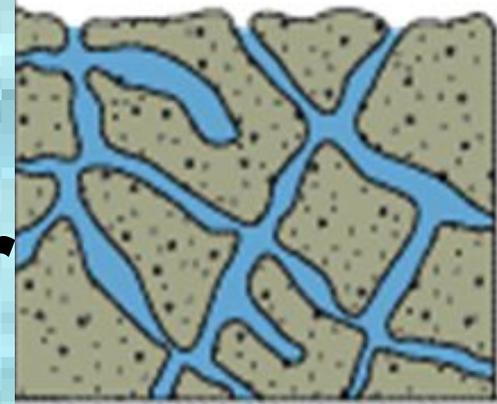


When Ground water has no
where to go.





Groundwater



Groundwater is the water that soaks into the **ground**

When it rains, water soaks into the **pores** of weathered rock.

The amount of pores in a rock effect its **permeability**

Groundwater Movement

Groundwater will continue to flow downward through soil and rocks.

A layer of **permeable** rock that lets water move freely is called an **aquifer**.

Zone of Saturation

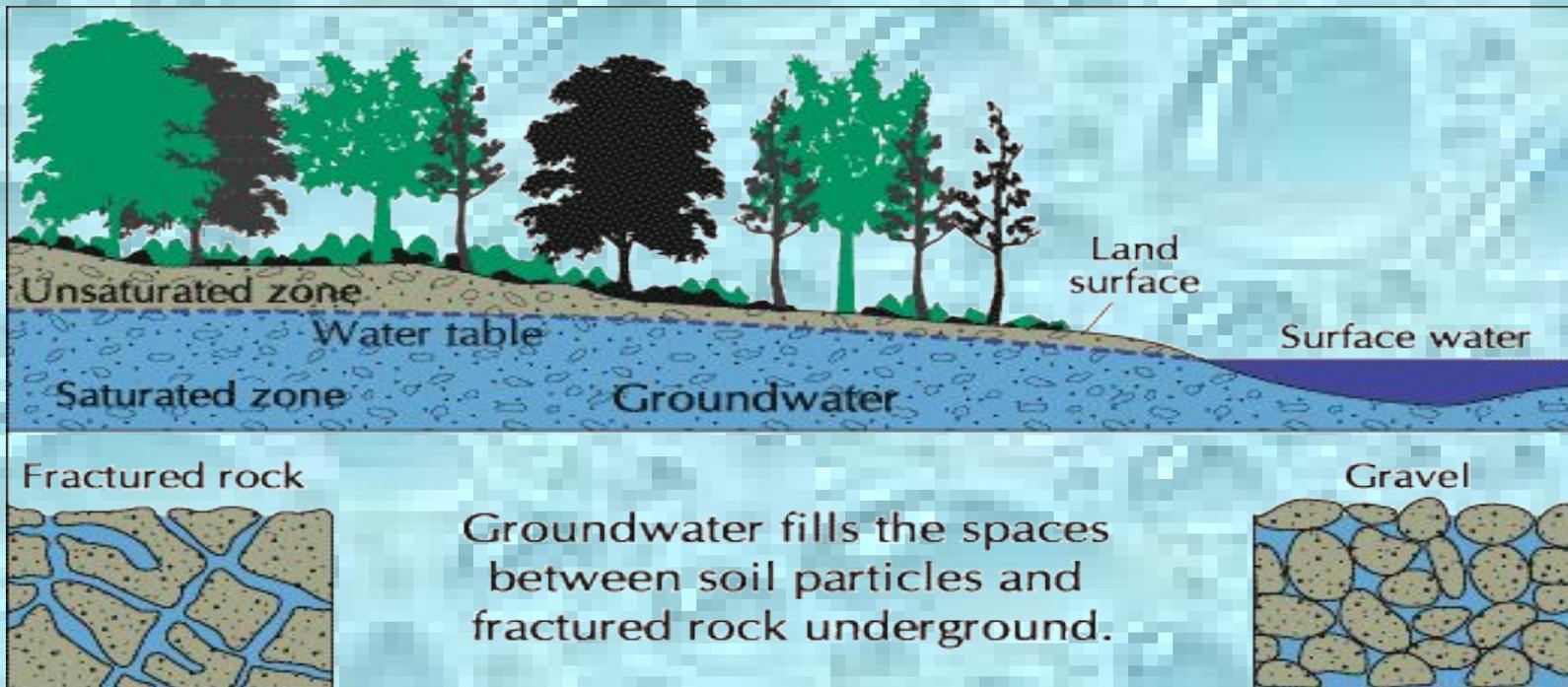
The **zone of saturation** is

where all the rock pores are filled with water, and no more water can be held.

Wells are drilled down into the zone of saturation.

Water Table

The **water table** is the top of the zone of saturation. It can be found at the **surface level of a stream.**



How To Calculate Rate Of Flow

- **r = Rate = how fast the water is moving**
- **d = Distance= how far the water is traveling**
- **t = Time = how long the water takes to reach its destination**

- **$r \times t = d$**
- **$d / r = t$**

WELLS

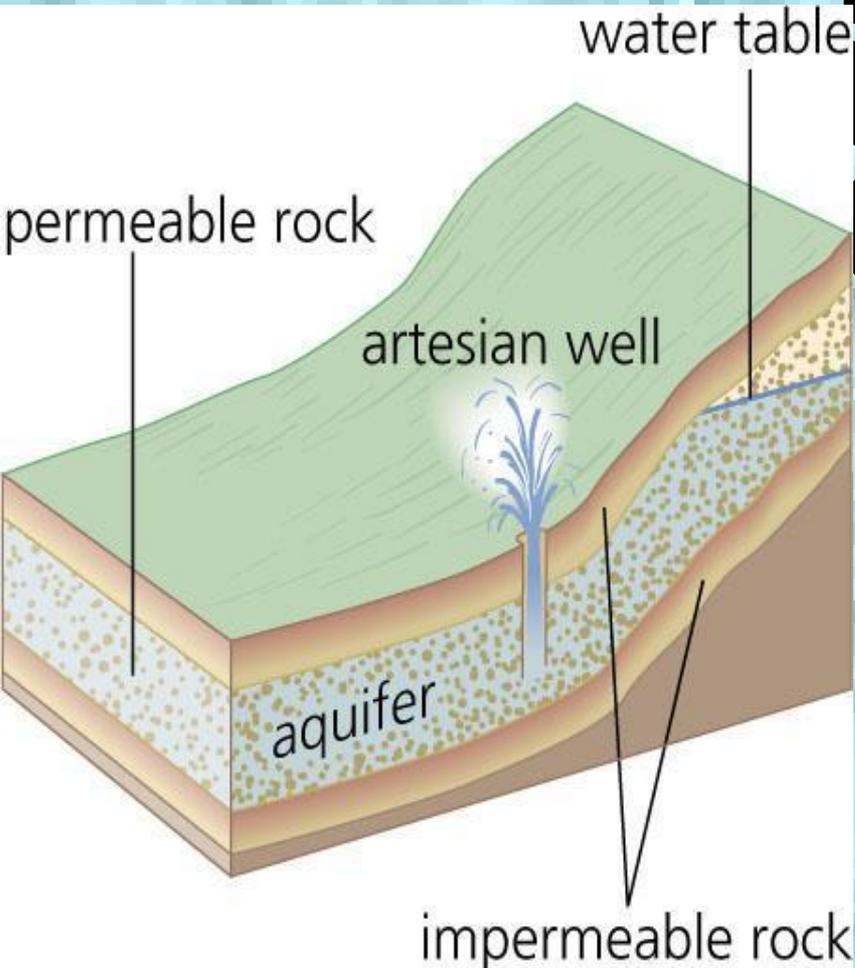
Most wells bring water to the surface by a **pump**

Wells can go **dry** when less rain falls or when too many wells are in the area.

The amount of rain can't keep up with the **demand**



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Water rises

under pressure

to get to the
surface.

This type of well is

rare

and requires special
conditions.

Springs

Most of the time the water from a spring is **cold**, but in certain areas, the water is heated by rocks that are close to molten material causing **hot springs**



Springs

Springs

occur when the water

table meets the Earth's surface.





Geysers

Geysers are **hot springs**
of ground water that
periodically erupt, shooting
water
and **steam**
in the air.





Groundwater, Erosion & Deposition

When water mixes with carbon dioxide in the air, it forms a weak acid called carbonic acid.
Limestone is dissolved and an underground cave is formed.

Caves

Groundwater not only dissolves

**limestone, but it also drips into
cracks.**

**The water contains minerals that
build up to form **stalactites** and
stalagmites .**

Sinkholes

A sinkhole occurs when rock is
dissolved near the **surface**
and collapses the roof of a **cave** .



**Sinkholes can show up at any
time, any place.**



Dec. 18th 2010 in Fort Myers, Florida

Sinkhole in Guatemala City

February 2007





330 feet deep 2 fatalities 1000 people evacuated



Caused by rains and a ruptured underground sewage flow

Let's Review!!!

- **Describe how the permeability of soil and rocks affects the flow of groundwater.**
- **Describe why a well might go dry.**
- **Explain how caves form.**
- **Compare and contrast wells, geysers, and hot springs.**