The Colorado Plateau Province is characterized by mostly level, horizontally stratified sedimentary rocks that have been eroded into canyons and plateaus, and by some high mountains. Sedimentary formations (including thick sandstone and limestone formations) are stacked on top of one another forming four regional aquifers and many localized aquifers. Due to erosion, no location in Arizona has all of these layers present. In descending order, the regional aquifers are the D-, N-, C- and R-aquifers. Each has a very large areal extent and provides water to the people who live there. Main recharge areas are along the Mogollon Rim and the eastern side of the state. About 508 million acre-feet (maf) is estimated to be in storage in Little Colorado River Plateau aquifers (ADWR, 1990).

The C-aquifer is the largest and most productive aquifer in the Plateau Province with an areal extent of approximately 21,655 square miles. It is named for its primary water-bearing unit, the Coconino Sandstone. It is utilized as a supply south of the Little Colorado River and along the eastern edge of the basin by Flagstaff, Heber, Overgaard, Show Low, Snowflake and Concho. North of the river the C-aquifer is too deep to be economically useful or is unsuitable for most uses because of high concentrations of total dissolved solids (salinity). ADWR estimates that 413 maf are stored in the aquifer (ADWR, 1989).

The N-aquifer occurs north of the Little Colorado River and has an areal extent of 6,250 square miles. Storage estimates vary from 166 maf to 293 maf (ADWR, 1989 and USGS, 1996). Navajo Sandstone and Wingate Sandstone are the main water-bearing units in the aquifer. It is generally unconfined, but there are artesian conditions in the Black Mesa area and near Window Rock. N-aquifer water quality is good and it is a source of supply for the Navajo and Hopi reservations.

The D-aquifer is the smallest in areal extent, occurring over about 3,125 square miles. It is estimated that there are 15 maf in storage (ADWR, 1989). The D-aquifer is composed of the Dakota, Cow Springs and Entrada sandstones. There is some connection to the underlying N-aquifer. Water quality is marginal to unsuitable for domestic use due to high concentrations of dissolved solids. Local aquifers are important for domestic uses where the regional aquifers are too deep or have unsuitable water quality.

Objectives
Students will:
- Identify distinctive characteristics of Colorado Plateau aquifers
- Examine a geologic column
- Summarize the importance of groundwater in this arid region
- Explain differences between the Colorado Plateau aquifers and the Basin and Range aquifers