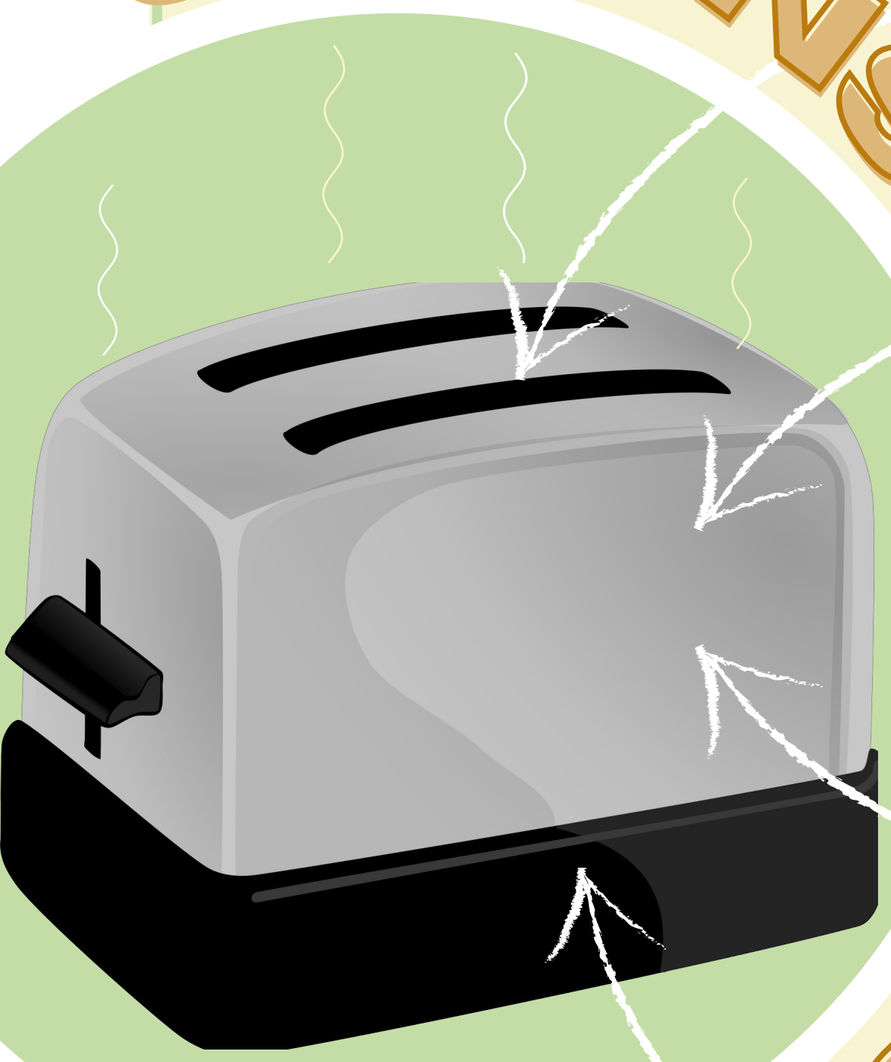
ORIGINS of the TOASTER!!!



WHERE CHALLENGE 2

COPPER (pins of the plug + wires)

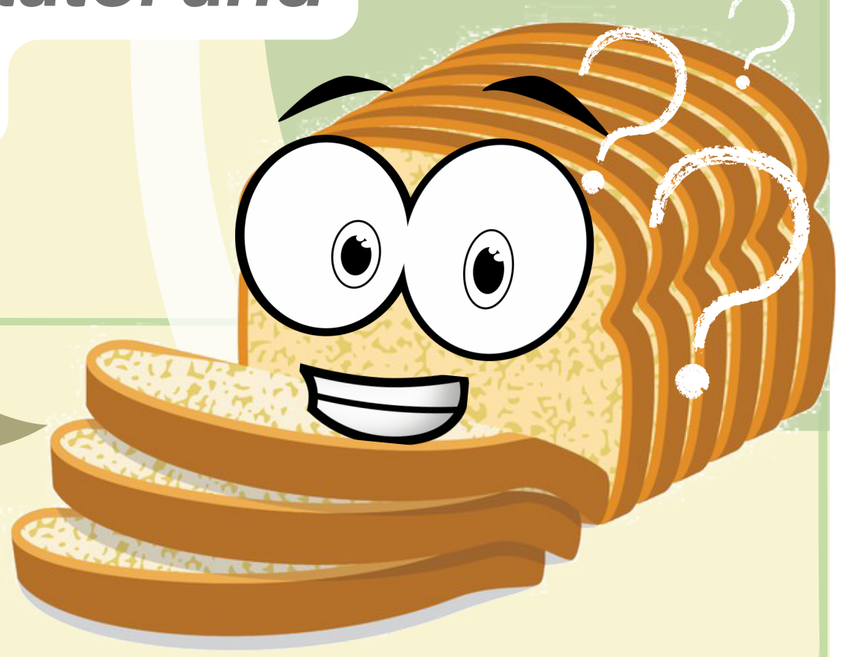
PLASTIC (casing)

-- Crude oil, coal and natural gas.

NICHROME (wires)

-- An alloy of iron, nickel, and chromium.

MICA (insulator and capacitor)



"What are some non-renewable resources used in toasters?"

NICHROME WIRES:

- **Iron *(Fe)***

Iron is found in various countries around the world such as Australia, Brazil, China, and even in Canada. The top three iron mines in the country are in Quebec, Newfoundland and Labrador, and Nunavut. 98% of Canada's iron is used to make steel, while the remaining 2% is used for other purposes. That being said, Canada was ranked as the eighth largest iron producer in 2020.

The production of iron includes using a blast furnace or by direct reduction. As a result, iron oxides in the iron ore will be reduced, converting it to liquid iron.

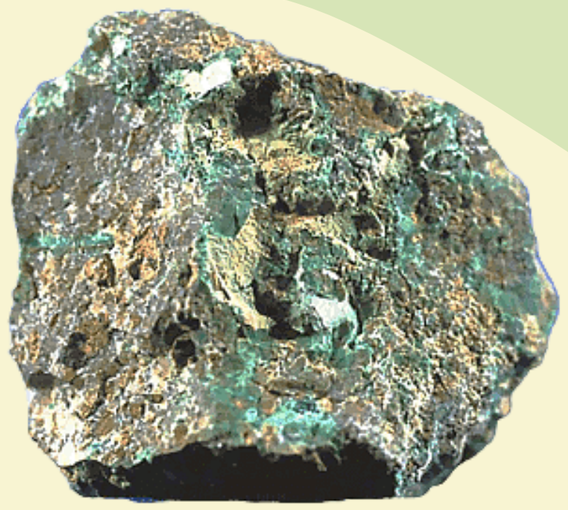
- **Nickel *(Ni)***

On a global scale, nickel is found in Australia, Indonesia, South Africa, Russia, and Canada. Nickel mines in Canada can be specifically found in Ontario, Quebec, Newfoundland and Labrador, and Manitoba.

There are two types of ores where nickel can be discovered-- sulfide and laterite ores.

CREATED BY: GABBY YABUT

"What's the difference?"



Sulfide ores are easier to process and may be reduced using pyrometallurgical techniques. This includes heating metal oxide with coke or another reducing agent.

Laterite ores demand intensive hydrometallurgical processing. This involves combining chemical compounds such as oxygen and water to extract metals from ores.

In the production of nickel, procedures such as conventional roasting and reduction processes are used. This produces a metal with a purity of 75% or above.

Nickel is also used in other items such as mobile phones and coins!

- **Chromium *(Cr)***

Chromium is discovered in the mineral chromite. Chromite can be found in a number of countries, including South Africa, the United States, Turkey, the Philippines, Russia, and Canada. Chromite is mined in Northern Ontario's Ring of Fire, particularly in the James Bay Lowlands near McFaulds Lake.

In an electric arc furnace, chromium(III) oxide is reduced with aluminum, silicon, or carbon to generate chromium.

DID YOU KNOW?

Chromium is one of the hardest metals on the planet. It is also used to form alloys like stainless steel, which contains 75 to 85% chromium.

" Is the production of this item sustainable? How could it be more eco-friendly?"

Fortunately, toasters, regardless of their manufacturer, are incredibly energy efficient and consume little power. However, it has been revealed that when a toaster is turned on it immediately releases harmful particles into the air so it's best to turn it off and unplug it after use. Toasters also tend to get discarded when it's full of old charcoaled bits of bread, resulting in the item ending up in landfills. So instead of disposing of your current toaster, it’s best to take it to your local recycling centre to be recycled, or clean it up then donate it to your local thrift store. By doing so, you're not only making toasters more eco-friendly, but you’re also increasing its sustainabilit!

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p.s: other images (like me) are from canva itself!

CHALLENGE WHERE