

Rūaumoko Restless Land



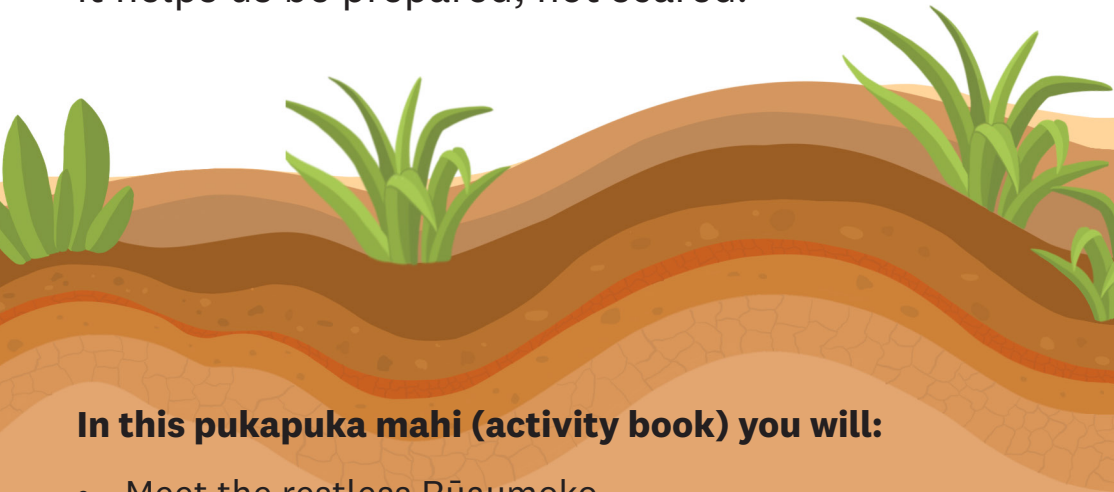
**Natural Hazards
Commission**
Toka Tū Ake

Pukapuka Mahi
Activity Book

Rūaumoko reminds us that our land is always moving, from shaking earthquakes to rising volcanoes!

Sometimes these changes happen slowly, other times they're sudden, reshaping Aotearoa New Zealand's mountains, valleys, and shores.

Rūaumoko's restless energy has been at work here for millions of years, and understanding it helps us be prepared, not scared!



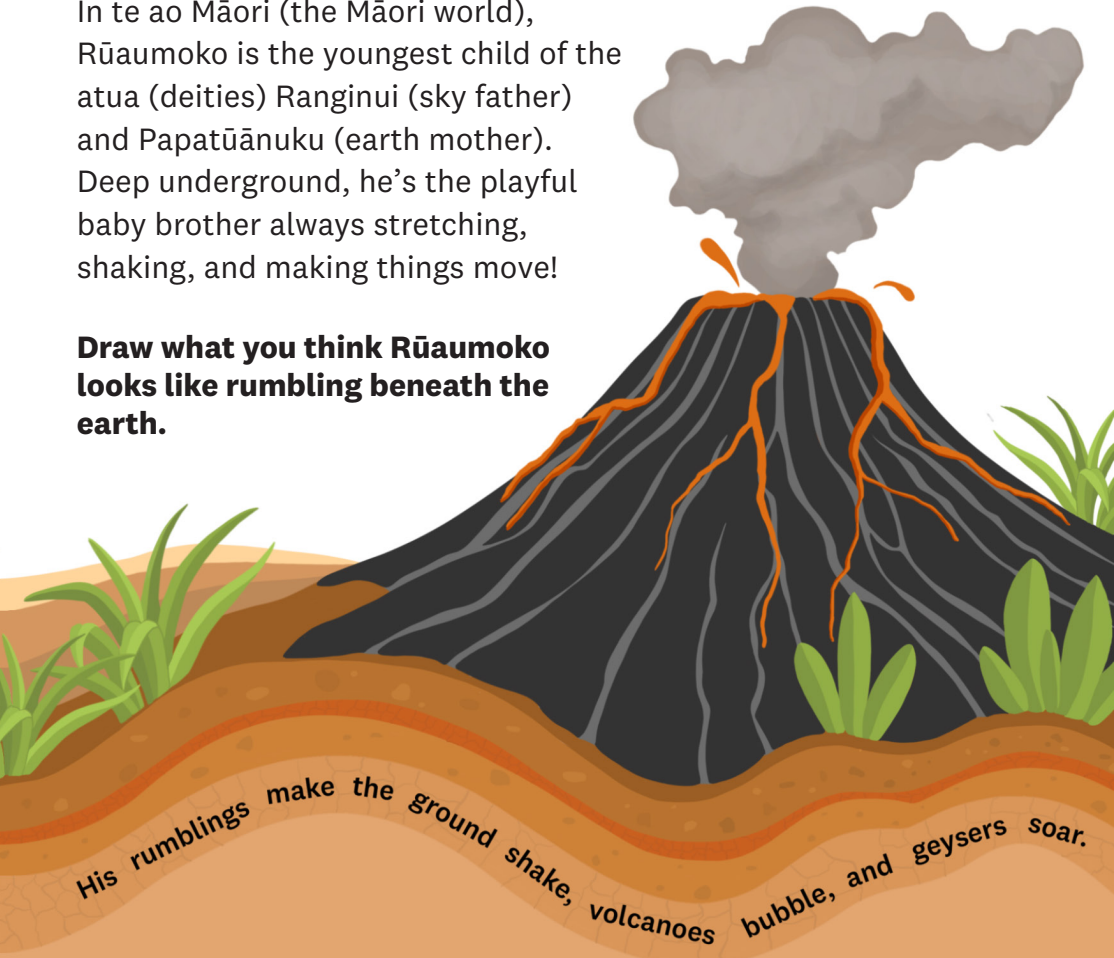
In this pukapuka mahi (activity book) you will:

- Meet the restless Rūaumoko
- Learn the parts of a volcano
- Be an earthquake reporter
- Make your own geyser
- Pack a grab bag
- Prepare for a natural event
- Write a poem!

Let's meet Rūaumoko...

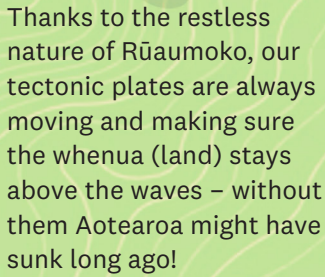
In te ao Māori (the Māori world), Rūaumoko is the youngest child of the atua (deities) Ranginui (sky father) and Papatūānuku (earth mother). Deep underground, he's the playful baby brother always stretching, shaking, and making things move!

Draw what you think Rūaumoko looks like rumbling beneath the earth.

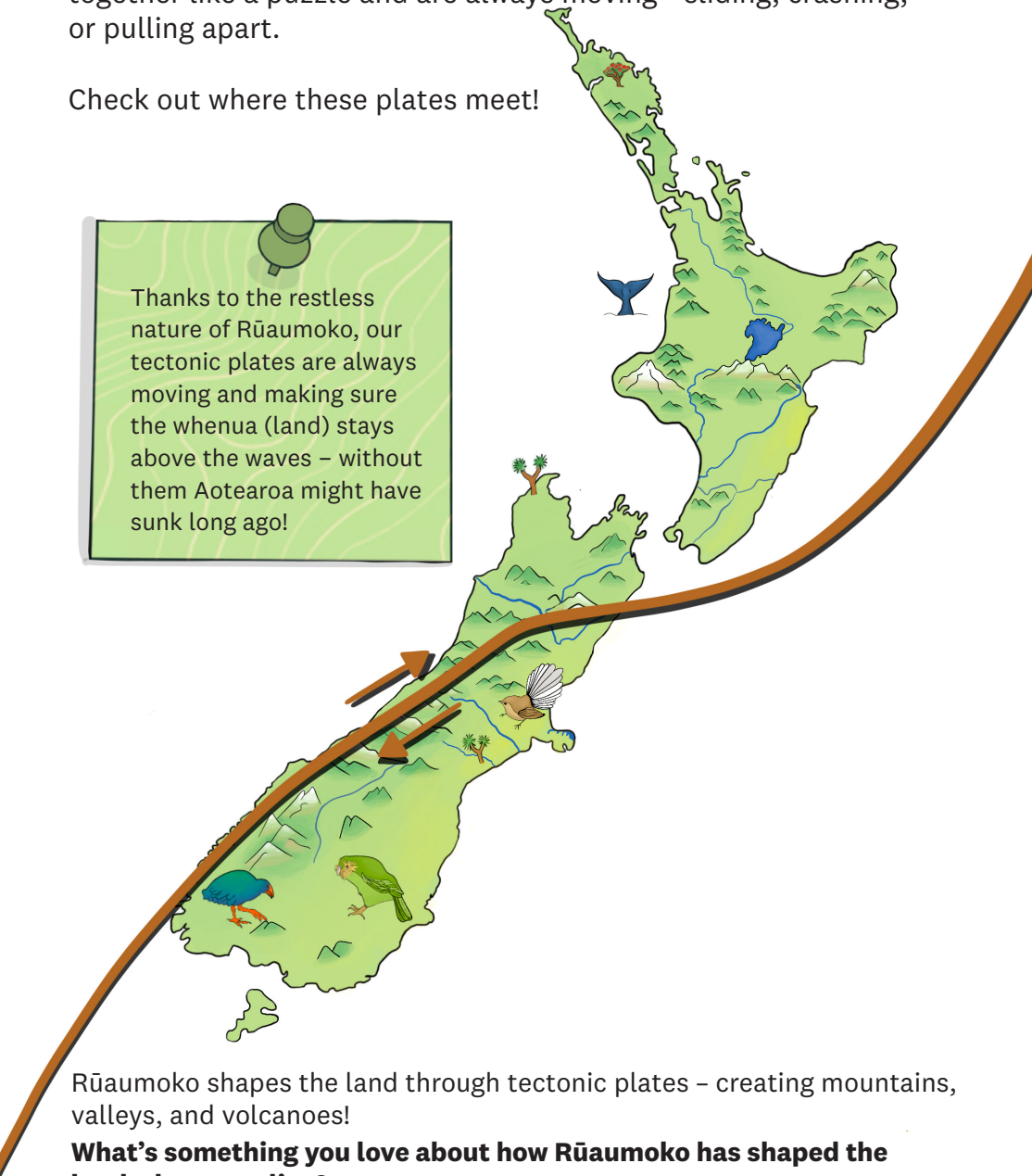


Tectonic plates are giant pieces of the Earth's crust that fit together like a puzzle and are always moving – sliding, crashing, or pulling apart.

Check out where these plates meet!



Thanks to the restless nature of Rūaumoko, our tectonic plates are always moving and making sure the whenua (land) stays above the waves – without them Aotearoa might have sunk long ago!



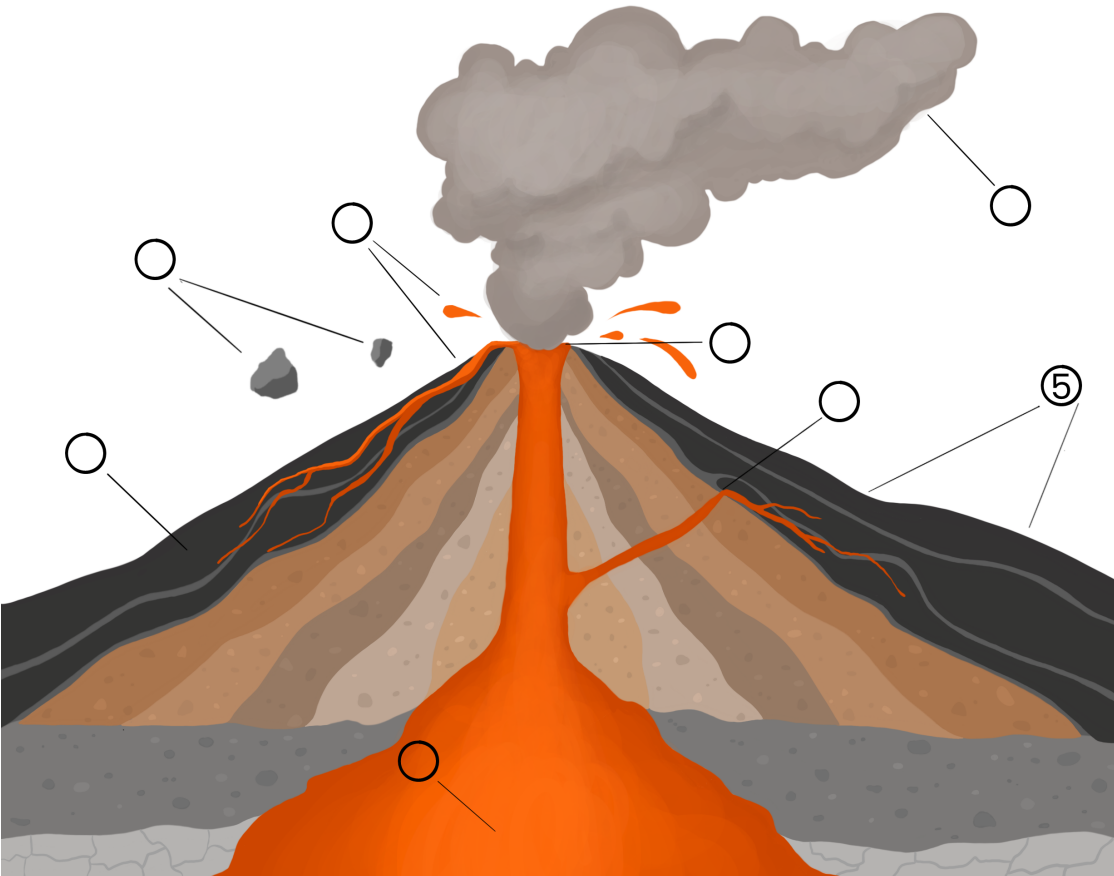
Rūaumoko shapes the land through tectonic plates – creating mountains, valleys, and volcanoes!

What's something you love about how Rūaumoko has shaped the land where you live?

Some volcanoes sleep for years, but when Rūaumoko stirs they wake to bubble lava, roar with smoky ash, and reshape the land around them in amazing ways!

Which bit is what? Fill in the numbers to label the parts of this volcano

- ① Crater **Āwanga**
- ② Lava **Rangaāhi**
- ③ Magma chamber **Rua āhi**
- ④ Vent **Puare**
- ⑤ Volcanic cone **Tihi puia**
- ⑥ Ash layers **Papanga pungarehu**
- ⑦ Volcanic bombs **Pōhatu puia**
- ⑧ Ash cloud **Kapua pungarehu**



Magnitude tells us the size of an earthquake, but how strong it feels – its **intensity** – depends on how deep it is, where it happens, and even what the ground is like!

Intensity scale:

Not Felt	You and your whānau (family) don't feel a thing.
Weak	You might notice a tiny shake if you're sitting still.
Light	You might feel a gentle shake; hanging objects could sway.
Moderate	Your whānau might hear windows and dishes rattle.
Strong	Everyone feels this! It's hard to walk straight.
Severe	It's tough to stand up! Even heavy furniture moves.
Extreme	Everything shakes a lot! The ground might even crack open.

Think about a time when you felt an earthquake...

What did you feel?

What did you do to stay safe?

Circle the colour on the scale that best describes how the earthquake felt to you:



Read each event below and circle the colour on the scale that best describes the earthquake:

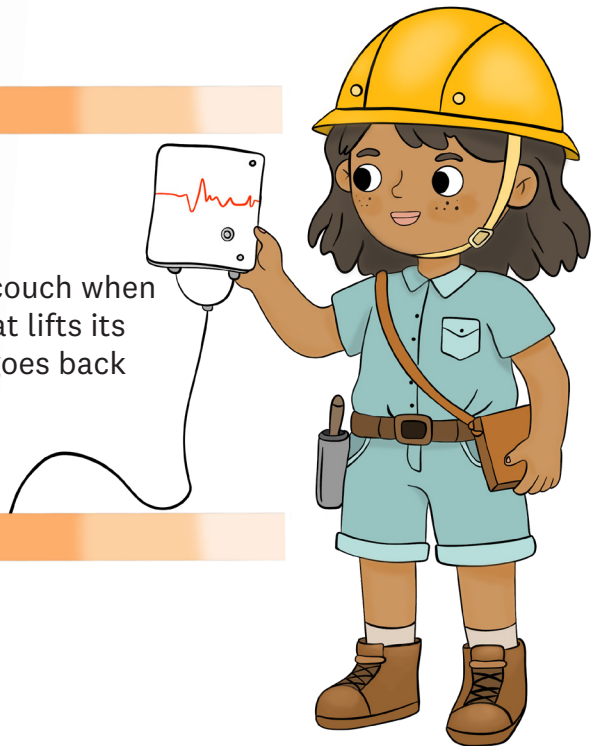
You're at school when the floor suddenly moves so much it's hard to stand! Chairs slide across the floor, and some books tumble off the shelves.



Your whānau is eating dinner when the house starts to shake! Plates rattle on the table and your cup of juice tips over.



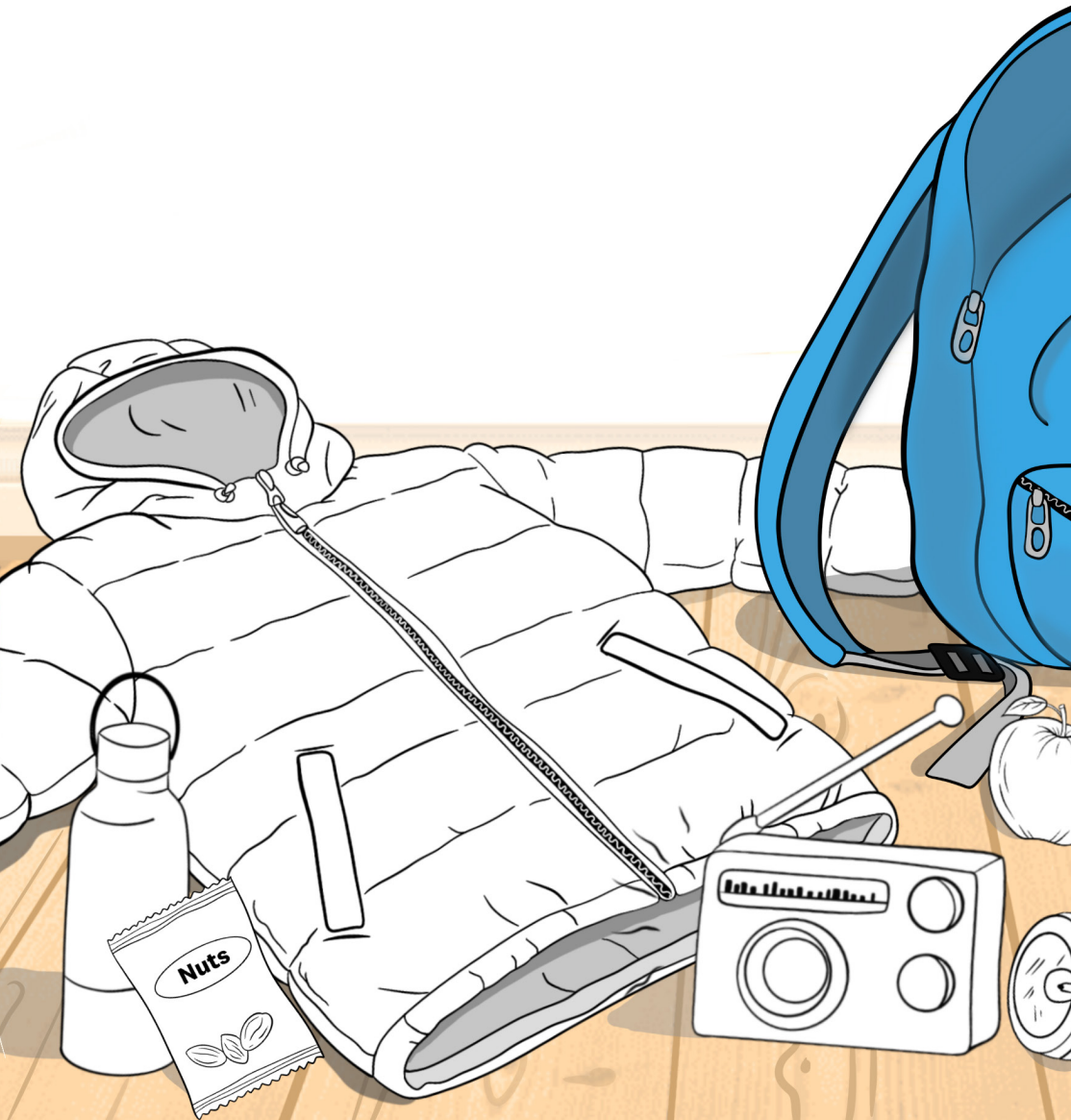
You're reading a book on the couch when you feel a tiny wobble. Your cat lifts its head, flicks its tail, and then goes back to sleep.



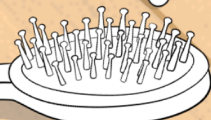
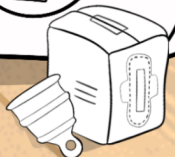
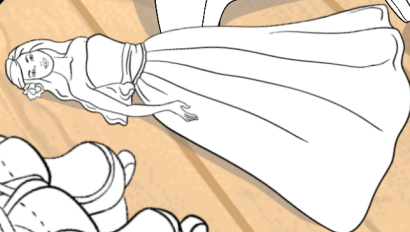
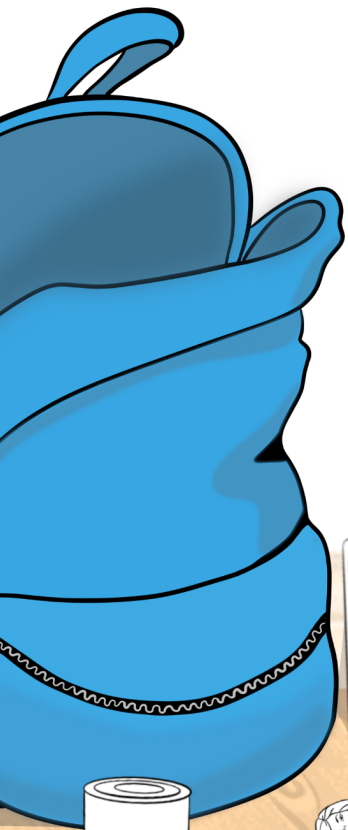
What's in your grab bag?

Imagine you have just 5 minutes to pack and go!
What would you pack to stay safe, warm, hydrated,
and ready in an emergency?

**Colour in the things you would pack - think carefully about
what you really need.**



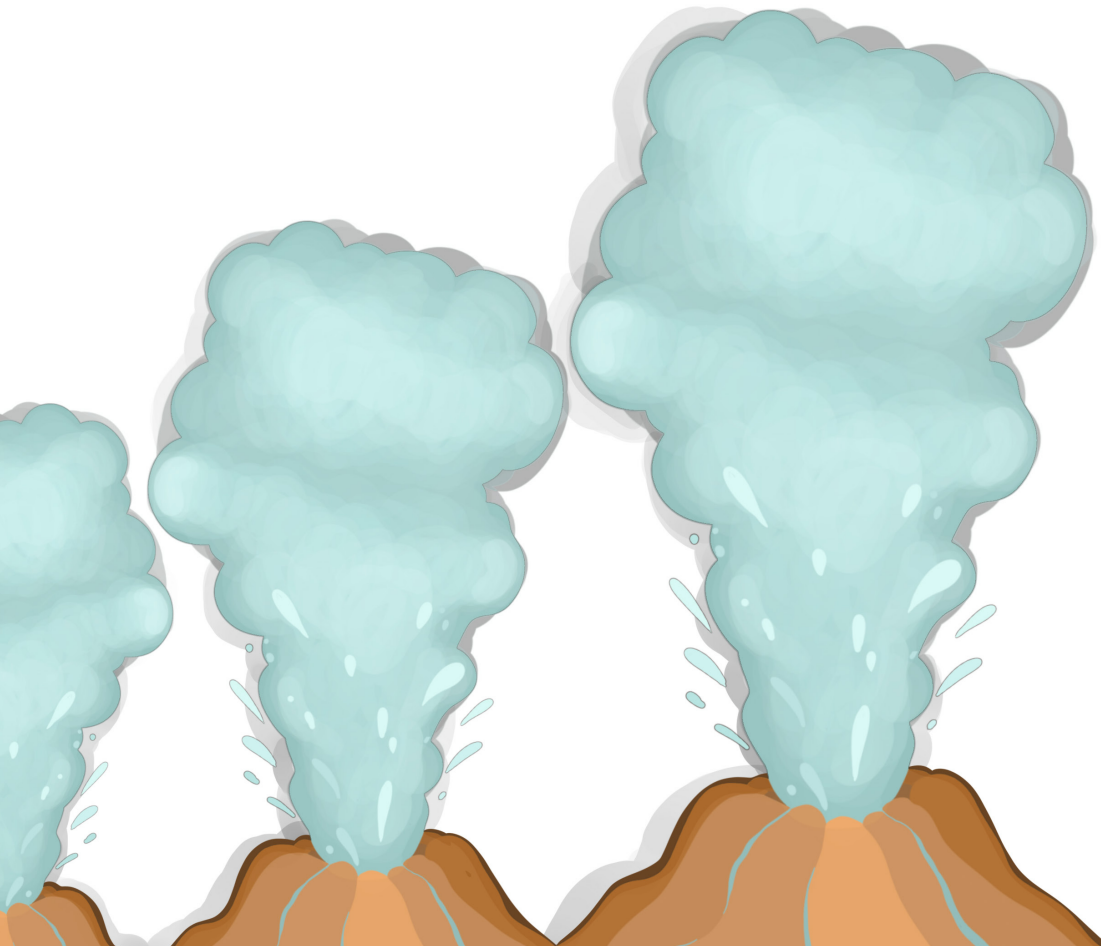
Make a grab bag
with your whānau
now, don't wait for
an emergency!



Geysers are like nature's super fountains!

They happen when water deep underground gets heated by the Earth. The heat turns the water into steam, and when the steam has nowhere to go, it bursts out of the ground with a big whoosh!

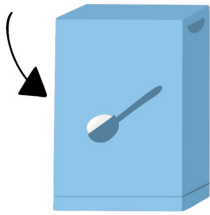
Hot pools are a bit like geysers, but instead of shooting water, they bubble and steam quietly. Both show us how powerful and hot the Earth is beneath our feet!



Make your own geyser!

What you'll need:

Baking soda



Outside spot



Tissues



Vinegar

How to:

1. Choose a spot outside, making sure there's nothing nearby that might get messy.
2. Take 2–3 tablespoons of baking soda and put it inside a piece of tissue, twisting the end to make a small packet. This will delay the reaction.
3. Pour 1 cup of vinegar into a 500ml **plastic** bottle (or use the vinegar bottle). Place the bottle on a flat surface.
4. Load the reaction by holding the packet just above the bottle's opening.
5. Trigger the eruption!
Drop the packet into the vinegar and move quickly back. Now watch as the foamy reaction bursts out of the bottle – just like a geyser!



Safety kupu (word) search

Rūaumoko isn't the only atua to stir up trouble! His brother Tāwhirimātea whips up wild weather, while Tangaroa can unleash powerful tsunamis. When these siblings get to work, it's important to know how to keep yourself and your whānau safe!

F	H	T	Ō	Z	H	X	K	Q	S	G	P
Q	I	O	A	I	P	N	L	Z	A	W	G
S	G	R	M	L	J	L	O	Y	F	A	W
H	H	C	S	H	E	I	Ā	M	E	T	C
E	G	H	Q	T	D	R	B	N	T	E	Ō
L	R	N	U	A	Ā	C	T	E	Y	R	S
T	O	Z	R	B	O	I	P	E	T	S	N
E	U	Z	K	E	X	W	D	T	D	S	A
R	N	Q	E	G	R	A	B	B	A	G	C
R	D	W	H	Ā	N	A	U	G	I	S	K
N	Q	N	W	A	R	N	I	N	G	Ē	S
E	V	A	C	U	A	T	E	Ō	Q	N	I

EVACUATE

GRAB BAG

SNACKS

SAFETY

ALERT

PLAN

RADIO

FIRST AID

WARNING

WATER

TORCH

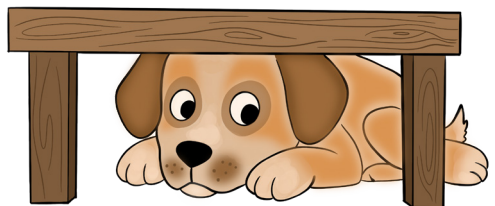
HIGH GROUND

WHĀNAU

PETS

SHELTER

Visit naturalhazards.govt.nz/be-prepared to get prepared.



Complete the cards to make sure your whānau is prepared

Remember to tune into your local radio station for emergency updates and **call 111** if you need help.



Tangaroa's Tsunami

Feel an earthquake that lasts longer than a minute or makes it hard to stand? Head to higher ground or inland right away. Remember: **Long, or Strong, Get Gone!**

Where is the highest place we can go?

How will we know when it's safe to return home?

Tāwhirimātea's Storm

When the wind is howling and the rain is battering, stay inside and keep away from windows.

What will we do if the power goes out?

Where is the safest place in our house to be?

Tāwhirimātea's Landslide

The hillside is sliding down, taking trees and dirt with it. Look out and stay far away from fallen power lines!

If the roads are blocked, what will we do?

Who will we call to check if it's safe?

Tāwhirimātea's Flood

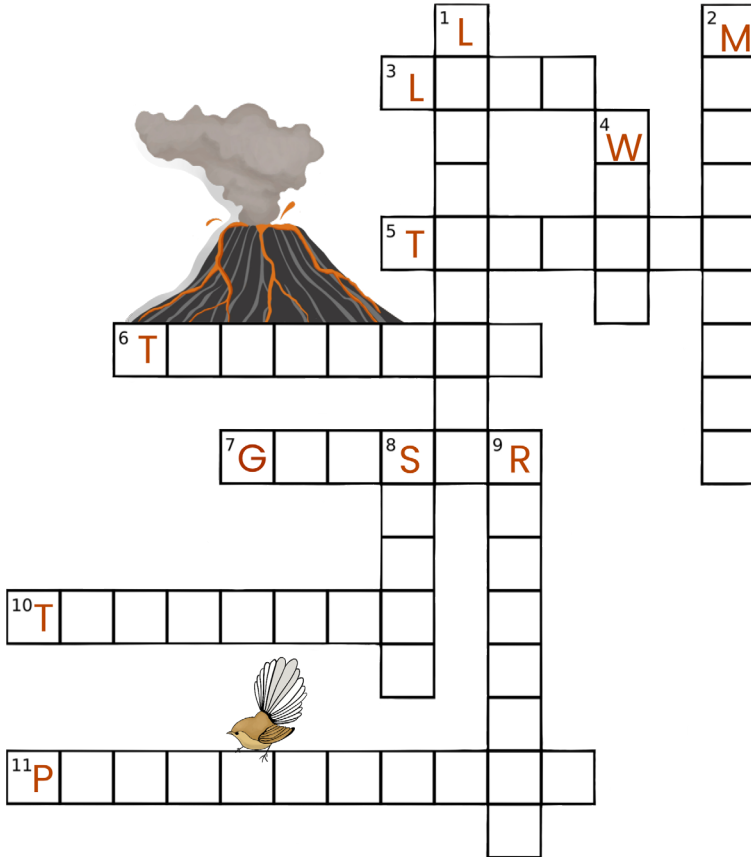
When the streets are filling with water, move to higher ground quickly and stay out of floodwater!

Where is the safest place we can go?

What will we take with us?

Natural events crossword

Read the clues and fill in the missing kupu (words).



Down:

1. A **land**_____ is when dirt and rocks slide down a hill.
2. **M**_____ is the size of an earthquake.
4. A **w**___ earthquake is one you might only feel sitting down.
8. **S**_____ rises from hot pools created by heat underground!
9. **R**_____ shakes the ground and makes volcanoes!

Across:

3. Hot melted **L**___ flows out of a volcano.
5. A big wave that can rush onto land after an earthquake is called a **t**_____.
6. **T**_____ plates are always moving deep under the ground.
7. A jet-like **g**_____ bursts out of the ground with a whoosh!
10. **T**_____ looks after the sea and controls tsunamis.
11. Giving us land to stand on, **P**_____ is the Māori earth mother.

Ka rawe! (Excellent!) Now that you have learned about the amazing job that Rūaumoko has, **write an acrostic poem dedicated to Rūaumoko** where every line starts with the letters in his name – use each line to write a word or message to create a poem.

The last line is done for you!

R _____

Ū _____

A _____

U _____

M _____

O _____

K _____

Our Earth's great mover, restless through time!



Can I print and share this activity book? **YES**

Can I sell this activity book or use it for monetary benefit? **NO**

Can I change and adapt this activity book? **SOME OF IT***



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With thanks:

Natural Hazards Commission Toka Tū Ake and GNS Science Te Pū Ao.



Find out more

tepapa.nz/ActiveLand

naturalhazards.govt.nz/be-prepared