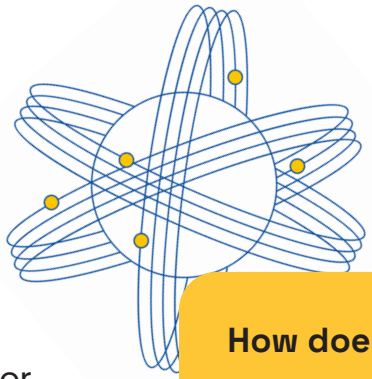
Erupting Volcano



Predict:

Scientists like to make predictions, or hypotheses, before they do experiments. It helps them figure out what to expect and why things happen the way they do.

Have a go at making your best guess using the questions below:

1. Do you think the reaction will happen quickly, slowly, or somewhere in between?

2. Do you think the reaction will make noise, or will it be silent?

TĪMATA! LET'S GET STARTED!

What you will need:

- **Baking soda** - *pēkana houra*
- **Vinegar** - *winika*
- **Food Colouring (optional)**- *kara kai*
- **Dish Soap** - *hopi rīhi*
- **A bottle/container** - *ipu*
- **A Tray (to contain the mess)** – *paetopī*

Instructions:

1. Place your container *(ipu)* in the centre of your tray *(paetopī)* - this represents the crater of the volcano *(puia)*.

2. Add 2 tbsp of baking soda *(pēkana houra)* to the container.

3. Next, add a few drops of dish soap *(hopi rīhi)* and food colouring if you are using it (kara kai).

4. Finally pour ½ cup of vinegar *(winika)* into your container and watch as you create a volcanic eruption!

How does it work?

Baking soda is a base, and vinegar is an acid. When they mix, they react because acids and bases try to balance each other out. This is called an **acid-base reaction.**

This reaction **creates carbon dioxide gas**—the same gas that makes fizzy drinks bubble!

The gas mixes with the vinegar, creating lots of foam. As more gas forms, it builds up pressure inside the container until the foam bursts out!

Adding dish soap traps the gas inside tiny bubbles, making the foam even bigger and fizzier!

Reflect:

- What could you see?
- What could you hear?
- What could you smell?

Extra for experts!

- Get creative and build a volcano for your crater to sit in.

- Change the shape and size of your volcano crater – how does this affect the chemical reaction?

- Test what happens if you change the amount of baking soda or vinegar you add.