

[Waste not Wasted - the science of waste at Kate Valley](#) [1]



Welcome to **Waste not Wasted**. This term 4 trip is supported by [Transwaste Canterbury](#) [2] and the [Ministry of Education/Te Tāhuhu o te Mātauranga](#) [3]. The field trip is from 5-7 November 2019. [Enrol now](#) [4].

Introduction

Did you know that we in New Zealand dispose of enough waste to fill a rugby field 30 stories high every month - even though over half of the rubbish we dispose of can be recycled or composted? It's the choices we make that determine how much waste goes to landfills. But how much waste is actually "wasted"?

On this field trip, you will investigate how science and technology is being used to give new life to waste at a modern engineered landfill. You will see how methane from decomposing waste is captured rather than being emitted into the atmosphere as a greenhouse gas. You will follow the methane journey to onsite turbines where it is used to generate significant amounts of electricity that goes into the National Grid. Some of this electricity is used for e-vehicles including kerbside waste collection trucks. You will also take a big picture view of the Kate Valley landfill in the community with associated conservation projects, recreation spaces and water quality management.

- [Meet Andrew](#) [5] - LEARNZ field trip teacher



[5]

Location

On this field trip to Canterbury you will go to Kate Valley, 60km north of Christchurch just off SH1 near Waipara in North Canterbury. In 2005 Kate Valley replaced 52 old landfills spread throughout Canterbury and combined them into a single operation built and run to the highest international safety and environmental standards. The landfill operation uses 37 hectares and the entire site is 1,000

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hectares. After sorting and compacting, waste comes from as far away as Ashburton. The operations around Kate Valley's modern engineered landfill combine waste management, energy production, conservation and recreation.

Field Trip Plan

Monday 4 November



Travel day: Join Andrew and the ambassadors as they travel from Kerikeri to North Canterbury. During the journey, Andrew takes the chance to photograph and talk about some of the interesting features of the trip.

- [Read today's diary](#) [6] about the journey from Kerikeri to Amberley.
- [The ambassadors](#) [7] make their first field trip post.

Tuesday 5 November



Day 1: What happens to waste? See the landfill waste process in action. Investigate how environmental impacts are prevented.

- [Read today's diary](#) [8] about the rubbish journey and the process at Kate Valley upon arrival into the landfill. Leachate and the landfill liner are also key parts of today's activities.
- [Watch the videos](#) [9] for Tuesday.
- [Listen to a recording](#) [10] of today's web conference.
- [The ambassadors](#) [7] share their thoughts about the day.

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Wednesday 6 November



Day 2: What is waste? Take a closer look at waste and analyse what we throw out. You will look into the term organic, and find out what happens to organic waste at the landfill.

- [Read today's diary](#) [11] about the process of decomposing organic waste and why this is known as a landfill friendly product.
- [Watch the videos](#) [9] for Wednesday.
- [Listen to a recording](#) [10] of today's web conference.
- [The ambassadors](#) [7] share their learning from today.

Thursday 7 November



Day 3: How valuable is waste? Explore how landfill gas is collected and used for electricity production. Consider the future of waste and landfills.

- [Read today's diary](#) [12] and view the images.
- [Watch the videos](#) [9] for Thursday.
- [Listen to a recording](#) [10] of today's web conference.
- [The ambassadors](#) [7] say "ka kite anō" from Kate Valley.

What's New

9 December 2019

Newsletter #5 has been sent to all enrolled teachers.

The LEARNZ Team think that joining the [NZASE](#) [13] and staying connected through the [NZ Science Teacher](#) [14] will help you become a better teacher of science.



[3]



[2]

Source URL: <https://www.learnz.org.nz/katevalley194>

Links

- [1] <https://www.learnz.org.nz/katevalley194>
- [2] <http://transwastecanterbury.co.nz/>
- [3] <http://www.education.govt.nz/>
- [4] <http://www.mylearnz.org.nz/account/enrol>
- [5] <http://www.learnz.org.nz/katevalley194/andrew-learnz-field-trip-teacher>
- [6] <http://www.learnz.org.nz/katevalley194/diary-1>
- [7] <http://www.learnz.org.nz/katevalley194/ambassadors>
- [8] <http://www.learnz.org.nz/katevalley194/diary-2>
- [9] <http://www.learnz.org.nz/katevalley194/videos>
- [10] <http://www.learnz.org.nz/katevalley194/webconferences>
- [11] <http://www.learnz.org.nz/katevalley194/diary-3>
- [12] <http://www.learnz.org.nz/katevalley194/diary-4>
- [13] <https://nzase.org.nz/>
- [14] <http://nzscienceteacher.co.nz/>