

# Coal Mines of Kentucky



**Recommended Grades:**

K-8



**Time Needed:**

15-20 minutes

## Description

- Students will learn about mines in Kentucky and their environmental impact.

## Learning Objectives

- Learn the locations of coal mines across Kentucky
- Understand how pollution from nearby mines can impact neighboring areas
- Use spatial thinking to help understand the spread of pollution

## Materials

- Orange cones or chips
- Chains
- Lanyards

## Preparation

- Review the locations of coal mines in Kentucky on the accompanying map and compare their locations to the power plants and/or discuss what areas would be affected by pollution from the mines. (This lesson is recommended to be done with the coal power plants, but can be done independently as well)

**Rules: (e.g., have students remove shoes before walking on map)**

## Directions

1. Divide the class into four groups and assign them a team: red, blue, yellow, or green. Pass out lanyards and have each team go to their Base Camp (the corresponding colored circles in each corner of the map).
2. Introduce the topic. Talk to the students about coal mines in Kentucky. The following facts may be useful in introducing the topic:
  - Coal was discovered in Kentucky in 1750.
  - Most coal mines are less than 1000 feet deep, but Kentucky has some that are over 1500 feet.
  - Mining coal can cause erosion and loss of habitats.
  - The mining of coal causes acids and heavy metals to seep into ground and surface water.

- There are two types of coal mines: surface mining and underground mining
- 3. Have four students come up at a time (one from each team) to receive a poker chip or cone. Show them a coal mine on the provided map and have them mark that location as closely as they can with the poker chip or cone. Repeat this with four more students until all locations are marked. Make sure that the markers are placed in their correct approximate locations.
- 4. Once all mines have been marked, talk to the students about how water pollution can travel away from mines and affect nearby areas.
- 5. Next, use the chains or lanyards to mark the buffer zones. You can have the students mark the zones around the mines that water pollution has the potential to reach that correspond with the zones on the provided map.
- 6. Once the buffer zones are marked, give the students an opportunity to carefully walk around the map and observe the different areas that could be affected by mines.
- 7. Ask the students to identify the town your school is in on the map. Are there any mines near your town?
- 8. Ask the students, or point out yourself, any large cities that are close to coal mines.
- 9. Conclude by asking the students if they have any questions about the map/mines and how do the locations of the mines compare to the power plants.

**Connections to the Kentucky Curriculum:**

4-Ess3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.