# Changing Landscapes **Teacher background notes**

**In this investigation, students explore how natural processes and human activity shape the natural landscape. The human activities and the resulting effects on a local surface over time are explored in terms of the consequences for the environment.**

This CLE could be taught as part of a cross-curricular unit that incorporates the following **Year 4 HASS** content descriptions:

* Stories of the First Fleet, including reasons for the journey, who travelled to Australia, and their experiences following arrival [(ACHASSK085)](http://www.australiancurriculum.edu.au/curriculum/contentdescription/ACHASSK085)
* The importance of environments, including natural vegetation, to animals and people [(ACHASSK088)](http://www.australiancurriculum.edu.au/curriculum/contentdescription/ACHASSK088)

## [Australian Curriculum: Science links](https://assist.asta.edu.au/node/4184)

## Learning intentions

Students will be able to:

* state that the surface of the Earth changes over time;
* identify human activities which cause changes to the Earth’s surface;
* state that moving water washes away (erodes) soil;
* explain how plants help prevent soil erosion;
* appreciate that science knowledge helps people understand the consequences of their actions;
* follow instructions to identify investigable questions about familiar contexts and predict likely outcomes from investigations;
* make accurate observations; and
* draw conclusions based on evidence.

## Suggested time for this CLE

The time needed to complete the *Changing landscapes CLE* will depend on how much time will be allocated for students to develop their own investigation. The teacher can alter the time frame by the amount of assistance given to students during the development of their investigation and whether students are expected to look for supporting evidence for their conclusion. Allow 3–4 hours.

## Prior conceptual knowledge

***This is not intended as an introductory activity.*** Students should be familiar with the concept of erosion. They should be able to describe a number of different landscape features e.g. rivers, hills, plains and that natural processes cause changes to these landscapes. They should also understand that wind and water are capable of moving materials from one place to another. Students should know the term ‘habitat’, and that animals depend on their habitats for survival.

## New concepts to be introduced

In this sequence of investigations, students will be introduced to the concept that:

* human activity can cause changes in natural systems; and
* plants have an important role in protecting soil from erosion.

## Possible misconceptions

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| **STUDENTS MAY THINK…** | **INSTEAD OF THINKING…** |
| The removal of plants from the soil has no impact on the soil. | The removal of plants from the soil leaves the soil exposed to damage caused by the weather. |
| Erosion always happens quickly. | Erosion is often a slow process. Scientists use models to show the process happening over a shorter time frame in order to examine the impacts. |
| Humans have no power to reduce the damage to the environment caused by nature. | Humans can help prevent or reverse the natural damage to the environment. |

## Links to further information

‘Land clearing: Australia is still clearing too much vegetation’, Bush Heritage Australia website, <http://www.bushheritage.org.au/about/our-challenge/natural_world_land_clearing>

‘Deforestation, Facts causes and Effects’, Live Science website, <http://www.livescience.com/27692-deforestation.html>

‘Tropical rainforest’, Internet Geography website, <http://www.geography.learnontheinternet.co.uk/topics/rainforest.html>