

(S1) The costs and Benefits of Mining Minerals

TODAY'S DATE

EQ: What is a mine and what does the process of mining involve?

two main types of mining:

- surface mining

> in U.S. most minerals are removed from the ground by open-pit mining

> good when ore is very large + close to surface

> original topsoil is stored for reclamation

→ Spoil (overburden + other waste material removed in mining, quarrying, dredging, or excavating) is stored elsewhere for reclamation;

> ore is transported for refining

> common resources taken include gravel, coal, phosphate, iron ore, and sand

- underground mining

> done when mineral resources are deep beneath surface or when ore has irregular geometry

> mineshafts may be vertical, horizontal, inclined, or corkscrew shaped

> tunnels are horizontal or close to horizontal

Concerns:

- When overburden (rock material that overlies a mineral deposit and must be removed prior to mining) is removed = destroys ecosystems

- dissolved chemicals from the now exposed rocks + minerals = can pollute surface and groundwater

- worker safety