Supplies

Introduction Presentation

Mining and the Environment PowerPoint Presentation
Presentation capabilities

Mining History and Methods Research Activity

History and Social Aspects of Mining Worksheets (1 per student in this group)
Surface Mining Worksheets (1 per student in this group)
Underground Mining Worksheets (1 per student in this group)
Milling and Processing Worksheets (1 per student in this group)

Mining History and Methods Resource List (1 per student)
Note that many of the books listed in the resource list for this activity can be checked out at the public library; others may be available to borrow from CUSP staff.

Acid Mine Drainage and Dissolved Oxygen Lab

One of two interfaces, PASPORT or Science Workshop, can be used for this lab. Supplies will differ based on the interface chosen.

PASPORT Interface

Dissolved Oxygen Sensor with soaker bottle PS-2108
Xplorer GLX PS-2002 or other PASPORT Interface
Distilled or deionized water
1 mL each of 2-M sodium sulfite solution and 2-M sodium nitrate solution
Clamps and lab stand as needed to suspend sensor in solution
2 600-mL beakers
Large and small graduated cylinder (or pipette)
Stirring rod
Wash bottles for rinsing sensors
Optional: magnetic stir bar setup
2-M sodium sulfite solution (25.2 g Na_2SO_3 / 100 mL)
2-M sodium nitrate solution (17 g $NaNO_3$ / 100 mL)
Large bottle or aquarium pump to aerate water
Optional: pH Sensor PS-2102

Science Workshop Interface

Dissolved Oxygen Sensor with soaker bottle CI-6542
750 Interface, USB CI-7650 or other ScienceWorkshop Interface
Distilled or deionized water
1 mL each of 2-M sodium sulfite solution and 2-M sodium nitrate solution

Clamps and lab stand as needed to suspend sensor in solution
2 600-mL beakers
Large and small graduated cylinder (or pipette)
Stirring rod
Wash bottles for rinsing sensors
Optional: magnetic stir bar setup
2-M sodium sulfite solution (25.2 g Na_2SO_3 / 100 mL)
2-M sodium nitrate solution (17 g $NaNO_3$ / 100 mL)
Large bottle or aquarium pump to aerate water
Optional: pH Sensor CI-6507A