**Unit 11-Running Water and Groundwater**

**Objectives and Vocabulary**

**Objectives:**

* Explain how the water cycle circulates the Earth’s water supply in an unending circle
* Identify what the power source is for the water cycle
* Given a diagram, label missing parts of the water cycle
* Explain how the water cycle is kept in balance
* Describe the ability of a stream to erode and transport material
* Compare and contrast the changes in gradient and discharge between a stream’s headwaters and mouth
* Calculate the average velocity of a stream
* Explain what is meant by the six-tenths rule
* Calculate the discharge of stream using gradient and average veolcity
* Define base level, and give examples of a temporary base level and permanent base level
* Predict how lowering base level may affect stream erosion
* Explain how streams erode their channels and transport sediments
* Explain what is meant by a streams competence and capacity
* Explain how stream deposition occurs
* Define alluvium, deltas, and natural levees and identify where they usually occur
* Compare and contrast narrow valleys and wide valleys
* Predict the causes of major floods and describe major flood control measures
* Explain the relationship between streams and drainage basins
* Identify and draw diagrams of the four major drainage patterns
* Describe the location and movement of groundwater
* Differentiate between aquifers and aquatards
* Define zone of saturation, water, zone aeration
* Describe the formation of a spring
* Explain the differences and similarities between springs, hot springs, and geysers
* Explain how a well is formed and why well water is important
* Define and label in a diagram a cone of depression
* Define what an artesian well is and when they can occur
* Explain how caverns are formed
* Differentiate between stalagmites and stalactites
* Describe landforms in karst areas
* Explain environmental threats to water supplies

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**Vocabulary:**

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| Water cycle | Infiltration | Transpiration | Gradient | Stream channel |
| Discharge | Tributary | Base level | Meander | Base level |
| Bed load | Capacity | Alluvium | Delta | Natural levee |
| Floodplain | Flood | Drainage basin | Dendritic | Trellis |
| Divide | Zone of saturation | Groundwater | Water table | Porosity |
| Permeability | Aquifer | Aquatard | Spring | Hot spring |
| Geyser | Well | Artesisan well | Cone of depression | Cavern |
| Travertine | Stalagmite | Stalactite | Karst topography | sinkhole |