

Mining in Maryland Student Research Organizer

Using the resources listed on the following pages, and other articles or handouts provided by your teacher, complete the chart for each of the mined materials.

In your research consider the following guiding questions:

- *How and why is mining important to our economy?*
 - *What processes are used to mine materials?*
 - *How are the mined materials used?*
 - *How does mining of these materials ultimately help you, the consumer, and the greater community?*
 - *Can you think of ways that mining these materials helps to improve/ maintain your quality of life?*
 - *Why do some citizens not support mining?*
 - *What are some of the solutions associated with environmental problems related to mining?*
 - *How is the land from which the materials are mined restored?*
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Research Resources

Handouts / Print Resources

- Mineral Industry of Maryland (12-page document)
- Mining in Maryland: Facts About Maryland's Mining Industry
- Coal: A Fossil But No Dinosaur article
- Mining in Maryland Natural Aggregate brochure or printed pages
- Additional materials provided by your teacher

Websites

Mine Drainage Problems and Solutions

<http://geology.er.usgs.gov/eastern/environment/drainage.html>

Mining Brings Opportunities and Challenges

http://www.blm.gov/education/00_resources/articles/mining/miningbringsopportunitiesandchallenges.html

Mining Methods

http://www.blm.gov/education/00_resources/articles/mining/diggingit.html

Erosion and Sediment Control

<http://www.mii.org/ErosionSedControl/ErosionSedControl.html>

<http://www.erosioncontrol.com/ec.html>

Abandoned Mine Land Reclamation Program

<http://www.mde.state.md.us/Programs/WaterPrograms/MiningInMaryland/MiningInWestMD/index.asp>

Non-Coal Mining in Maryland

<http://www.mde.state.md.us/Programs/WaterPrograms/MiningInMaryland/MOG/index.asp>

Mining Industry Employment

<http://www.census.gov/epcd/susb/2001/md/MD21.HTM>

Economics of Cement Industry

<http://www.cement.org/basics/cementindustry.asp>

Concrete Basics

http://www.cement.org/basics/concretebasics_concretebasics.asp

Cement Production

<http://www.enviroliteracy.org/article.php/1257.html>

Mining in Maryland Research Organizer

Resource	Mining Method used to Mine Resource (underground, surface, quarrying, etc.)	Economics – How is the resource used? What are economic benefits of mining the resource?	Environmental Impact - How does mining the resource impact the environment?
Coal			
Aggregate Sand/ Gravel, Crushed Stone			
Cement Production			

Mining and the Economy

Look at the **Facts About Maryland's Mining Industry** handout. Looking at the Annual Production Values for each resource, rank their order of production value.

Cement Production _____

Sand / Gravel _____

Coal _____

Crushed Stone _____

Additional Notes

What are some ways that mining these materials helps to improve/ maintain your quality of life?

Why and how are the resources important to the economy?

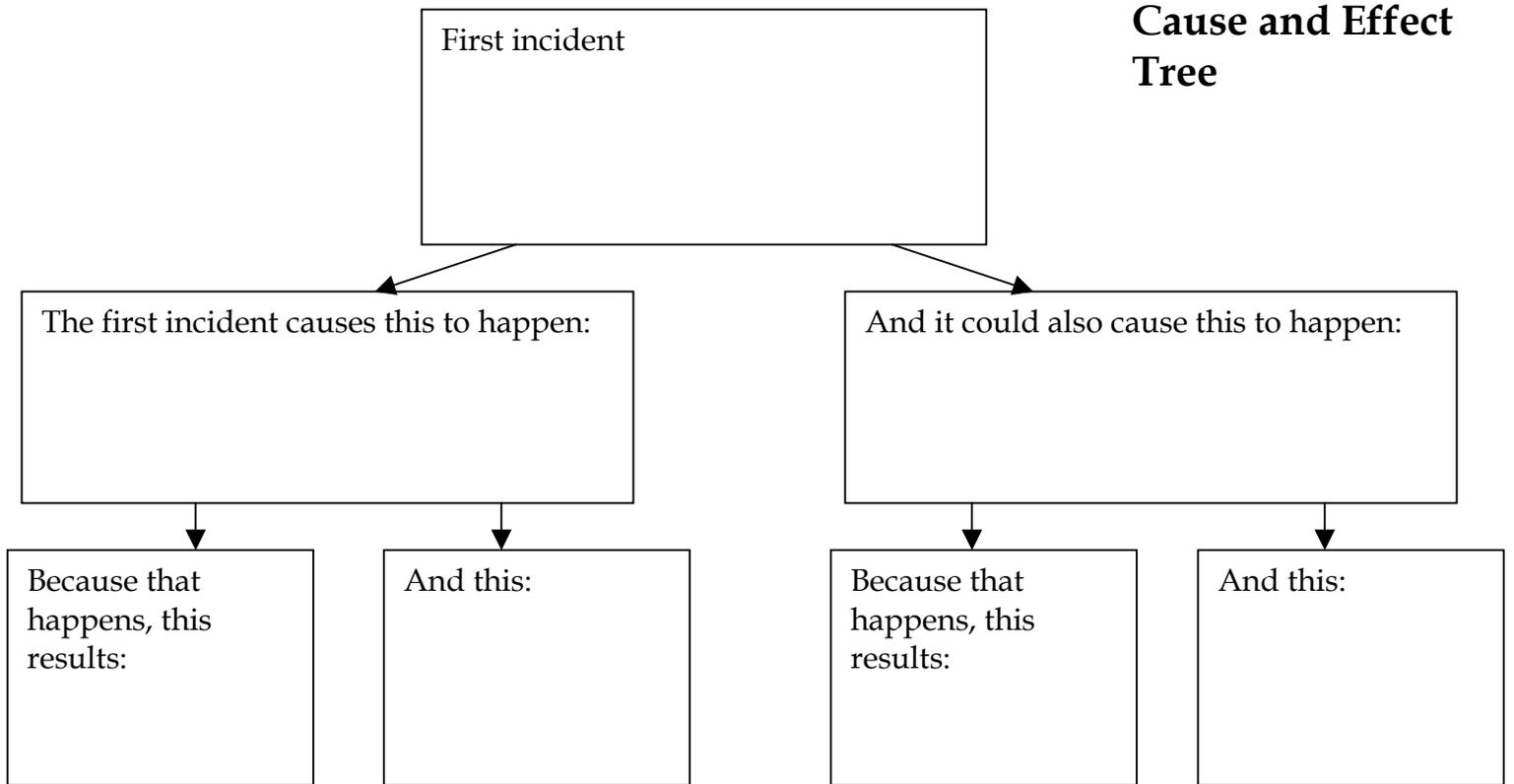
Mining and the Environment

What are some of the solutions to the environmental problems associated with mining?

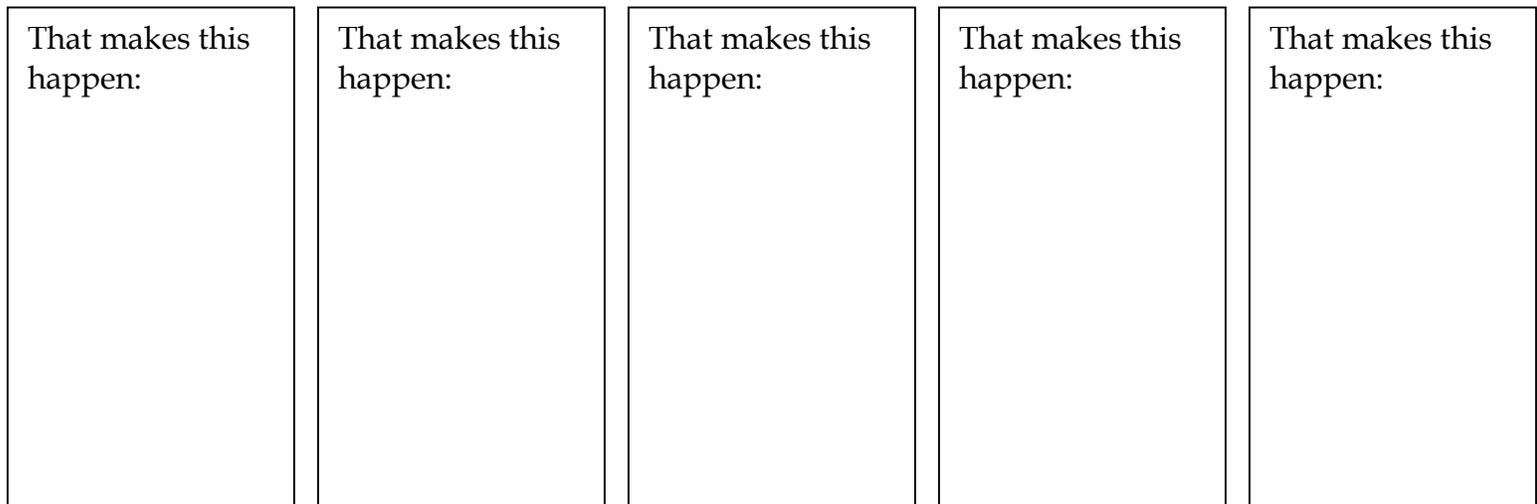
Erosion Demonstration

1. What happens to the sand as the water is poured over the slope?
2. Thinking about what you saw in the demonstration, what other materials could be carried by water flowing at a mine site?
3. What possible impact could this kind of erosion have on the environment surrounding the mine?
4. What are some possible solutions or plans of action that can be taken to prevent or control erosion?

Cause and Effect Tree



Draw your own lines to these boxes



Cause and Effect Tree

First incident

The first incident causes this to happen:

And it could also cause this to happen:

Because that happens, this results:

And this:

Because that happens, this results:

And this:

Draw your own lines to these boxes

That makes this happen:

Mine Reclamation

(1) What is disrupted at sites where surface mining is done?

(2) What happens to a mining site after the mining operation is complete?

(3) What are the main objectives of reclamation efforts?

(4) What are some uses of the land after it's been reclaimed?

(5) How does mine reclamation help the environment?

Laws and Regulations

(1) How does the government regulate the mining industry?

(2) What is the mission and role of Maryland Department of the Environment?

Gob Piles in Western Maryland
Baltimore Sun, December 2006 Article

(1) What is the environmental problem associated with coal mining in Western Maryland?

(2) What does gob stand for and why is it toxic?

a. What is the proposed solution?

b. Why is the solution controversial?

(3) In your opinion, which is worse for the environment, the current situation or the proposed solution? Support your response.