******Soil theme: Is all soil the same?**

The New Zealand landscape is amazingly diverse. As the landscape changes, so do the underlying types of soil. These changes are due to how the soil was formed. As a result, there are significant differences in the appearance of soils, their chemical and physical properties and how we use the land. If you thought soil is the same across the country – think again!

This topic planner offers a suggested pathway through [Science Learning Hub](https://www.sciencelearn.org.nz/) education resources and makes links with the [NZ Soils](http://www.nzsoils.org.nz/) website. Click on the links below to create your own personalised teaching unit. Feel free to use this material in any combination or order.

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| Exploring the theme |

***Focus questions: These photos show different landscapes around New Zealand. What makes one landscape different from another?*** ***Are they also different under the ground?***

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| Description: &amacr;uanui, a popular holiday spot, located on the edge of an estuary.  | Mōkau River gorge | NZ countryside | River Edge |

Images from <https://www.sciencelearn.org.nz/>.

* <https://www.sciencelearn.org.nz/images/136-pauanui>
* <https://www.sciencelearn.org.nz/images/479-mokau-river-gorge>
* <https://www.sciencelearn.org.nz/images/1237-new-zealand-countryside>
* <https://www.sciencelearn.org.nz/images/1771-river-edge>

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| Understanding the theme |

***Focus questions: Why does the soil vary from one landscape to another? How is soil formed?***

* Article > [Soil formation](https://www.sciencelearn.org.nz/resources/955-soil-formation)
* Article > [Soil properties](https://www.sciencelearn.org.nz/resources/957-soil-properties)
* Video > [Soil formation](https://www.sciencelearn.org.nz/videos/510-soil-formation)
* NZ Soils article > [Soil formation](http://www.nzsoils.org.nz/Topic-Basics_Of_Soils/Soil_Formation/)
* NZ Soils article > [Why and how are soils different?](http://www.nzsoils.org.nz/Topic-Understanding_Soils/Why_and_How_Are_Soils_Different/)

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| Applying the theme |

***Focus question: What types of soils are there in my area?***

* Article > [Soil names](https://www.sciencelearn.org.nz/resources/970-soil-names)
* NZ Soils interactive map > [Soil orders of New Zealand](http://www.nzsoils.org.nz/Topic-Classifying_Soils/Introduction_and_Soil_Orders_NZMaps/)
* NZ Soils > [Regional soils records](http://www.nzsoils.org.nz/Topic-Regional_Soils/Regional_Soils_Data/) (See PDF document at the bottom of the page.)
* NZ Soils > [Soils picture resource](http://www.nzsoils.org.nz/Topic-Regional_Soils/Soil_Resource_Materials/)

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| Experiencing the theme |

**Activities – use these activities to expand on the focus questions:**

* [Making a core sample](https://www.sciencelearn.org.nz/resources/675-making-a-core-sample)
* [Visual soil assessment](http://www.nzsoils.org.nz/Topic-Regional_Soils/Soil_Resource_Materials/)

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| This resource supports NZC Science levels 2/3/4 |

* + - * NATURE OF SCIENCE: INVESTIGATING IN SCIENCE: Extend experiences and personal explanations of the natural world; explore simple models to develop simple explanations.
* PLANET EARTH AND BEYOND: EARTH SYSTEMS: Explore and describe natural features and resources.
* PLANET EARTH AND BEYOND: INTERACTING SYSTEMS: Describe how natural features are changed and resources affected by natural events, the water cycle and human actions.

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| Contact details |

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| The Science Learning Hub is a national project funded by the New Zealand Government to make examples of New Zealand science, technology and engineering more accessible to school teachers and students.E: enquiries@sciencelearn.org.nz W: [www.sciencelearn.org.nz](http://www.sciencelearn.org.nz) | The New Zealand Society of Soil Science is a professional society to encourage the advancement of soil science. One of its goals is to promote the study of soils at all educational levels.W: [nzsss.science.org.nz](http://nzsss.science.org.nz/index.html)  |