**Outline**

Hello! As you can see, I have a lightbulb here with me. This little guy lights up my life, like, literally. I bet you don’t know what materials it’s made out of. Let me enlighten you.

The filament inside is made out of a metal called tungsten. Tungsten (also known as Wolfram) is found inside of the ores wolframite and/or scheelite. It is a chemical element with the symbol W and the atomic number 74. Tungsten metal is a silver-white grayish color.

China is the largest producer of tungsten in the world, but tungsten can also be found in Canada! The Cantung Mine is the largest tungsten mine in Canada and is located in the Northwest Territories. It’s owned by the North American Tungsten Corporation Ltd. (NATCL). They extract the mineral using open pit mining and underground operations.

Once they get the ore, it is crushed, roasted, goes through a bunch of chemical reactions, stirred, and then is washed to become ATL (ammonium paratungstate). That powder gets poured into a mold, and then compacted into a bar. Then it goes through a machine called a SWAGer. In the swager, the wire is annealed and then drawn thinner with even MORE heat.

Yeah, we know tungsten is in lightbulbs, but what else is it used for? It’s used to make alloys (an alloy is a mixture of two or more metals with properties different from those of the individual metals). The alloys are used in mining, electrical and metal-working machinery, and construction. Tungsten is also used to make steel harder, stronger, and more flexible; in parts in aircrafts and spacecrafts; and electronics.

Without this metal, we would’ve never been able to fly like we can today, or even go to space! Isn’t that insane?! It’s also the thing inside your phone that makes it vibrate when you get a text. So you know when your friends are thinking about you.

If we never had incandescent light bulbs, which is a light source still commonly used, it would never have developed into fluorescent light bulbs, and we’d still be stuck using old lamps and candles.

As you can see, tungsten is so much more important than you probably first thought. I’m going to go light up more people’s lives now, bye!

**Reference List**

**Beatty, J. (2014). “Mining of Tungsten in Canada.” *Prezi*. Retrieved February 2, 2020**

**from** [**https://prezi.com/kmqfpbcjnk1i/mining-of-tungsten-in-canada/**](https://prezi.com/kmqfpbcjnk1i/mining-of-tungsten-in-canada/)

**Bradford, A. (2016) . “Facts About Tungsten.” *Live Science.* Retrieved February 2, 2020**

**from** [**https://www.livescience.com/38997-facts-about-tungsten.html**](https://www.livescience.com/38997-facts-about-tungsten.html)

**Metal Cutting Corporation. (2016). *Tungsten Wire 101.* Retrieved February 2, 2020 from**

[**http://metalcutting.com/wp-content/uploads/2016/03/Tungsten\_Wire\_101.pdf**](http://metalcutting.com/wp-content/uploads/2016/03/Tungsten_Wire_101.pdf)

**Newton, D. E. (2010). Tungsten. In K. J. Edgar (Ed.), *Chemical Elements* (2nd ed., Vol. 3,**

**pp. 635-639). Detroit, MI: UXL. Retrieved February 2, 2020 from** [**https://link.gale.com/apps/doc/CX3012400109/GVRL?u=ko\_k12hs\_d63&sid=GVR**](https://link.gale.com/apps/doc/CX3012400109/GVRL?u=ko_k12hs_d63&sid=GVRL&xid=b3f86d09)

[**L&xid=b3f86d09**](https://link.gale.com/apps/doc/CX3012400109/GVRL?u=ko_k12hs_d63&sid=GVRL&xid=b3f86d09)

**North American Tungsten Corporation Ltd. (2014). *Cantung Mine Site.* Retrieved**

**February 2, 2020 from** [**http://www.natungsten.com/s/Cantung.asp**](http://www.natungsten.com/s/Cantung.asp)

**Tungsten processing. (2020). In *Encyclopædia Britannica*. Retrieved February 2, 2020**

**from** [**https://school.eb.com/levels/high/article/tungsten-processing/110668**](https://school.eb.com/levels/high/article/tungsten-processing/110668)

**Tungsten (W). (2020). In *Encyclopædia Britannica*. Retrieved February 2, 2020 from**

[**https://school.eb.com/levels/high/article/tungsten/73778**](https://school.eb.com/levels/high/article/tungsten/73778)

**USGS. (2016). *A World of Minerals in Your Mobile Device.* Retrieved February 2, 2020**

**from** [**https://pubs.usgs.gov/gip/0167/gip167.pdf**](https://pubs.usgs.gov/gip/0167/gip167.pdf)

**Music**

**LAKEY INSPIRED - Warm Nights**

**youtube:** [**https://www.youtube.com/channel/UCOmy8wuTpC95lefU5d1dt2Q**](https://www.youtube.com/channel/UCOmy8wuTpC95lefU5d1dt2Q)

**soundcloud:** [**https://m.soundcloud.com/lakeyinspired**](https://m.soundcloud.com/lakeyinspired)