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*H<sub>2</sub>Whoa! Let's Check That Out First!*

The overall purpose of this experiment was to show that water coming from different sources and areas will vary in chemical composition based on the main substances dissolved within. The researcher hypothesized that water coming from the Ogallala Aquifer would be of better quality than water obtained from a perched aquifer or less reliable water source. As it turned out, all schools that water samples were collected from obtained water from the Ogallala Aquifer except for one. Water samples were collected from six schools in Northeast Colorado and tested for nine constituents. These included: hardness, conductivity, alkalinity, chloride, chlorine, pH, nitrate, phosphate, and iron.

The tests performed were very basic but provided in-depth understanding of common attributes that most water consumers would like to know about. Most tests involved adding a tablet to a specific amount of the water sample and correlating the result with a color coded solution card. It was then concluded that water coming from the Ogallala Aquifer did provide a better quality of water based on a few major tests. Those tests were hardness, conductivity, alkalinity, chloride, and chlorine. The overall results of this experiment clearly showed that water quality does vary from place to place as the sources of the samples are all susceptible to different chemical compositions. While water testing is commonly done to ensure public safety, the variation between the levels detected in this project were in themselves substantial in the manner in which general taste, odor, and appearance are concerned.