



### Connecting FOSS to Northern Arizona

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### Overview:

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

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**Contact Sheet:** Important names, numbers, e-mails and web-sites 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. 1 Note:** RCEE 520-779-1745 Classroom programs: "Landforms Unlimited" & "Mad About Maps"

**Pg. 5 Note:** Inv1 Page 5: Plan ahead for field trips and guest speakers: See Contact Sheet in Overview Section.

**Pg. 11 Activity 1:** "Family Travel Maps"

**Activity 2:** "House Maps" Have the students find the perimeter and area of each of the rooms in their house using grid paper.

**Activity 3:** "Mountains to Molehills"

**Note:** Inv1 Page 11: Field Trip Ideas: Elden Pueblo Project 520-523-8797 great to have class practice mapping

### Investigation 2:

**Pg. 1 Activity 4:** "Shaping the Landscape" Describe what mountains are made of, how they may change over time, and where they are located in Flagstaff. Have students create a cube made from a collection of mountain pictures. Discuss all the different ideas students have about the process of mountain building.



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#### Investigation 2 cont'd:

- Pg. 7 Activity 5:** "Rocks to Sand" Create a simulation of rocks breaking down into sand in running water. Draw a picture showing the stages of a rock breaking down into sand.
- Pg. 8 Activity 6:** "School Yard Erosion"
- Pg. 9 Activity 7:** "Rain Drop Relay"
- Pg. 15 Activity 8:** "Water & Soil: Beyond the Stream" Examination of "close-to-home" kinds of runoff and erosion can introduce students to these concepts without limiting them to the grand, textbook examples of idealized erosion and deposition.

#### Investigation 3:

- Pg. 7 Note:** Inv3 Page 7: Field Trip Ideas: Lake Mary Water or Rio de Flag Water Treatment Plants (see field trip list)  
**Note:** Inv3 Page 7: Field Trip Idea: Rocky Mountain Research Station 520-556-2160 Large-scale stream model
- Pg. 14 Note:** Inv3 Page 14: RCEE 520-779-1745 Classroom program "Flagstaff Flows, Faults and Floods"
- Pg. 15 Activity 9:** "Flooded Foundations"
- Pg. 20 Activity 10:** "Local Geology in Roads and Sidewalks"
- Pg. 21 Activity 11:** "Observing geologic processes in the snow"

#### Investigation 4:

- Pg. 4 Note:** Inv4 Page 4: More Field Trips: Grand Canyon, Walnut Canyon, Snowbowl Road to the top parking lot
- Pg. 5 Note:** Inv4 Page 5: Field Trip Ideas: Mt. Elden ESA, Old Cave's Crater (check out geology kit from RCEE)  
**Note:** Inv4 Page 5: Museum of N AZ: 520-774-5211 x.241 "General Geology," "Math in Nature" & "Fine Arts"



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#### Investigation 4 cont'd:

- Pg. 7 Activity 12:** "Creating Landscapes" Create an earth surface. Create a model of a land surface. Discuss the mechanisms of erosion. Talk about volcanoes in northern Arizona.
- Pg. 8 Activity 13:** "Rocks About the School Ground"  
**Activity 14:** "How was this mountain made?"  
**Activity 15:** "Roadside Geology"  
**Note:** Inv5 Page 8: Use a San Francisco Peaks Topo map instead: kids might understand if they can actually see the mountain.
- Pg. 17 Activity 16:** "The Ancient Lake Bed: The formation and mapping of sedimentary rock"  
 Create your own Grand Canyon. Have the students create a map of their model and write a brief story about the formation of the Grand Canyon.
- Pg. 17 Activity 17:** "Graphing and mapping erosion"  
 Test the effects of the stream's slope and the rate of flow on the rate of erosion. Does a faster moving stream erode more soil than a slower moving stream?  
**Activity 18:** "Jar Observations" Observe how sand, clay and loam settle in water.
- Pg. 20 Activity 19:** "Depositing Layers" Discuss how layers are deposited and how geologists do core sampling to observe deposition in certain landforms.

#### Investigation 5:

- Pg. 11 Activity 20:** "Tour Guides" Have class design a tour of the Northern Arizona Region describing each of the landforms. Or you could have the class make a travel brochure, commercial, jingle etc of the landforms. Have the class research the landforms around the Northern Arizona Region and create a model and topographic map.