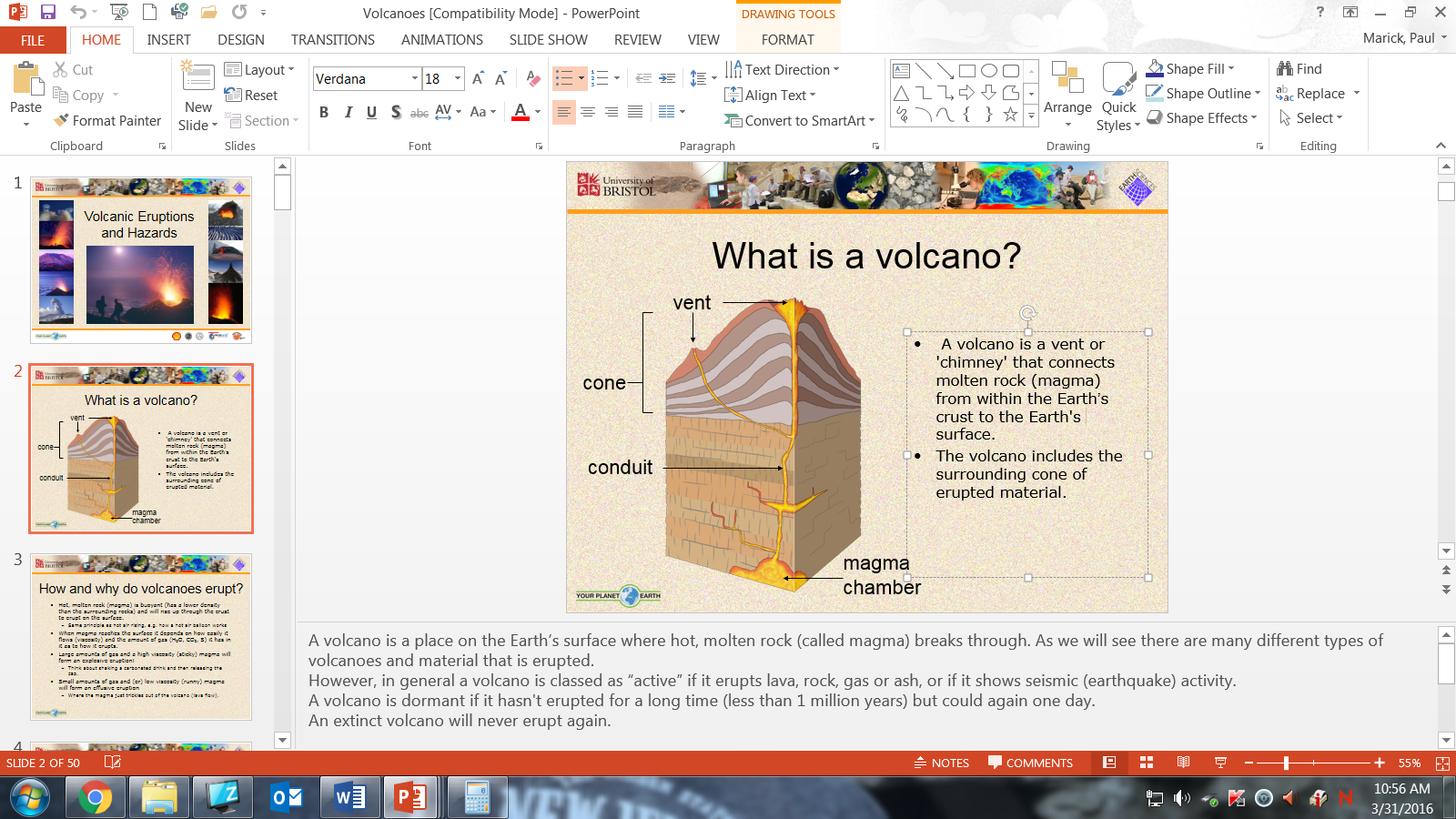
Guided Notes: Volcanoes



How and why do volcanoes erupt?

* Hot, molten rock (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (has a lower density than the surrounding rocks) and will rise up through the crust to erupt on the surface.
  + Same principle as hot air rising, e.g. how a hot air balloon works
* When magma reaches the surface it depends on how easily it flows (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) and the amount of gas (H2O, CO2, S) it has in it as to how it erupts.
* Large amounts of gas and a high viscosity (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) magma will form an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ eruption!
  + Think about shaking a carbonated drink and then releasing the cap.
* Small amounts of gas and (or) low viscosity (runny) magma will form an effusive eruption
  + Where the magma just trickles out of the volcano (lava flow).

Explosive Eruptions

* Explosive volcanic eruptions can be catastrophic
* Erupt 10’s-1000’s km3 of magma
* Send ash clouds >25 km into the stratosphere
* Have severe environmental and climatic effects
* Hazardous!!!
* Three products from an explosive eruption
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fall
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ flow
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ surge

Effusive Eruptions

* Effusive eruptions are characterized by outpourings of lava on to the ground.

Volcanic Hazards

* Pyroclastic flow
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ /Mud flows
* Pyroclastic fall
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Earthquakes

Volcano Monitoring

* Seismicity
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Gas Output
  + (on volcano and remote sensing techniques)