**Guided Notes: Metal Resources**

Metal resources are \_\_\_\_\_\_\_\_ to modern life, but their availability and accessibility vary, requiring sustainable management strategies.

**Key Concepts:**

• Smelting is the process of extracting metal from an ore by \_\_\_\_\_\_\_\_ and melting it.

• Aluminum:

- Most common metal in Earth's crust

- Highly \_\_\_\_\_\_\_\_, rarely found as pure metal

- Extracted from \_\_\_\_\_\_\_\_ ore through strip mining

- Refined using the Hall-Héroult process involving \_\_\_\_\_\_\_\_

• Copper:

- Found in both pure form and \_\_\_\_\_\_\_\_

- Mined through open-pit and underground methods

- Refined using \_\_\_\_\_\_\_\_ to remove impurities

• Tin:

- Highly resistant to \_\_\_\_\_\_\_\_

- Often used in \_\_\_\_\_\_\_\_ with other metals

- Less abundant than aluminum or copper

• Metal resources are \_\_\_\_\_\_\_\_, leading to concerns about future availability

• Sustainable management solutions include:

- \_\_\_\_\_\_\_\_

- Finding substitute materials

- Improving mining and refining \_\_\_\_\_\_\_\_

**Real World Examples:**

1. Smartphones: Contains various metals like aluminum, copper, and tin. Consider how the availability of these metals affects the \_\_\_\_\_\_\_\_ of your phone.

2. Recycling bins: The metals in your recycling bin can be reprocessed, helping to conserve \_\_\_\_\_\_\_\_ resources.

**Word Bank:**

essential

heating

reactive

bauxite

electrolysis

ores

electrolysis

corrosion

alloys

finite

recycling

efficiency

cost

natural