

# Boom Goes the Volcano

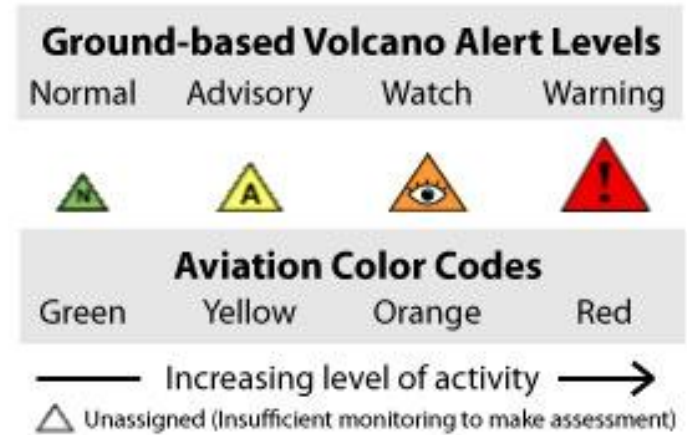
Plate Tectonics Shaping our Crust: Volcanoes and Earthquakes

# Objectives

1. Compare the different types of lava flows
2. Explain what ingredients lead to the most dangerous and explosive eruptions

# Warning Signs of an Eruption

1. Earthquake (increases in amount and severity)
2. Swelling of Crust around Volcano
3. Release of gases, dust/ash and steam
4. Increases in temperature around volcano and water around volcano

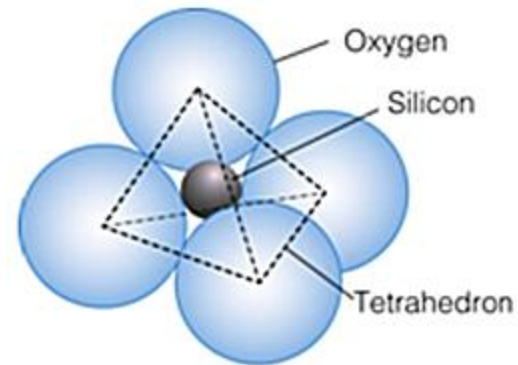


# Volcano Eruption Lab

- Safety:
  - Possible Projectiles....must wear eye protection
  - No fooling around – if the cap pops off, it stays off until the next test
- Make sure you have a person timing and you write down your observations
- Answer all questions on the back in complete sentences

# Terms to know about Volcanoes

- A liquid's resistance to movement down a surface
- High viscosity = doesn't like to move
- Low viscosity = runny and moves easily
- Honey has a **high** viscosity
- Water has a **low** viscosity
- Silica is the most common chemical found in Earth's Crust
- Silica is made of **Silicon** and **Oxygen**
- Because of silica's shape, silica traps gases very well.

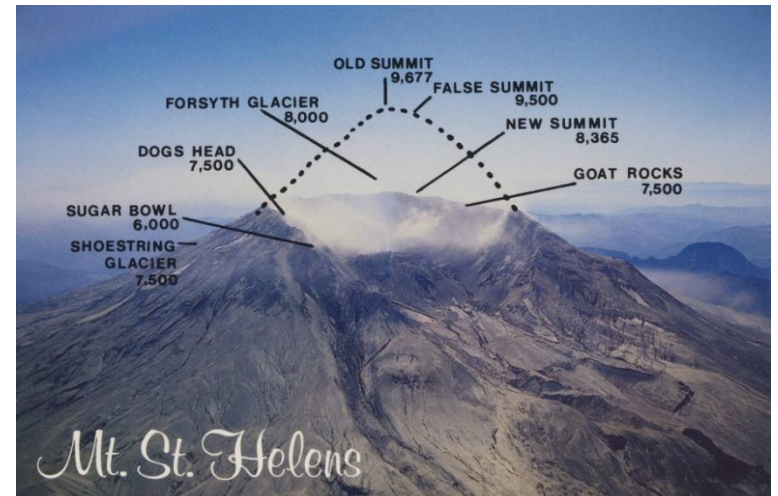


# Ingredients for an Explosive Eruption

1. High amounts of Silica

2. High Viscosity

3. A lot of trapped gases



# Types of Lava (Magma)

## Basaltic

- Rock: Basalt
- Rich in: Iron
- Gases: are released easily
- Viscosity: low = runny

## Rhyolitic

- Rock: Rhyolite
- Rich in: Silica
- Gases: trapped by silica
- Viscosity: high = resists movement; sticky

# Which type of lava has an explosive eruption?

- Rhyolitic!
- Again, what makes for an explosive eruption?
  1. High amounts of Silica
  2. High Viscosity
  3. A lot of trapped gases
- Rhyolitic Lava Check List
- Rich in: Silica
- Gases: trapped by silica
- Viscosity: high = resists movement; sticky

This means basaltic lava has quiet eruptions because has the opposite chemistry compared to rhyolitic lava



# Types of Lava (Magma)

## Basaltic

- Rock: Basalt
- Rich in: Iron
- Gases: are released easily
- Viscosity: low = runny
- Eruption style: Quiet
- Volcano Type: Shield

## Rhyolitic

- Rock: Rhyolite
- Rich in: Silica
- Gases: trapped by silica
- Viscosity: high = resists movement; sticky
- Eruption Style: Explosive
- Volcano Type: Strato-volcano / Composite