**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