**Section 9.2 –Groundwater**

**Groundwater – water that soaks into the ground and collects in pores and empty spaces**

**14% of all freshwater exists as groundwater. This is 30 times more that what is contained in all of Earth’s lakes and rivers.**

**Permeable – pore spaces are connected and water can pass through**

**Impermeable – water cannot pass through**

**Groundwater Movement**

* **Groundwater keeps moving until it reaches a layer of impermeable rock.**
* **Water begins filling spaces in pores in the rock above**
* **Aquifer – layer of permeable rock that lets water move freely**
* **Zone of Saturation – area where all of the pored in the rock are filled with water**
* **Water Table – upper surface of the zone of saturation**

**Wells**

* **Extends deep into the zone of saturation- past the top of the water table**
* **Groundwater flows into the well and it is pumped to the surface**
* **Artesian Well – well in which water rises to the surface under pressure**

**Springs**

* **When the water table is so close to Earth’s surface that water flows out, a spring forms.**
* **Found on hillsides or other places where the water table meets a sloping surface**
* **Source of freshwater**

**Geysers**

* **A hot spring that erupts periodically, shooting water and steam into the air.**
* **Groundwater is heated to high temps causing it to expand underground. The expansion forces some of the water out of the ground**
* **Example – Old Faithful – Yellowstone National Park – Erupts once every 80 minutes to an average height of 40.5 meters.**

**Caves**

* **Water mixes with carbon dioxide to form carbonic acid**
* **Most carbon dioxide is absorbed by groundwater moving through soil.**
* **Limestone is easily dissolved by carbonic acid**
* **Cave – underground opening**
* **Stalagmite – form on the floor of a cave**
* **Stalactite – form on the ceiling of a cave**

**Sinkholes**

* **A depression on the surface of the ground that forms when the roof of a cave collapses or when material near the surface dissolves**