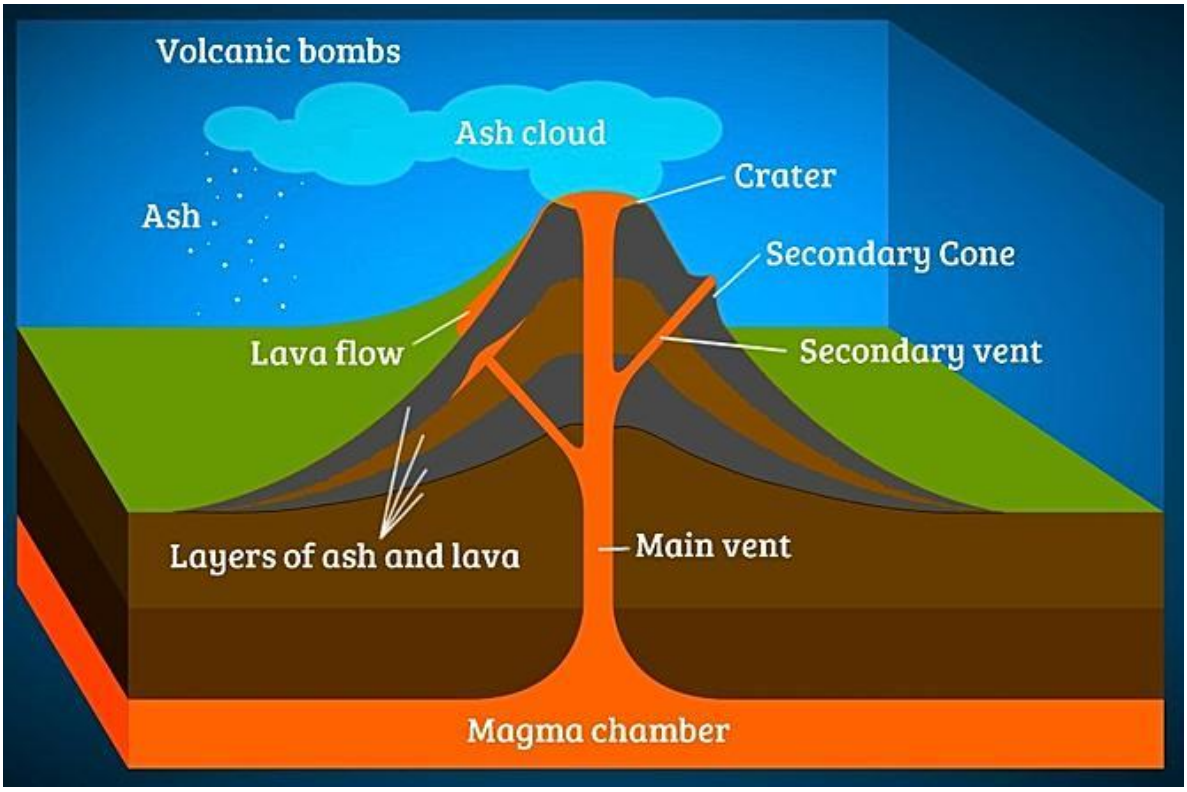
Level	Form 3
Theme	The Physical Earth and its Human Interactions
Topic	Building a model of a volcano and simulate an eruption
Outcome	Describe the materials ejected by a volcano
Teaching Points	**What is a Volcano** A volcano is an opening in the earth's crust through which volcanic ash, gases and molten rock from beneath the crust reaches the surface. This molten rock is called magma when it is beneath the surface and lava when it erupts unto the land surface. **Parts of a Volcano** 

Materials for the Model

Step 1 Choose a Lava Container

Lava Container

1 250ml water bottle/soft drink can, small jar etc.

Step 2 Choose the material for the cone

Cone

Moulding material can be any of the following: Play-Doh  , Clay  , Plastercine  , - any colour would work because you can paint it brown after it dries

OR

a flour mixture (6 cups of flour, 2 cups of water,4 Tablespoons Vegetable Oil, 2 Cups of Salt, Food Coloring - brown(optional)

If using Flour Mixture

Mix and knead the ingredients with your hands. Mix and then knead until a dough is formed. Get squishy, molding and mixing until you have a big ball of dough. You can use a rubber spatula to help get it off the sides of the bowl, but use your hands to form a nice, consistent ball. Make sure the clay is neither too watery nor too dry. It should be in a format which allows us to shape it.
If the dough is dry as you work, add a tablespoon or so of water.
If it is wet, through in a little more flour.

If using Play-doh, clay, plastercine
Simply work the material of choice by kneading it until it is pliable (3minutes)

Step 3 Building the Cone

1. Place the lava container of choice (remember the height of the cone will be determined by the height of the container used) onto the lined box/tray
2. Mold the cone material of choice around the container using different colours to represent layers, creating a wide base and narrower to the top
3. Allow your volcano cone to set and dry overnight

Step 4 Building Base

A card board box that is 3 inches in height(some cutting might be involved) lined with foil or use a baking foil tray

 OR 

Eruption Materials

Vinegar (1/2 cup)
2 tablespoon of Dishwashing liquid
Food colouring (red and yellow)
1/2 cup baking soda
Glitter dust or black pepper

Eruption Mixture - Mix the baking soda, colouring and dishwashing liquid together and glitter dust

The vinegar will be poured into this mixture to create the eruption

Step 5 Building the Volcano and Simulating an Eruption

- Place the dry volcano in the tray, at this point you can paint it to look more realistic
- Using a funnel pour the Eruption Mixture into the Lava container of choice
- Pour the vinegar and step back

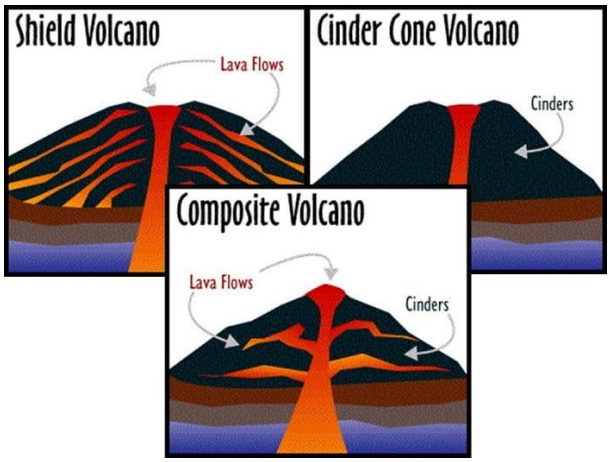
Review Exercise

Once you have completed the model and simulation, complete the following:

- What did the following material represent in the Model

Lined box/tray	
Water bottle, soft drink can	
Play-Doh, Clay	
Bottle mouth	
Eruption Material	

- Using the diagram below what type of volcanic cone did you construct?



- Complete the Worksheet below using the internet or any Geography Textbook

Inside a volcano

- Label the volcano diagram using the words listed below.
- Write a definition for each word.

Main vent _____

Secondary vent _____

Crater _____

Secondary cone _____

Layers of ash and lava _____

Ash clouds _____

Ash _____

Volcanic bombs _____

Magma chamber _____

Lava flow _____