

Reading About Recycling:



Aluminum



It's not quite as quick as flipping a top, but aluminum is one of the easiest materials to recycle. Did you know:

- About 33 aluminum cans weigh a pound.
- A used aluminum can is recycled and back on the grocery shelf in as little as 60 days,
- In 2010, the United States recycled enough aluminum cans to save the energy in 26 million barrels of gasoline. That's how much gasoline we use in three days.
- Since 1880, we've used about 700 million tons of aluminum. About 75 percent has been recycled and is still in use.

Aluminum is a nonferrous metal (iron and steel are ferrous metals.) On the Periodic Table it is in group 13 under boron, but its properties are more like the other elements in that group. It is the third most abundant element in Earth's crust, mined in countries like Australia, India, Jamaica, and China.

Aluminum is light and resistant to corrosion. It's easy to anodize--covering it with colorful surface materials for special purposes. So it can be used over and over again. Like copper, lead, nickel, tin and zinc, aluminum doesn't degrade or lose its properties when it is recycled.

You can find it in cars, buses and planes, in siding and batteries, table and cookware, on rooftops, and under the sea. Even though aluminum makes up only a small percentage of the things people recycle, it provides about half of the earnings for the scrap industry. That's because it's valuable and easy to re-use.

Recycling doesn't just save money and energy; it saves the environment. Aluminum comes from an ore called bauxite. To get it from the ground, workers strip mine. That means they remove plants, rocks, and soil. While they are mining erosion can occur. Valuable topsoil can be lost. After it's mined, the bauxite is processed into alumina by a process called hydrolysis. That requires water and energy.

Recycled aluminum is used in more than 100 countries. When we re-use aluminum to make a new product, the quality is identical to the same product made from ore that was never used before. These products are competitive, environmentally friendly, and energy efficient.

5 B BORON 10.811	6 C CARBON 12.011	
13 Al ALUMINIUM 26.981	14 Si SILICON 28.085	
30 Zn ZINC 65.38	31 Ga GALLIUM 69.723	32 Ge GERMANIUM 72.63
48 Cd CADMIUM 112.414	49 In INDIUM 114.818	50 Sn TIN 118.710
80 Hg MERCURY 200.59	81 Tl THALLIUM 204.38	82 Pb LEAD 207.2

Comprehension Questions:

1. Name two properties of aluminum that make it valuable: _____

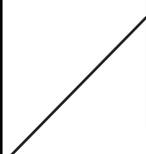
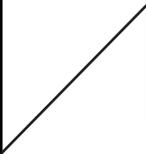
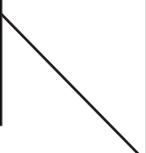
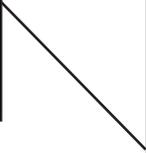
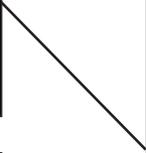
2. What other metals would be classified as nonferrous? _____

3. Give the symbols of two elements that would have properties similar to aluminum: _____

4. In the last sentence, what do we mean when we say a new product is "competitive?" _____

5. Use the diagram on back to show what it takes to transform a used aluminum can into a new product (don't just think about materials; think about what people need to know and do, too).

Used can



New Product