



# Headphones

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Watch out because you're about to get  
your minds blown - with our logic!





# What are Beats headphones made of?

## Minerals found in beats headphones.

- Copper, lithium, aluminum, zinc, talc

## Where are these minerals found?

~ Copper is a reddish chemical element that it is used in wires

~ Lithium ion can be found in a battery

~ Aluminum is soft mineral, but when mixed with other metals can be very strong and used to make parts for cars and airplanes.

~ Zinc is called “essential” mineral because it is present in our bodies and is required for healthy living. Zinc as metal can be obtained from ores - sphalerite, smithsonite, hemimorphite, willemite, and hydrozincite

~ Talc is a clay mineral; when combined with corn starch it is used as baby powder

~ Iron is another essential mineral; it is found in our bodies and Earth core

# Where are these minerals found in the world?

~ Copper can be found in Chile, Peru, China, USA and Australia

~ Lithium is mining in Chile, China, Argentina and Australia it

is produced by Russia, China and Canada

~ Zinc is produced by China, Peru, USA and Australia. In Canada zinc~

Aluminum can be found in Manitoba, Ontario, Quebec, BC and New Brunswick.

~ Talc is found in the USA, Brazil and China.

~ Canada is one of the largest producer of Iron ore in the world



# How Beats Headphones Are Manufactured

A machine that injects plastic into mold to form the back covers of the headphones that will let sound waves through so the sound doesn't reflect back into the headphones. A different machine will wind copper wire around a cylinder lots of times to make a very important part of the headphones for hearing sound. (Voice coil) When the headphones are plugged in they become magnets by a signal. The signal vibrates a part called the diaphragm that makes sound. The diaphragm is made by a machine that uses heat and pressure to form a piece of plastic into a circular shape. The same machine molds the plastic diaphragm thicker in the middle and thinner on the outside to make the music sound clear and realistic. A worker places the copper voice coil in a device that helps them build the headphones exactly so they can glue the diaphragm with the voice coil.



## How Headphones Are Manufactured-2

Ultraviolet light turns on the glue to seal the coil to the diaphragm. The plastic part of the headphones that cover your ear each have a magnet.

A different worker installs the diaphragm and voice coil on the plastic part that covers your ear. This takes skill because the voice coil must be carefully positioned for the best sound quality.

The headphones are ready for an audio check. A worker tests the headphones how the audio works and to make sure it sounds amazing.

Then the worker puts the diaphragm in its place and uses glue to stick the copper voice coil inside the headphones.

# Who Invented Beats Headphones?

Beats headphones were invented in 2008 by Dr. Dre

Dr. Dre is American rapper, songwriter, record producer and actor. His real name is Andre Romelle Young. Andre Young first took the stage name Dr. Dre in the early 80's.

After first Beats were produced Apple purchased rights for Beats from Dr. Dre for \$3 billion in cash and stocks.





## LIVE DEMO

Now we are going to  
show you Gabriela's own  
Beats headphones!







Thanks for listening to our presentation on  
headphones!

Questions?



# Sources of Information

“How its Made” -Video - (June 28, 2016)

<https://www.youtube.com/watch?v=TcFbTdeC2DQ>

## Websites (School Learning Commons)

Britanica

Pebble Go

Brain pop

Prezi