Return To Middle School Lesson Plans

Title: Reclamation
Level: Middle School
Time: 60 minutes
KERA Goals: 2.3; 2.5; 4.4

Objective:

The students will recognize the importance of reclaiming the land after mining.

Background Information:

Land used for mining can often be used for other purposes after the mining is completed. Mining companies recognize the importance of returning mined lands to a productive state. Such lands can be used for grazing, recreation, or wildlife habitat.

Even before a mining company starts mining, they already have plans for how they will reclaim the land. Reclamation plans are usually coordinated with either the Kentucky Department of Surface Mining Reclamation and Enforcement. Sometimes a mining company will reclaim land as they mine and other times they will wait until all mining is completed.

Reclamation actions consist of re-contouring the land and planting seeds or trees to help prevent erosion and enhance the vegetation for grazing or wildlife. Special steps are taken to restore prime farmland. In mountainous areas where flat land is at a premiering, the mine site is left flat for use as a building site.

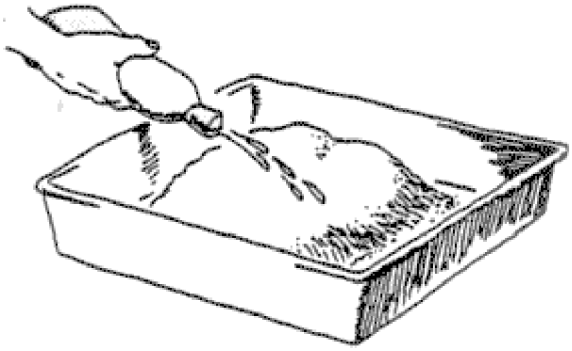
Mining companies are working hard to provide society with the coal and metals we need. These same companies are also working hard to insure that mined lands continue to be productive.

Activity:

Erosion is the washing and wearing away of rocks and soil. Do you think that soil erosion varies on different land surfaces? What kind of soil might be least likely to erode? Why? What kind of soil might erode a lot? Why? What can people do to prevent this erosion?

Materials:

a pie tin
a squirt bottle
different soil samples
leaves
twigs
small stones or pebbles
grass seed
water (of course)



1. Make a mountain of soil in the middle of pie tin. Build the soil up.

2. Squirt water on it. Observe what happens to your mountain when the water hits it. First squirt gently, then hard. Do you notice any difference?

3. Rebuild your mountain. Add some small stones or pebbles to it.

4. Squirt water on it again. Observe what happens. Record your observations. Again, squirt hard and gently. Do the stones have any effect on the erosion?

5. Follow the same steps as above and stick twigs into your mountain. The twigs will act as trees.

6. Follow the same steps using a different type of soil.

7. Plant grass seed on your mountain. When it appears, try the experiment. What happens?

Type of Soil	Gentle Rain Effects	Hard Rain Effects	Conclusions
#1			
soil with gravel			
plain soil with twigs			
soil with grass			
#2			

Teacher Hint:

Relates to planting vegetation on lands that have been exposed by mining (reclamation).

Provided by The Society for Mining, Metallurgy, and Exploration, Inc.