

YouTube link: <https://www.youtube.com/watch?v=tX986j2KpKI>

Script:

[Intro - table fading in]

[Display in]

One of the most crucial parts of a laptop is the display. I trust that during this Covid pandemic, we use it almost all day long.

[Display → quartz lead gallium]

Silicon, which is quartz, lead, and Gallium are three main metals used in LCDs, the kind of display on this disassembled laptop.

[Galena → Lead]

The main source of lead is Galena, which contains lead and silver.

[Lead → Battery]

Some older batteries are made of lead; however, most laptop batteries are made from lithium.

Here's a map of lead mines in Canada. Lead is almost never mined alone, and usually it comes with zinc or silver.

[Shell in]

Here's the laptop's outer shell. It is most commonly made out of aluminum, but some premium laptop shells are made of magnesium. Aluminum is the most abundant metal in Earth's crust, whose principal ore is bauxite.

[Smelting → Aluminum, Mining x → Bauxite (with Canada flag)]

Canada has many refineries for bauxite; however, there are no Aluminum mines in Canada. The bauxite is imported from France, Germany, Jamaica and the U.S.

If you have a protective case for your laptop, it is most likely made out of plastic, which is basically long polymer chains made from fossil fuels and salt.

Another heavily used component is the Input/Output board, which houses many ports you can plug accessories into. Two of the most important minerals in this portion is copper and zinc, from chalcopyrite and sphalerite, respectively. As one of the cheapest and most conductive elements, copper is used in many electric wires. Copper and zinc alloyed makes brass, used in many USBs. Here's the location of copper and zinc mines in North America - the Rocky Mountains houses quite a bit of both!

[Board in the same way as other items]

Now we come across the brain of the computer - the motherboard, CPUs and GPUs. Its main elements include Silicon, Copper, Aluminum, Tantalum, and Palladium. Tantalum has a high melting point; therefore, it is used in many high temperature applications, such as in jet engines, ~~while palladium is used in ceramic chip capacitors, the most common type of small capacitor (no time).~~

[Picture of recycle %]

These materials I have mentioned are all non-renewable. They can't be produced by humans and only a limited amount of minerals exist on Earth. Here's approximately how much of each

metal is recycled, according to the UN resource panel. As you can see, there's still many metals that we don't yet know how to recycle!

[Citations roll, ending]

This is not a full list of materials for the laptop. A computer uses more than half of the elements in the periodic table.

Please do not disassemble your laptop.

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