

OVERVIEW

Year 9: Carbon Sequestration

Earth and Space
Sciences

Carbon Sequestration is a whole day Science program where students examine how carbon cycles throughout Earth's spheres (geosphere, biosphere, hydrosphere and atmosphere).

Students will conduct a field investigation to evaluate carbon sequestration in an ecosystem, by measuring tree biomass, deadwood, leaf litter and soil depth before calculation the carbon stored within the forest.

The day begins with an interactive revision session on the carbon cycle and will include a classroom-based game that models the movement of carbon around the globe.

Our next activity gives students the opportunity to rotate through a number of stations to investigate the role of carbon within the ecosystem. These will help to demonstrate how processes such as combustion, photosynthesis, respiration and transpiration work within the Earth's spheres.

Students will then conduct their field investigations within Toohey Forest and use laser range finders, vernier data loggers, calipers and diameter tape to measure and record a host of data points within the forest.

We will conclude the day with a brief discussion and demonstration of our 'Carbon sequestration calculation tool' which students can use on the day and back in the classroom.

Carbon Sequestration has been assessed as medium risk. A Curriculum Activity Risk Assessment is available on request.



Curriculum Intent:

Science Understanding

Earth and space sciences:

Represent the carbon cycle and examine how key processes including combustion, photosynthesis and respiration rely on interactions between Earth's spheres (geosphere, biosphere, hydrosphere and atmosphere) (AC9S9U03)

Elaborations

- Examining the carbon cycle using diagrams, animations or simulations and explaining the role of photosynthesis and respiration in that cycle
- Conducting a field investigation to evaluate carbon sequestration in an ecosystem, such as measuring tree biomass, deadwood, leaf litter and soil depth, and using formulas to calculate approximate carbon storage
- Identifying how carbon dioxide is captured and store naturally or through the use of technologies
- Calculating an individual's carbon footprint, examining the impact of human activities

