Phytomining: cloze

Learning objectives

1. Use key words associated with phytomining.
2. Describe how plants can be used to extract metals from low grade ores.

Introduction

In today’s high-tech society, there is an increasing need for valuable metals to use in computers and mobile phones. This worksheet will enable you to identify the key words to describe the process of phytomining and understand how plants can be used to extract metal.

Use the words from the word bank to complete the following sentences:

**Word bank**

ash  burnt

concentrated  displacement

electrolysis  high grade ore

hyperaccumulators  low grade ore

phytomining  roots

Large scale extraction of minerals (metal compounds) from the earth to make metals using traditional mining techniques is only cost effective when there are high concentrations of the mineral in the ground. We call such a mineral, a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When there are only small amounts of mineral in the ground, called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then a process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, involving growing plants, is economic to use.

Plants called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are grown in soil containing the low grade ore minerals. They absorb the minerals via their \_\_\_\_\_\_\_\_\_\_\_\_\_ and what they don't use is stored and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in their leaves. When the plants are big enough, they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_in air and the impure metal compound is found in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Chemical processes such as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are used to then purify the metal from the ash.