

Kitchen experiment for teaching volcanic eruption

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Kitchen is a treasure island of analogue eruption experiment.

Explosion experiment of boiled egg: Simulation of phreatic explosion using overheated water and pressure tank is very dangerous. It is safer to use boiled egg as an analogue of phreatic explosion. Make a boiled egg as usual. And then put it into the microwave oven and heat for several minutes. Put the egg into a plastic container and destroy part of white to pull the trigger of explosion.

Dyke experiment using cocoa powder and chocolate paste: Make a small volcano on the plastic board with cocoa powder. Make a vent (pipe shaped hole) in the center of the cocoa volcano. Then put chocolate paste into the vent. If the magma head of chocolate exceeds critical level, chocolate magma begin to intrude into cocoa volcanic body to make dyke.

Subsidence of volcanic body by its load: Subsidence of volcanic body occur in some volcanoes. Iwaki volcano and Hakone volcano are examples of subsidence. Subsidence of flour cone into the paste of butter, sugar and egg, resembles to that of real volcano.

Fragmentation of Tenpura: Fragmentation process is the essence of magmatophreatic explosion. Fragmentation process is safely observed during making agetama using tenpurako.