We'll split the class into 4 groups. Each group will explore one of the life stages of a lithium-ion battery-powered device. Next class, be ready to present a poster on your findings.

GROUP 1: RESOURCE EXTRACTION

Mira, Jack, Carl, Preston, Torin

Resource link
Reading: The Green Scene

Use the following questions to guide your research:

- What are the actual resources that we extract?
- How do we extract resources?
- What impacts on the land did you observe at the open-pit mines over time?
    - What year did the changes increase?
    - What else was happening at that time?
- How would you compare open pit mining and brine extraction mining methods?
- What are the risks of lithium-ion batteries?

GROUP 2: MANUFACTURING

Brett, Issam, Ruby, Henry

Resource link

Use the following questions to guide your research:

- What are the steps to manufacturing an Li+ battery?
- What is an exothermic reaction?
- What are the defects that can cause a short circuit?
- How would this be a problem later on in the supply chain, or when the device is in your hands?
- What parts of the world does manufacturing happen in?
- What are the potential risks in manufacturing and how do we mitigate those risks?

GROUP 3: TRANSPORTATION

Jaylen, Harshil, Bryce, Zac

Resource link
Reading: the mark of safety

- Identify the places where mobile phones are mostly manufactured and consider their path to you
- What are the risks of transportation?
- How do engineers test Li+ batteries to help ensure that they don't experience thermal runaway during transportation?

GROUP 4: PRODUCTION AND DISPOSAL

Jules, Bryson, Cam, Duc

Resource link 1
Resource link 2

- What is screentime average?
- How long to people currently keep a single phone?
- Globally, how much e-waste is produced?
- How much e-waste is being improperly disposed of?
- What are the consequences of improper disposal, and who is most affected and why?
- What is the first thing people commonly do when they get a new phone?
- What are some ways that short-circuiting and thermal runaway can be triggered?
- How can you use your mobile phone to avoid these risks?
- Based on what you have seen so far throughout the supply chain, what are some unintended consequences that come with getting a new phone?