

Week 10 –

The Week of September 26 to October 2, 2022

Is the Future Electric?



Lesson 1: Our Future is Electric – the only question is how that electricity is going to be generated.

Success Criteria

Students will gain a basic understanding of the concept of using electricity to power cars and trucks over the past 100 years. They will be able to list several of the advantages of using electric vehicles over petrol-driven ones.

Task 1: Watch the clip from the film 'Back to the Future.'

<https://www.youtube.com/watch?v=d68yRIE9OvQ>

Think: This clip was made in 1985 and was supposed to show what the world would look like in 2015! What did they get wrong and what did they get right?

1. What they got right:

2. What they got wrong:

Task 2: Watch the next clip made in 1948 from newsreel about what cars would look like in the future.

https://www.youtube.com/watch?v=Y_ZS_EfoYpA

3. Why was their prediction about the future, so wrong?

4. What is it about trying to predict the future that makes it so difficult to do accurately?

Electric cars provide many benefits to Kiwis. Read the article, '8 Useful Facts about Electric Cars' which appears below:

<https://ecotricity.co.nz/10-useful-facts-about-electric-cars/>

In your own words, write key dot-points about the positive aspects of electric vehicles:

1.

2.

3.

4.

5.

6.

7.

8.

Extension exercise – optional: Now take a closer look at the website that the above information came from (the article, '8 Useful Facts about Electric Cars'). Go to the 'Ethical Electricity' tab. Who created this information? While there are clear benefits to electricity, what criticism could you make about this site?

Lesson 2: Lithium is a major component of new electric batteries, but there is a negative side – lithium mining. Watch the ‘60 Minutes’ report on lithium.

Task 1: Write a summary of the positive aspects of lithium compared to other sources of energy such as coal (which is burned to create energy and produces greenhouse gases). Watch the clip below:

<https://www.youtube.com/watch?v=KvUE-gtkLEs&t=7s>

Task 2: Read the article about the harm to the environment by mining lithium. ‘Electric Vehicles Are Driving Demand For Lithium - With Environmental Consequences.’

<https://www.forbes.com/sites/jamesellsmoor/2019/06/10/electric-vehicles-are-driving-demand-for-lithium-with-environmental-consequences/?sh=1d77b68f62e2>

Task 2: Write a one paragraph summary of the Negative Aspects of Lithium.

Lesson 3: The Challenge of Cobalt Mining - Poster

Cobalt is used in computers and many other technological devices as well as electric car batteries. The problem is that it is rare, and most of the world’s cobalt comes from central Africa and is mined by very poor people under poor conditions for their health, and they are paid little.

Watch the 8-minute video on Cobalt child miners in central Africa titled ‘Blood, Sweat, and Batteries: Inside Congo’s Cobalt Mines’ (9:21 seconds). Write key dot-points summarising problems with Cobalt mining.

Assignment: Create a poster in your notebook that spans two blank pages. Show the problems with the use of lithium for electric car batteries. Include a catchy heading. This must be done entirely by hand. Do not worry about fancy fonts and colours – or if you cannot draw well. What is most important is the content. This should not take you more than 30 minutes to finish – at the longest.