

Investigation 5: Mineral Exploration

This investigation will help you to:

- Learn more about shallow ore deposits/mining.
- Learn more about deep ore deposits/mining.
- Learn more about gravity method.
- Learn more about magnetic method.
- Learn more about seismic method.
- Learn more about economic value of minerals.
- Learn more about mineral explorations.

To learn more about shallow ore deposits/mining, visit the following web sites:

Methods of Mining, **Kentucky Geological Survey, University of Kentucky**

Provides information on the various aspects of surface mining methods.

To learn more about deep ore deposits/mining, visit the following web sites:

Discovering Australia's Mineral Deposits, **Australian Academy of Science**

Read this article to learn about techniques used for mining deep ore deposits

Mining and Mineral Resources, **USGS**

Discover the locations of the most common metallic minerals mined in the world, such as copper, gold, silver, lead, and zinc by visiting this site.

To learn more about gravity method, visit the following web sites:

Gravity Method, **New Jersey Geological Survey**

Are you curious how the gravity method is used? Then follow this link to find out. Also, view actual data driven by a gravimeter.

The Gravity Geophysical Method, **NM Bureau of Mines and Mineral Resources**

This site provides information on the general use of the gravimeter. Learn how this instrument is used on the surface of the moon.

Also view data derived from this instrument regarding the densities of lunar rocks.

To learn more about magnetic method, visit the following web sites:

Magnetic Method, **New Jersey Geological Survey**

Magnetometers are important tools for locating minerals. Explore this site to learn how these are used.

Magnetic Method, **Geovision**

Scientists uncover buried iron objects using the magnetic method. This site provides a good overview of how this method works.

To learn more about seismic method, visit the following web sites:

Seismic Methods, **New Jersey Geological Survey**

Find out how acoustic waves propagating through the subsurface of the Earth can reveal important data for determining locations of mineral deposits. This site explores seismic refraction and seismic reflection methods.

To learn more about economic value of minerals, visit the following web sites:

Mineral Industry Surveys (MIS), USGS

This site offers periodic statistical and economic publications on production, distribution, stocks, and consumption of significant mineral commodities. These publications are issued monthly, quarterly, or annually for commodities and annually for various states and countries. You can search the Alphabetical Index for a particular mineral or the entire list of minerals.

International Minerals Statistics and Information, USGS

The USGS provides information on the mineral industry of other countries. This site offers links to yearly data, as well as mineral location maps for a variety of countries within the following regions: Africa and the Middle East, Asia, the Pacific, Europe, Central Eurasia, North America, Central America, the Caribbean, and South America.

- International Maps
- International Data

To learn more about mineral explorations, visit the following web sites:

Mine Life Cycle Activities,

Canada's Natural Resources, Minerals and Metals Sector

This site informs users on the mining cycle, beginning with exploration and feasibility and continuing through operations, to the closure of the site.
