

Volcanic Eruption Energy Hypothetical Construct Map



Upper Anchor

Volcanoes, earthquakes and mountains are the surface manifestations of large-scale movement of both solid and near-solid earth materials. Such movements can be explained as a natural consequence of the initial formation of the planet, its subsequent differentiation into chemically distinct units (crust, mantle, core), and the continual transfer of heat from the interior of the planet to the surface.

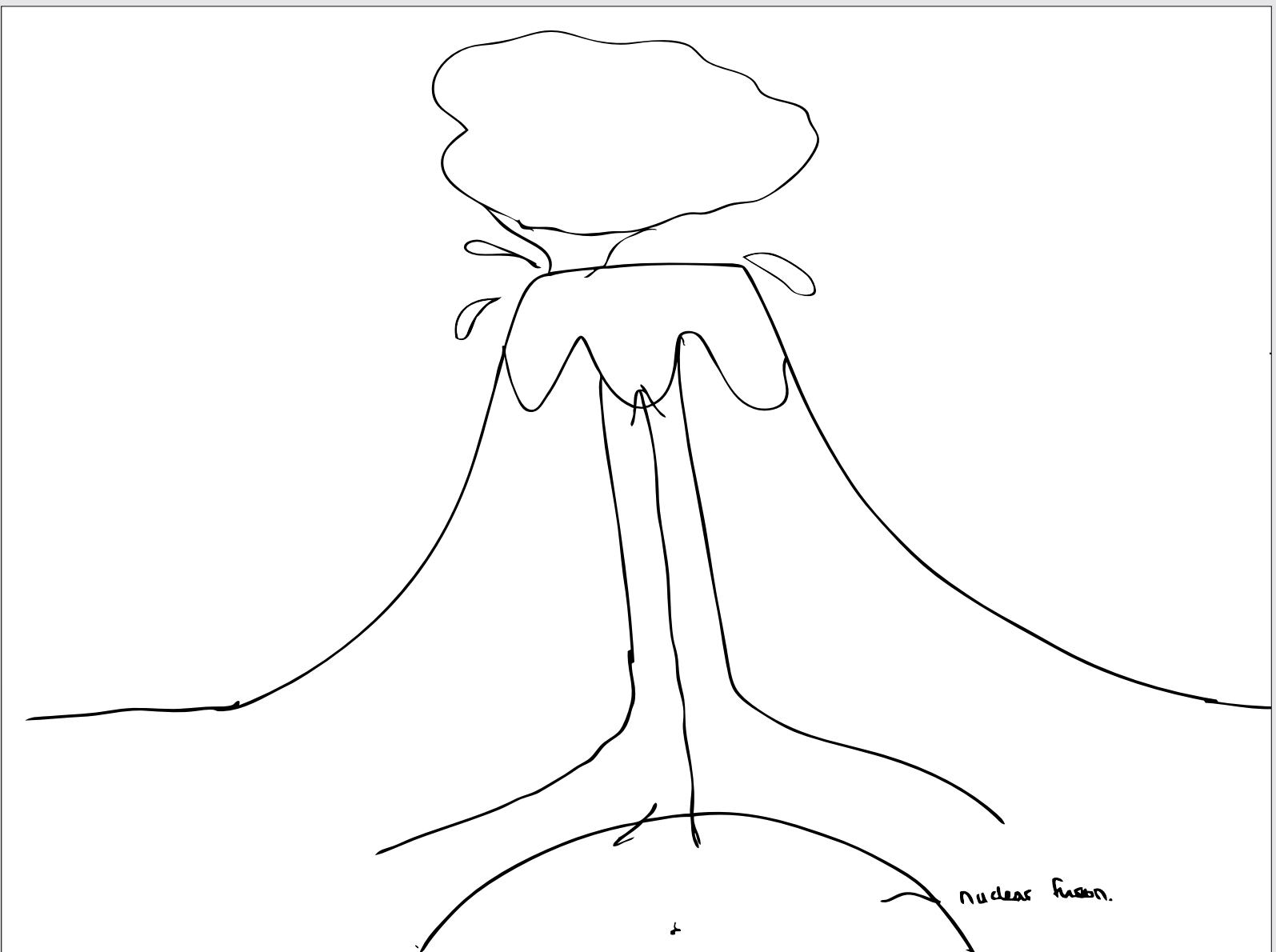


Conceptual Interviews

- Total number of students interviewed = 89
- Middle Grades = 59
- High School = 27
- University = 3
- Students with the new protocol = 40
- Students with pre/post = 23 (46 interviews)

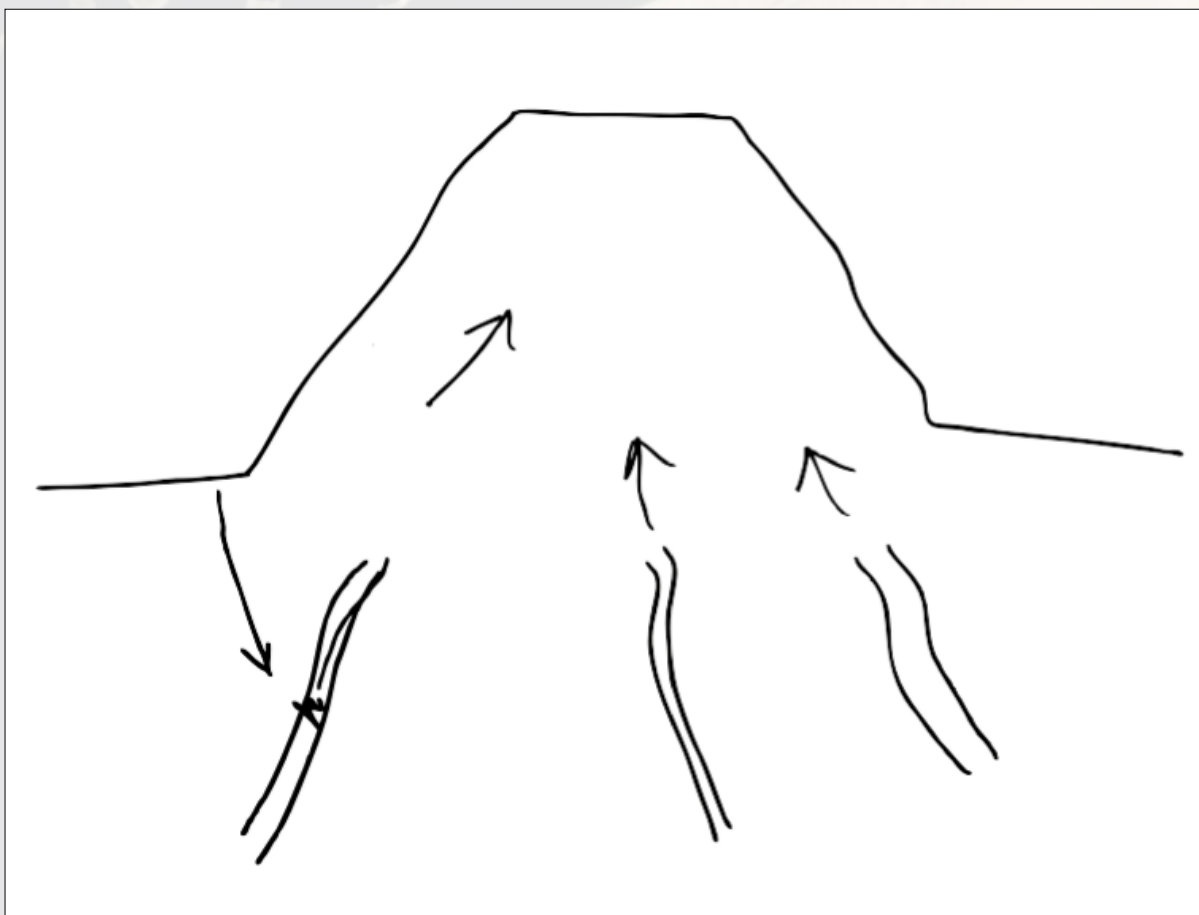
Volcanoes Mechanism

5B	Mantle has sequestered heat from formation, conductive heat from the core and radioactive decay Core has sequestered heat from earth's formation and convection is the primary way heat moves from the interior toward the surface.
5A	Mantle has sequestered heat from formation, conductive heat from the core and radioactive decay Core has sequestered heat from earth's formation. [Hawaii exception]
4B	The interior of the earth is heated from multiple sources - initial formation energy and radioactive decay and convection is the primary way heat moves from the interior toward the surface.
4A	The interior of the earth is heated from multiple sources - initial formation energy and radioactive decay.
3B	The interior of the earth is the source of the heat and hot material moves from the interior of the earth to the surface
3A	The interior of the earth is the source of the heat energy (heat rises)
2	The heat sources for volcanoes are internal vs. external to earth (earth energy system).
1	Heat is part of the mechanism for volcanoes and the heat in volcanoes comes from someplace other than the volcano
0	Other / Supernatural explanation / Missing or unclear mechanism



Volcanoes erupt because heat melts the rock and pushes "stuff" up

Volcanoes form from when the ground is starting to get really hot underneath, so it'll start pushing the ground up - the hot stuff will start pushing the land up



Meredith Hill Bembenic, Helen Gall, Eliza Richardson, Scott McDonald, and Tanya Furman

Middle Grades Earth and Space Science Partnership



DUE # 0962792