

# Utah Copper

Name \_\_\_\_\_

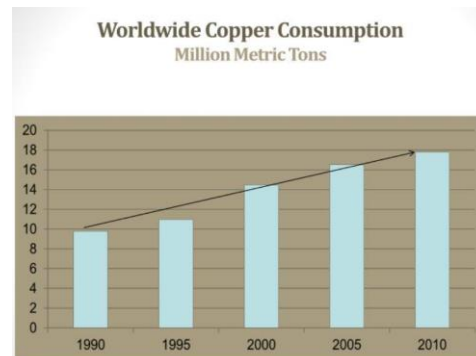
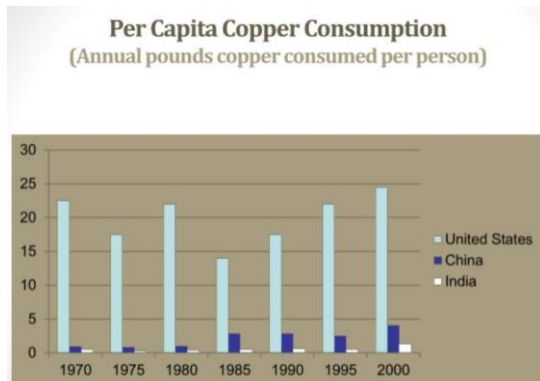
Phenomenon: Study the phenomenon pictured. Ask three questions about what you see.

- 1.
- 2.
- 3.

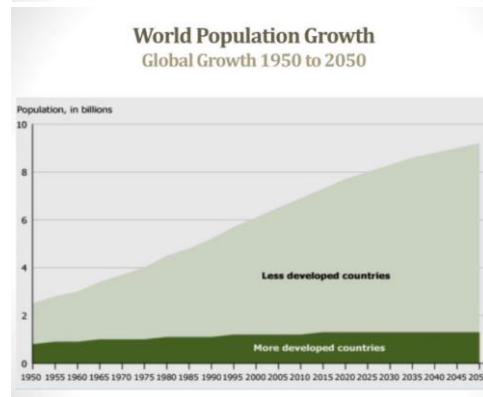
## Background information:

Copper is a valuable and important metal, supporting many modern devices, energy grids and even our money supply (pennies). The Bingham Canyon Copper Pit was created to meet consumer demand for copper. Pit mining disrupts the surrounding environment and leaves visible scars on the land. In this activity you will **engage in an argument** supported by evidence about the environmental impacts of per capita consumption of copper. (Enlarged images available at the end of the document.)

## Information about Consumption of Copper:



- 8 Challenges in Development of Mineral Resources**
- Growing Populations
  - Growing per Capita Mineral Use
  - Physical Availability of Minerals
  - Competition for Land
  - Competition for Water
  - Competition for Energy
  - Biosphere's Capacity to Absorb Mineral Waste
  - Technology Development



**Copper Industry Demand Issues**  
Global Growth

**Downward pressure on demand**

- Wireless technology
- Substitution
- More efficient construction
- Overbuilt infrastructure in Western world

**Upward pressure on demand**

- Infrastructure in developing world
- Growing world population - 9.2 billion by 2050
- Rising living standards in Asia
- Infrastructure rebuilding in US/Europe
- Alternative energy (solar, wind, electric cars)

<https://www.slideserve.com/may/santa-cruz-project-pinal-county-arizona>

**Copper Mining and the Environment:** Internet research and suggested sites:

[Copper Mining and Production Wastes \(EPA\)](#)

[How Metal Mining Impacts the Environment](#)

[World Atlas](#)

[The Environmental Impact of the Mining Industry](#)

[Copper Alliance Copper Recycling](#)

[Sustainable Copper](#)

[RioTinto Kennecott](#)

Your claim: Choose an environmental impact of copper mining. Develop a statement relating per capita consumption to that environmental impact.

Your evidence: Use statements from the internet research you performed to support your statement. Cite your sources.

Your reasoning: How can the need for copper balance with the mining processes?

# **Copper Industry Demand Issues**

## **Global Growth**

### **Downward pressure on demand**

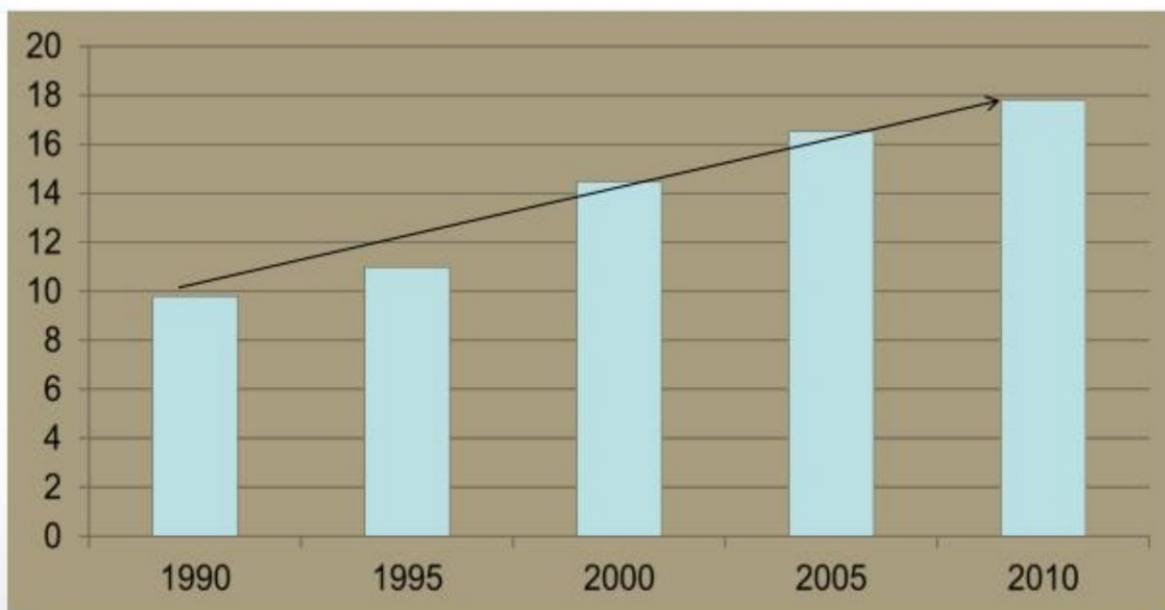
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### **Upward pressure on demand**

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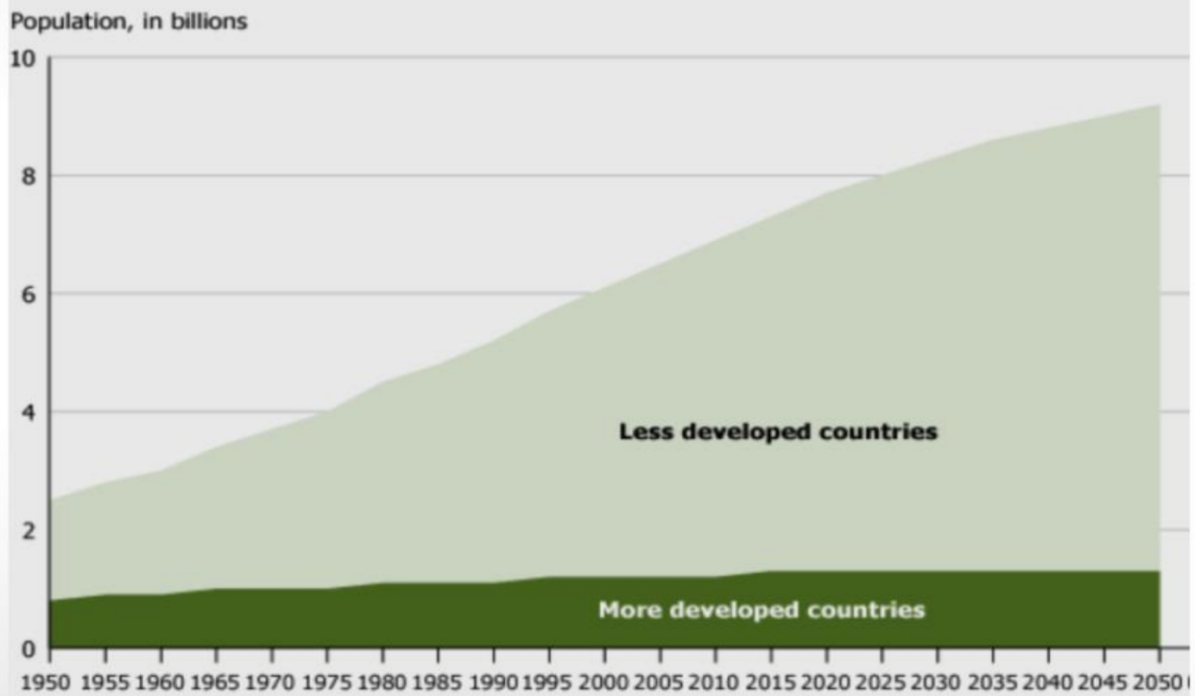
## Worldwide Copper Consumption

Million Metric Tons

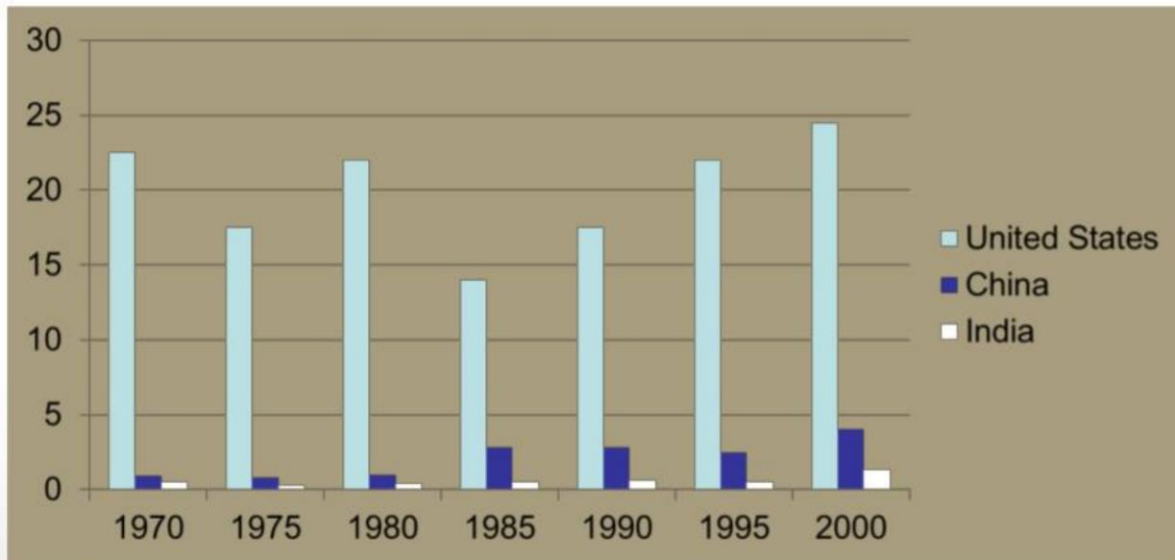


# World Population Growth

## Global Growth 1950 to 2050



## Per Capita Copper Consumption (Annual pounds copper consumed per person)



## **8 Challenges in Development of Mineral Resources**

- Growing Populations
- Growing per Capita Mineral Use
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- Technology Development