


Impacts of Lithium Mining

Slides:  Computing & the Planet

Preparation

- Email students the recommended reading: [Tossed Aside n the 'White Gold' Rush](#) (at least 3-4 days before the session)

- *Hi [your team name],*

I am sharing with you the article that we will be reading parts of at the beginning of our next session. It is recommended (not mandatory) to glance through it before class but make sure you save the article and bring it to our session on [date]. No worries if things don't really make sense, we will talk more about it in the next session. Hope you find it interesting, see you soon!

Washington Post Article: [Tossed Aside n the 'White Gold' Rush](#)
PDF: [Tossed Aside n the 'White Gold' Rush](#)

*Best,
[Your name]*

- Organize [discussion strategies](#) to use to facilitate conversation

Goals and Outcomes: PACE-internal

- Introduce the topic of Lithium mining being done in Chile and its impact on the environment as well as the indigenous people residing there
- Facilitate a productive discussion that allows students to think critically about the impact of the increased use of technology around the world, and how to make sourcing materials more equitable

Goals and Outcomes: Student-facing

- I will learn about the indigenous Atacamas people and the effects of Lithium mining on their communities

- I will engage in a discussion that assesses the repercussions and impacts on local communities in resource rich areas

Script

First acknowledge that it is awesome for the students if they had a chance to look at the text, and no worries if not.

Ice Breaker (5 minutes)

Facilitate a [discussion around the following question\(s\)](#), pick ones you see fit, feel free to add others:

Has anyone heard of Tesla?

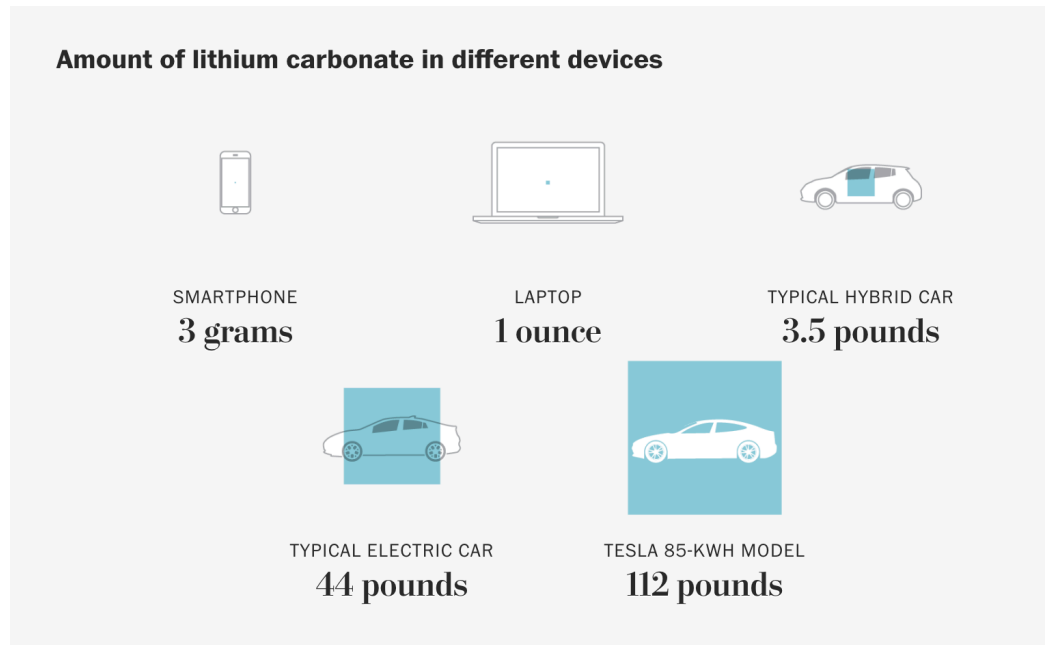
What does Tesla make?

Do you know what the batteries used to produce the vehicles are called?

---> lithium-ion batteries

As the name suggests one of the primary ingredients in a lithium ion battery, well, is Lithium.

Lithium-ion batteries also power smartphones, laptops and electric vehicles, and the popularity has increased the demand for lithium



Share Video & Discussion (5-10 minutes)

[Chile's lithium: Indigenous community fights multinational miners](#)

Facilitate a [discussion around the following question\(s\)](#), pick ones you see fit, feel free to add others:

- Is giving contracts to multinational companies vs creating a state owned lithium company favorable?
 - For the people? For which people?
 - For the environment?
 - Why / why not?

Read Background (10 minutes)

Allow students to read the following **excerpts** (pair reading, group reading, individual etc.)

- Might be useful to break them up or do discussions in between

Excerpt 1:

Mining companies have for years been extracting billions of dollars of lithium from the Atacama region in Chile, and now firms are flocking to the neighboring Atacama lands in Argentina to hunt for the mineral known as “white gold.”

But the impoverished Atacamas have seen little of the riches.

According to previously undisclosed contracts reviewed by The Washington Post, one lithium company, a joint Canadian-Chilean venture named Minera Exar, struck deals with six aboriginal communities for a new mine here. The operation is expected to generate about \$250 million a year in sales while each community will receive an annual payment — ranging from \$9,000 to about \$60,000 — for extensive surface and water rights.

...

Many in the communities also are worried that the lithium plants, which use vast amounts of water, will deepen existing shortages in the region, which receives less than four inches of rain a year. At least one of the six communities, Pastos Chicos, already has to have potable water trucked in.

Excerpt 2:

“They are taking everything away from us,” said Carlos Guzman, 44, an indigenous resident who leads a group worried about contamination and water use by the lithium mines. “These lands are ancestral. We live by this. By the fields. By our cattle. This way of life is in danger.” The lithium boom — with jobs for some, worries for others — has divided communities. It has spurred demonstrations and lawsuits. Guzman’s sister, Elva, made a protest sign that seemed to distill the fight. “We don’t eat batteries,” the hand-painted sign read. “They take the water, life is gone.”

...

Many of the communities here seem overmatched in the negotiations with the mining companies.

The Post sought to speak to several of the community leaders in the six villages who signed the Minera Exar agreement.

Yolanda Cruz, one of the leaders of the village of Catua, said she signed the contract with Minera Exar but now regrets it. At the time, she valued the opportunity to create jobs for her village. But she now worries “we are going to be left with nothing,” she said.

“The thing is that the companies are lying to us — that’s the reality. And we sometimes just keep our mouths shut,” she said. “We don’t say anything, and then we are the affected ones when the time goes by.”

Discussion Questions Excerpt 1 (10 minutes)

Facilitate a [discussion around the following question\(s\)](#), pick ones you see fit, feel free to add others:

Have students read the following excerpts:  Lithium Mining Excerpts

Excerpt 1 Questions:

- Do you think it's fair these companies are giving the local communities so little of the profit?
 - How can this be made fairer?
- Should lithium mines be allowed to mine even with fear of drought on the horizon?

Activity (10 minutes)

Have students answer the following questions on the **whiteboard**:

- How many electronics do you have?
- How many phones have you had?
 - What happens to them once you stop using them?

Feel free to facilitate some side conversations around why this might be.

Discussion Questions Excerpt 2 (10 minutes)

Facilitate a [discussion around the following question\(s\)](#), pick ones you see fit, feel free to add others:

Have students read the following excerpts:  Lithium Mining Excerpts

Excerpt 2 Questions:

- Was the poster, Guzman’s sister, Elva, made impactful? Why or why not?
 - hand-painted sign → “*We don’t eat batteries,*”
- In general the lifespan of electronics is relatively short? Why do you think this is? Do you think making more long lasting technologies would help reduce the need to mine as much lithium as we do now?

- As individuals this issue is much bigger than us, however there are little things we can do? What can we do?
 - Reduce/Reuse/Recycle
 - Keep phones longer (don't always need the newest one if its working!)

Interested, learn more! (5 minutes)

More related readings:

- [How a lithium-ion battery works](#)
- [The batteries in your favorite devices are literally covering Chinese villages in black soot](#)
- [This is where your smartphone battery begins](#)
- UCSD CSE Class: CSE 191 The Environmental Impact of Modern Computing
 - Not offered every quarter, once a year usually

Post-session

- Check in with the student(s) who you noticed might need more support during session (e.g. Looked overwhelmed/lost etc)
- Fill out the [LINK]
 - What activities did you do
 - How did they go
 - Could ask what their favorite part of the session was
 - Any concerns