

# Teacher Resources

## The Carbon Cycle and Urban Transport Emissions

L = Literature / W = Web / P = Practical



### Carbon Cycle

**L - Trees, Seas and Soil – Connected Series – Kaitiakitanga:** Part of the Connected Series looking at Carbon in the key three areas of oceans, forests, and Soil. Diagram of the Carbon Cycle.

[Link: <https://tinyurl.com/trees-seas-soil> ]

**W - Carbon Cycle video - nature vs. human impacts:** Explaining the Carbon Cycle to kids.

[Link: <https://tinyurl.com/video-carboncycle> ]

**W - Science Learning Hub – The Carbon Cycle:** Good visual of The Carbon Cycle and links to other resources. [Link: <https://tinyurl.com/ocean-carbon> ]

### Carbon Dioxide

**W - Carbon Dioxide** basic description of carbon dioxide and its effect on global warming. Source: The Economist. [Link: <https://tinyurl.com/video-economist> ]

**W - Science Learning Hub:** Carbon Dioxide – heaps of articles, videos and a few activities focusing on Carbon Dioxide. [Link: <https://tinyurl.com/science-hub-co2> ]

### Climate Change – Overarching

**L - Climate Change: Our Biggest Challenge – School Journal 2018 (Level 4).**

[Link: <https://tinyurl.com/cc-challenge> ]

**L - Feedback School Journal 2020 Level 4.** [Link: <https://tinyurl.com/cc-feed-back> ]

**W - Human Contributions to Climate Change - Science Learning Hub:** Science Learning Hub with curriculum connections and links to further sites. [Link: <https://tinyurl.com/human-contrib-ghg> ]

**P - House of Science kits:** These are throughout the North Island. If you have an account or subscription with HoS, they have a Climate Change Kit (scroll to bottom). [Link: <https://tinyurl.com/house-science> ]

### Fossil Fuels

**L - Feedback School Journal 2020 Level 4.** [Link: <https://tinyurl.com/cc-feed-back> ]

**P - House of Science kits:** These are throughout the North Island. If you have an account or subscription with HoS, they have a Fossil Fuels Kit (scroll to bottom) [Link: <https://tinyurl.com/house-science> ]

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### Greenhouse Gases (GHG's) & Global Warming & Air Quality

**W - Overview of Greenhouse Gases:** EPA - US Environmental Protection Agency.

[Link: <https://tinyurl.com/overview-ghg> ]

**W - Greenhouse Gases:** Short video about greenhouse gas emissions. [Link: <https://tinyurl.com/basics-climate> ]

**W - Simulation video on Arctic ice shelf reduction over Spring and Summer.**

[Link: <https://tinyurl.com/sea-ice-melt> ]

**W - Greenhouse Gas Emissions Reductions during Covid 19 - New Zealand - Science Learning Hub.**

[Link: <https://tinyurl.com/ghg-covid-nz> ]

**W - Greenhouse Gas Measurements:** Brief explanation on how Greenhouse gases are measured in Aotearoa. A bit out of date though. [Link: <https://tinyurl.com/ghg-measurement-nz> ]

**P - House of Science kits:** These are throughout the North Island. If you have an account or subscription with HoS, they have a Clear the Air Kit (scroll to bottom). [Link: <https://tinyurl.com/house-science> ]

### Taking Action

*(These resources link with the Science capability of 'Engaging with Science')*

**W - Schools strike for climate:** Website set up by high school students to rally support for government action on climate change. [Link: <https://www.schoolstrike4climate.nz/> ]

**W - Force of Habits:** Short movie aimed at young people to change habits to offset their impacts on climate change. [Link: <https://tinyurl.com/force-habits> ]

**L - Feedback School Journal 2020 Level 4.** [Link: <https://tinyurl.com/cc-feed-back> ]

**L - Global Action:** Connected Series Level 4. [Link: <https://tinyurl.com/global-action-climate> ]

**W - Sources of Greenhouse Gas Emissions:** EPA - Aimed at curriculum level 4 and above. Reference site around reducing emissions in relation to transportation. [Link: <https://tinyurl.com/sourcesghg> ]

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### Te Ao Māori, Te Taiao and Mātauranga Māori

**W - Science Learning Hub - Mātauranga Māori:** Knowledge base. Best if you head into this space and see what is applicable to your planning, teaching and learning outcomes.

[Link: <https://tinyurl.com/science-hub-maori> ]

**W – Taiao ora:** An independent site that is a partnership between Māori and non-Māori. Where Mātauranga Māori and Western Science meet. [Link: <https://www.taiaoora.nz/> ]

### Transport – Urban Environment – Teacher Lesson Plans & Resources

**W - Active Travel Action - Greater Wellington:** This is a practical programme of multiple ways to teach and extend learning around transport emissions, climate change and practical ways to take action. All resources & templates are provided. [Link: <https://tinyurl.com/active-travel-action-wlgt> ]

### Other related issues that may come up and some useful resources to explain those:

**W - The Ozone Hole:** This is a basic description of the Ozone hole on the Te Ara site. Kids often get confused between Ozone depletion and Climate change or Global warming.

[Link: <https://tinyurl.com/ozone-hole-global> ]

**W - Monitoring Ozone - Science Learning Hub.** [Link: <https://tinyurl.com/monitoring-o3> ]

### **Notes:**

[The House of Science Kits](#) are a resource which most schools in the North Island should have access to (under subscription). Look at the descriptions in the link to get a feel for what the kits entail, or if you have a subscription, you can head to the full kit to work through what is offered in terms of activities, links to the curriculum etc.

[Active Travel Action](#) Greater Wellington Regional Council: Please acknowledge Greater Wellington if you use this resource. It is a thorough and practical programme of multiple ways to teach and extend learning around transport emissions and has a strong interface with Mātauranga Māori. Lesson plans and links to the curriculum have been developed.