

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.taiaora.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.