



# DIG INTO MINING

## THE STORY OF COPPER

## The Hunt for Copper

### Background

Almost every single item used by humans contains minerals and metals that came from a mine somewhere around the world. Throughout history copper has been used in jewelry, mirrors, coins, medical equipment, and art and in alloys to make bronze tools and sculptures. Copper is estimated to have been used by humans for 10,000 years!

Copper is found in our body, some plants, rocks and soil, and even some animals. It is an important natural resource. It has unique properties, such as being a natural antibacterial, recyclable, and an essential part of our diets. Copper is used for electric wiring, electronics, household pipes, cooking pots, coins, and jewelry. Copper is also combined with other metals to create bronze and brass.

### Start

You might think that if copper is so important, it must be all around us. You're right! Copper is often hidden away in our electronics and behind walls. It is also often found as an alloy. An alloy is a mixture of metals or a mixture of a metal and element. Many examples of copper can be found every day taking transportation to school, in products to cook and clean, in our electronic products, and construction.

Get started by asking your child the following questions:

- What do you already know about copper?
- Do you know where copper might be in our house? In your school?

### Investigate

1. Discuss with your child that many items they use every day contain or use copper. Copper is mined from open-pit mines. It is then processed to concentrate the copper and refined for human use. Copper has many practical uses, but is also aesthetically pleasing, so it is often used in art and jewelry.
2. Guide your child to see how many items made of copper they can find in their home. The kitchen might be the best place to start looking!
3. Use the following clues to find examples of where copper might be found in your home:
  - Copper is an excellent conductor of electricity.
  - Copper is not likely to react with chemicals to form a reaction.
  - Copper alloys include brass and bronze.



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4. If necessary, use the Internet to search for common uses of copper. Additionally, the following are some helpful hints:
- Door knobs
  - Light switches
  - Water pipes
  - Sink faucets
  - Computer
  - Handheld games
  - Oven
  - Washing machine
  - Coins
  - Pesticides
  - Utensils
  - Phones
  - Vacuum cleaners
  - Pots and pans
5. Help your child document his or her findings using a mobile device or digital camera. Once your child identifies an object, invite him or her to take the picture from an unusual angle that might not be immediately recognizable. For example, see the image below. This was taken using a cell phone's zoom feature. Ask your child to try and identify the image below. Reveal that the answer is the Statue of Liberty. The Statue of Liberty is copper-plated.





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## Share

1. Help your child post on Twitter or Instagram the images they took. Use the special hashtags **#TheHunt4Copper** & **#DigIntoMining** so that other families participating in the challenge can find your child's images.
2. Help your child search for the hashtags **#TheHunt4Copper** & **#DigIntoMining** and guess the items posted by others.
3. Help your child comment on the images posted by others to register an idea about the identity of the object in the image. Bonus: Note if it is refined copper or a copper alloy!

## Discuss

Discuss with your child what your lives might look like without copper. What types of items would you have to live without? Through this discussion, point out applications you might not have observed in your home such as cars, airplanes, bridges, and foods like nuts and seeds.

## Next Steps

Use the Internet to look up other uses of copper that might not be as obvious, such as foods and famous landmarks. Consider going outside to find examples in transportation or construction (but be sure everyone stays safe!). See if there are opportunities to visit these sites and take some additional images to share on Twitter or Instagram. Use the hashtags **#TheHunt4Copper** & **#DigIntoMining**.

### Works Cited

<http://www.gsa.gov>

<http://minerals.usgs.gov/>