

Phoebe Duncan

Materialistic

What is the iPhone Made of?



Materialistic iPhone

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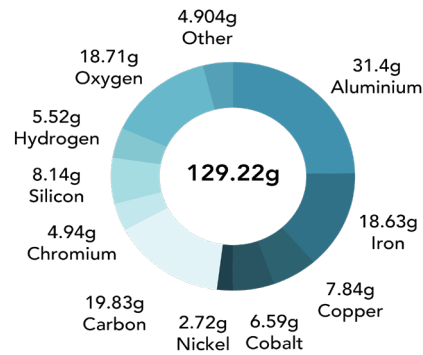
The Apple iPhone is actually a composite of many elements, this consists of metals, rocks and other raw materials from our earth. While the percentage of materials used varies between the iPhone 6, 7, 8, and X, they all contain most of the same elements - about 30 materials or less.

According to the VICE article written back in 2017, the materials present in the iPhone 6 are:

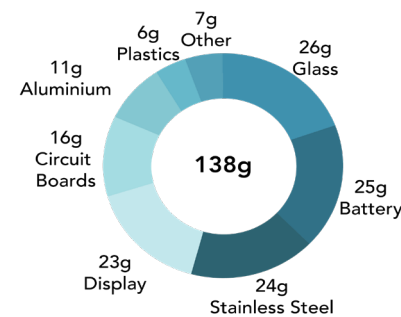
Aluminium, Arsenic, Gold, Bismuth, Carbon, Calcium, Chlorine, Cobalt, Chrome, Copper, Iron, Gallium, Hydrogen, Potassium, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Oxygen, Phosphorus, Lead, Sulphur, Silicon, Tin, Tantalum, Titanium, Tungsten, Vanadium, Zinc.

The materials of the iPhone has changed over the past couple of years, becoming more friendly and less hazardous with the removal of certain elements. The biggest change was between the iPhone 6 and the iPhones 7, 8 and X. Phone 6 weighs at around 129 grams and contains the most materials out of all four of them.

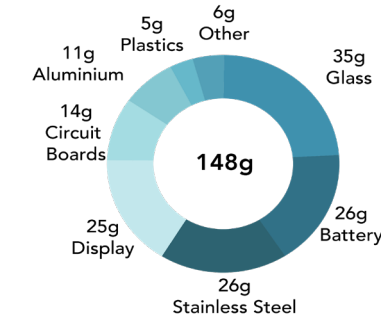
MATERIALS PRESENT IN THE IPHONE 6



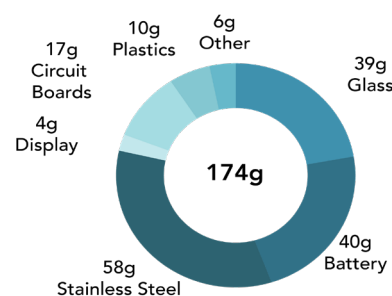
COMPONENTS PRESENT IN THE IPHONE 7



COMPONENTS PRESENT IN THE IPHONE 8



COMPONENTS PRESENT IN THE IPHONE X



It is also important to note that the iPhone 7, 8 and X were also made to be free from arsenic in the display glass, BFR, PVC, Beryllium and Mercury from the LED backlist display. This makes the more recent iPhones safer for us and the environment.

As of 2019, Apple has about 200 top suppliers and manufacturers for their products. In their Environmental Report September 2019 PDF they list their 200 suppliers and their manufacturing locations in about 25 countries.

These countries are the U.S, U.K, China, Japan, Korea, Taiwan, Germany, Netherlands, Thailand, Belgium, India, Vietnam, Indonesia, Phillipines, Austria, Switzerland, Singapore, Mexico, Malaysia, Israel, Ireland, Brazil, Czech Republic and Italy.

Out of all of these countries, the U.S, China, Japan, Korea and Taiwan have the most manufacturing locations - with China having the highest, and Japan being second.

Apple's major suppliers are Hon Hai Foxconn, Pegatron, Wistron, Geotrek,

Luxshare, Qualcomm, Intel, Murata Manufacturing Ltd., and Samsung.

It is important when discussing about the iPhone to understand that it is the components that make up the iPhone are manufactured and that Apple doesn't manufacture its components.

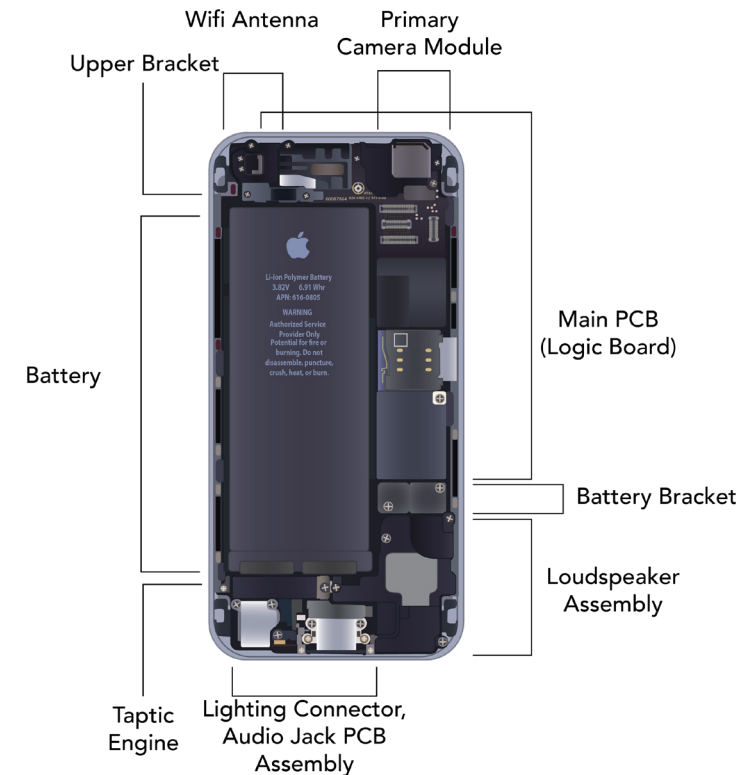
In order to create the iPhone, Apple uses their massive amount of manufacturers and suppliers from around the world to deliver specific components for the phones. These manufacturers specialise in certain parts. After these parts are built, they are sent to a facility such as the ones run by Foxconn in Zhengzhou, China. Each iPhone takes 400 steps to be assembled, this includes polishing, soldering, drilling and fitting in the screws. Workers use diamond tools during the milling process to give a precise sculptured effect on the iPhone.

While these components are manufactured in locations all over the world, some materials come the same areas. A lot of the more valuable elements are mined in high-risk areas with no safety regulations.

Some elements, like Tungsten, Cobalt is mined in Congo. Others like tin, zinc, lead and silver are mined in the mountain Cerro Rico in Potosi, Bolivia. Rarer metals come from Inner Mongolia, China.

15,000 workers work in the mines of Cerro Rico - this includes children as young as 6 years old. Children work in these mines as they are able to reach difficult and deeper places. Due to the lack of safety regulations and the high-risk, deaths are frequent in Cerro Rico.

In order to understand how the iPhone is made, it is important to know what materials are used, where components are built, the consequences of getting these materials are and the impact it has on the environment. However, over the years Apple has become more environmentally friendly and aware of the risks involved in collecting these materials. Due to this there is a chance Apple will also seek safer, alternate options for their choice in materials.



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HIGHEST NUMBER OF MANUFACTURING LOCATIONS FROM THE TOP FIVE SUPPLIERS

