Aluminum

What is used to make the blade of a figure skate??

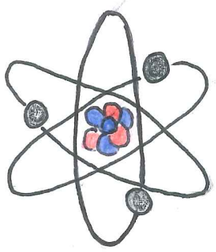
ALUMINUM!

DID YOU KNOW?

Aluminum is the 3rd most abundant element!

What is Aluminum?

Aluminum contains 13 protons, 14 neutrons. It is lightweight, silvery-white, soft and malleable. It is used for a variety of things such as foil, cans, kitchen utensils, and window frames. It is also used as a alloy, it is a good electrical conductor used in electric transmission lines.



13 | 26.98

Al

Aluminum

Where in Canada?

Unfortunately, there are no bauxite mines in Canada. But Canada produces aluminum from smelters. Northern Aluminum Company (Alcan Aluminum LTD) established smelters and refineries in Quebec / B.C. Canadian British Aluminum Company established a smelter in Baie-Comeau Que. Aluminerie de Beauharnois, Aluminerie Jonquière and Aluminerie Alouette were companies also in Quebec.

Extraction

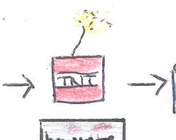
Aluminum is made out of bauxite, bauxite is mined through a mining process called open cast mining. First they have to clear away the vegetation and the top soil. Under the topsoil is overburden and under that is the bauxite. It is then broken up with explosives and placed in trucks and trains by powerful mechanical diggers.

Process

After the bauxite is mined it is then sent to a processing plant where certain things are removed, such as water (bayer process). The bayer process refines bauxite into alumina by mixing sodium hydroxide and water at a high temperature and pressure. It is then drained into tanks where it is filtered out. The extra liquid is then cooled. When it is cooled aluminum hydroxide and crystals form. The crystals are washed and heat dried in ovens at high temperatures. The alumina is sent to refinery's and is first poured into reduction cells. Inside is molten cryolite and it dissolves the alumina. A electric current flows through the mixture, it reacts with the carbon dioxide, creating aluminum. The carbon dioxide molten aluminum sinks to the bottom and is taken out.

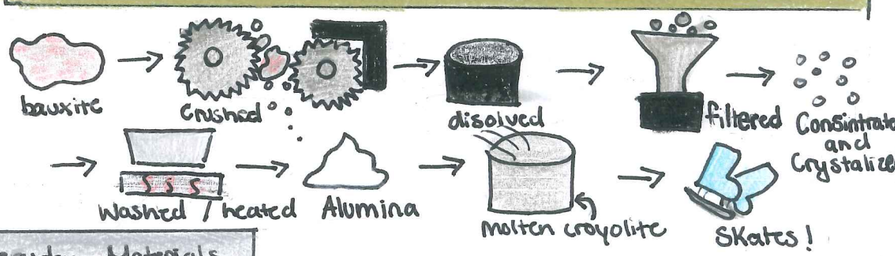
Preparation of mining area

Mine the bauxite



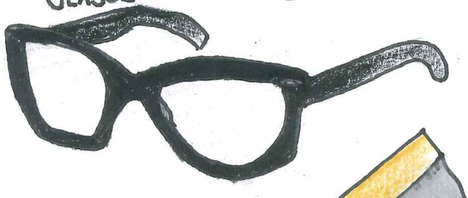
Brocken up with explosives

Placed in trucks



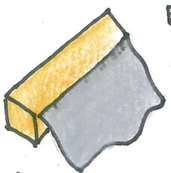
Everyday Materials

GLASSES FRAMES

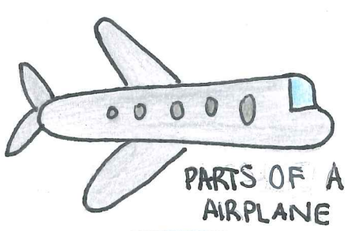


POP CAN

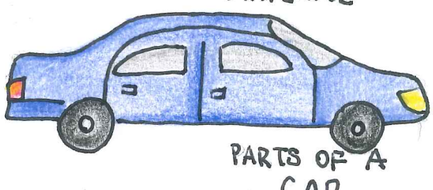
BASEBALL BAT



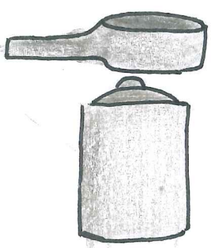
Aluminum Foil



PARTS OF A AIRPLANE



PARTS OF A CAR



POTS AND PANS

DID YOU KNOW?

Our body is made out of aluminum! (0.00008%)