



Connecting FOSS to Northern Arizona

Table of Contents:

Overview:

Pg. 1 Introduction: Explains the project "Connecting FOSS to Northern Arizona"

Table of Contents

Contact Sheet: Important names, numbers, e-mails and websites for reference information, guest speakers, and program possibilities

Possible Field Trips: Local field trip sites and programs that would be appropriate and place-based

Book List: A list of both reference and literature books that might be helpful for use with this kit

Web Resources: A list of websites that are informative for both teachers and students

Investigation 1:

Pg. 11 Activity 1: "How Repulsive!" Discuss how different materials repel water. Design "Monsoon Suits"

Pg. 17 Activity 2: "Soil Saturation" Students design a soil that will absorb the most water when placed in a perforated cup in a tray of water.

Pg. 18 Note: Investigation of surface tension: "How does surface tension of water help living things?"

Note: Surface tension: "What does it have to do with geologic processes and groundwater"

Pg. 19 Activity 3: "Water on a Slope" Set up a river in your classroom and run some experiments with it.

Pg. 23 Activity 4: "Watersheds"

Pg. 24 Supplement 1: "Liquid Treasure Trunk" Call the Resource Center for Environmental Education 779-1745 to borrow a trunk on local water issues.

Activity 5: "Watching our Water Resources" Everyone needs and uses water daily. Investigate how much water you use in a day! What if you lived on a farm in the 1900's and had to pump your water from a well outside the house and bring it inside? Investigate how much water you would use in a day.



Connecting FOSS to Northern Arizona

Investigation 1 cont'd:

- Pg. 26 Activity 6:** "Water Music" Listen to some music that was written about water and some that sounds like water while doing art projects.
- Pg. 27 Supplement 2:** "Water Moves Through the Ground?!" Learn all about groundwater
Note: Field trips: City Pond, Kachina village, Pumphouse wash, Wupatki, Walnut Canyon, Old Town Spring
Note: Contact NAU Biology Dept. 928-523-2381: Kachina Village pond studies at City Pond
Note: Contact Northern Arizona Audubon Society: Phyllis Kegley 928-214-0415

Investigation 2:

- Pg. 15 Activity 7:** "Pond Pondering" After reading Science Stories, "The Pond", tie to local ponds and even Lakes. Bring in the natural cycles of upwelling in lakes and ponds.
Note: Borrow Limnology kits: NAEERC 928-526-1651: sample benthic inverts, plankton, clarity
- Pg. 26 Supplement 3:** "Ice is Nice" Explore the fascinating characteristics of water in its solid form.

Investigation 3:

- Pg. 16 Activity 8:** "Wetland Construction" Explore a local alternative to traditional wastewater treatment with the Kachina Wetlands.
Note: Now try the same investigations outside: How will evaporation rates change?
- Pg. 20 Activity 9:** "Dams and Water Loss" Learn about dams in the southwest.
- Pg. 25 Activity 10:** "Flagstaff's Water Cycle" Learn about Flagstaff's local water cycle and how you are included.
- Pg. 27 Supplement 4:** "Water Recycling" Learn about wastewater treatment



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Northern Arizona**

Investigation 4:

- Pg. 4 Activity 11:** "The WATER Planet?" Discuss just how much water is available for human use on this planet Earth.
- Pg. 15 Supplement 5:** "Water Power into Horse Power" When talking about the "Science Stories" *The Power of Water* relate this to Arizona dams.
- Pg. 16 Activity 12:** "Steam Power" Discuss the history of steam power in northern Arizona
- Pg. 19 Activity 13:** "Machines to Move Water" Discuss different ways to move water. This will generate some scientific thought. Have each student draw his or her machine and write a brief description about it. Encourage the students that finish their machines early to include lots of detail. Have students name their machines and describe how they work.