





## Overview

New Zealand's North Island provides a unique opportunity for students to actualise their curriculum through the dramatic range of volcanic, geothermal and tectonic environments available through the superb North island Geological Education Experience.

Travelling is kept to a minimum, resulting in a full and exciting programme and tremendous value for money. Each day is a stimulating and enjoyable opportunity to bring your syllabus to life.

As with all Gefen programmes, we offer flexibility and are happy to discuss tailoring itineraries to your curricular requirements or student needs.

**Availability:** Year Round  
**Itinerary Flexibility:** Medium  
**Minimum Group Size:** 10

### All trip prices include:

- 7 days accommodation, meals and domestic transport, fully detailed in final quote and itinerary

Ask us how teaching staff can travel **FREE** of charge!

### Key Learning Areas

- Volcanic Fields
- Subduction Zones
- Calderas or Supervolcanoes
- Other Volcano types
- Limestone caves
- Geothermal activity
- Tectonic plate activity
- Faultlines
- Minerals
- Rock types and formation
- Erosion
- Continental drift

## DAY 1 Itinerary Overview

### Volcanic Field Experience

Location: Auckland

Our North Island Geological Experience begins with the exploration of Auckland's volcanic field, which contains over fifty separate volcanoes originating from a single hot spot of basaltic magma, active deep below the city. This monogenetic field consists mainly of Scoria Cone and Basalt Shield Volcanoes many of which are easily accessed as part of Auckland's Parks and Reserves system. There are opportunities to experience lava tubes, and walk within volcanic craters as well as view the active volcanic island, Rangitoto.

Students are able to actualise their classroom learning in an experiential and stimulating way as Auckland city provides the amazing clarity of a geologically-young, volcanic landscape.

Guest speakers, museum visits and experienced guides can also be organised by arrangement.

#### Learning Opportunities

- Auckland's volcanic field,
- Scoria cone volcanoes, basalt shield volcanoes, maars, tuff rings, Phreato-magmatic eruptions
- Lava flows, lava tubes

#### Activity Information

- Fully compliant with NZ school safety guidelines
- Professional guides available

## DAY 2 Itinerary Overview

### Caving Adventure

Location: Waitomo

Today we visit the stunning Waitomo region and take a guided tour of some of the remarkable limestone caves. Students can experience the amazing underground world of Solutional Caves, see for themselves a range of speleothems including stalactites and stalagmites, and understand the differing environmental and geological conditions in which these occur.

Seeing sedimentary rock, fossils and the results of interaction between water, carbon dioxide and plate tectonics, this incredible world that began forming 30 million years ago beneath the sea is experiential learning in its most valuable form.

If time and budget allows, a trip to the Marokopa Falls and the Mangapohue Natural Bridge are a valuable adjunct to the day's experiences.

#### Learning Opportunities

- Solutional Limestone caves, speleothems
- Fossil and sedimentary rock
- Fault lines

#### Activity Information

- Fully compliant with NZ school safety guidelines
- Professional guides



## DAY 3 Itinerary Overview

### Geothermal Wonder

**Location:** Tongariro National Park

Day 3 sees us venturing in to the dramatic and austere landscape of the Volcanic Plateau and the World Heritage Site of Tongariro National Park. Volcanic activity in this area began around two million years ago and continues today.

In geological terms, the landforms of Tongariro National Park are comparatively young and two of the three volcanoes at the heart of the park, Mt Ruapehu and Mt Ngauruhoe, are some of the most active composite volcanoes in the world.

Students will witness first-hand barren lava flows, hot springs and active craters alongside winter skifields, glaciers and permanent ice. Guest speakers and experienced guides can also be organised by arrangement.

#### Learning Opportunities

- Plate tectonics, Ring of Fire, subduction zones,
- Andesitic, caldera, composite or strata volcanoes
- Tephra, lahars, crater lakes, pyroclastic material
- Magma types, gas, ash, pumice

#### Activity Information

- Fully compliant with NZ school safety guidelines
- Professional guides available



## DAY 4 Itinerary Overview

### Geothermal & Hydroelectric Experience

Location: Taupo

On Day 4 we head northeast, delving deeper into the thermal wonderland of the central North Island. Today we will see Lake Taupo, NZ's largest lake by surface area, which lies in a caldera created around 26 500 years ago by a supervolcanic eruption, and take a cruise to explore the mighty Waikato River, where students can see the spectacular Huka Falls, the Aratiatia Rapids, and discuss Geothermal and Hydroelectric Power generation.

If time permits, a visit to the Wairakei Terraces for a guided walk and a soak in the hot mineral springs is highly recommended before heading to our overnight destination of Rotorua.

Guest speakers and experienced guides can also be organised by arrangement.

#### Learning Opportunities

- Caldera volcanoes
- Geothermal and hydroelectric power
- Geysers, mineral pools

#### Activity Information

- Fully compliant with NZ school safety guidelines
- Professional guides available



## DAY 5 Itinerary Overview

### Waimangu Valley Experience

Location: Rotorua

Day 5 features a fully-guided sightseeing tour through the Waimangu Valley, the world's youngest geothermal system, where students can view at close range silica terraces, rare thermal plants and steaming pools. Features include Frying Pan Lake, the world's largest hot-water spring, and its partner, the Inferno Crater, both continually interacting.

We also visit ancient Waiotapu, home to bubbling mud pools, hot springs, collapsed craters and the famous Lady Knox Geyser. If time permits, take some time out to relax on a cruise of Lake Rotomahana, a protected refuge for native and exotic birdlife with its own amazing geothermal features.

Guest speakers and experienced guides can also be organised by arrangement.

#### Learning Opportunities

- Geothermal activity, mud pools
- Silica terraces, cyanobacteria, geysers.
- Stromatolites, hydrochemistry,

#### Activity Information

- Fully compliant with NZ school safety guidelines
- Professional guides available



## DAY 6 Itinerary Overview

### White Island Adventure

Location: White Island

Day 6 sees us heading east away from the Volcanic Plateau, toward the coast, Whakatane, and the incredible experience that is White Island. One of the most accessible volcanoes on earth, White Island is renowned as a 'natural laboratory' and local and international volcanologists are attracted by its unique characteristics.

Taking a ferry across the sea to walk on a pristine, live volcano is an un-missable experience and students will marvel at the moon-like landscape: almost nothing can survive in this harsh, acidic environment. Students can also see the remains of sulphur mines, abandoned after a lahar killed the workforce in 1914.

White Island is also home to a large gannet colony and the surrounding sea is a productive feeding ground to whales and dolphins, which frequently can be seen from our vessel.

#### Learning Opportunities

- Andesite strato-volcanoes
- Sulphur crystals, fumaroles
- Lava flows, magmatic pyroclastics
- Magnetometers and seismograph equipment
- Volcanic gases

#### Activity Information

- Fully compliant with NZ school safety guidelines
- Professional guides available

## DAY 7 Itinerary Overview

### Lava Dome & Fault Scarp Experience

**Location:** Edgecumbe/Mt Maunganui

Our last day sees us following the coast northwards through the Rangataiki Plain, site of the powerful 1987 earthquake which caused landslides, liquefaction, compaction, and moderate to severe structural damage, as well as dropping the western side of the fault scarp by two metres.

We stop at Mt Maunganui to view Mauao, an extinct, lava dome volcano, joined to the mainland by a tombolo before continuing our journey to Waihi where we visit the large, opencast gold mine, Martha.

If tides are suitable we will travel up the Coromandel Peninsula to the amazing Hot Water Beach where students can experience incredible thermal springs welling up under the sand.

We then head back towards Auckland via the Hauraki Plains and the Firth of Thames, the original course of the mighty Waikato River prior to the Taupo super volcanic eruption.

#### Learning Opportunities

- Fault scarps,
- Lava dome volcanoes, tombolo
- Quartz veins, andesite rock, welded ignimbrite rock
- Alluvial plains, drowned rivers

#### Activity Information

- Fully compliant with NZ school safety guidelines
- Professional guides available

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