Arizona Project WET

Groundwater Videos in the Making

WRRC Brown Bag
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The problem

...in a big lake?

...in underground rivers, streams or water veins?

...accumulating in caves or cavities?

(Dickerson and Dawkins, 2004; Dickerson et al., 2005, 2007; Ben-zvi-Assarf and Orton, 2005; Reinfried, 2005, 2006a, b; Schultz, 2006; Schwartz et al., 2011)
Wikipedia
How the water table looks in a cross section of land

- Unsaturated soil
- Surface water
- Groundwater
- Water table
Groundwater fills the spaces between soil particles and fractured rock beneath the earth’s surface.
Big Ideas

- Groundwater is between the grains of sand and gravel.
- Groundwater moves due to gravity.
- Groundwater and surface water are connected.
- We care about groundwater because we use it.
- Groundwater is a part of the water cycle
Photos of models
Video 1 - Water in Arizona

- Introduction
- Dramatic panoramic landscapes with music
- Evaporation is 6 times the precipitation
- All living things need water to survive
- Humans have used natural and engineered systems to survive in this arid place
- We're moving water from place to place and creating storage spaces for water
- From watersheds and rivers to cities
- We're also pumping water out of the ground
- 98 percent of Earth’s available freshwater is groundwater
- Arizona is arid
- Can we use it?
Video 2 - Groundwater Basics

- Introduction
- Drought-resistant landscapes with music
- Map of wells across the state then pull back to show the provinces
- Groundwater systems across the state
- Global groundwater data and its part in feeding the world
- Groundwater is finite and moves slowly
- The water is very old
- How do we access the water?
- Basin fill aquifers, fractured rock aquifers and sandstone aquifers
- Changing groundwater levels
- We drill wells into the ground and log the borehole as we drill
- 84.5 million acre-feet
- Stats about Arizona groundwater
- How does it get there?
ARIZONA GROUND WATER

EPISODE 2 OF 9
Groundwater Basics
Questions?