Thursday, February 5th

- Lesson 2 Getting Started (H66)
- Waves and Earthquakes (H67)

- **HW:**
  - Update vocab log and review vocab terms: focus, wave, body wave, surface wave, p-wave, s-wave

Lesson 2 Getting Started (H66)

- Answer the 5 questions on the sheet after the demonstration.
- Goal: What is the connection between waves and earthquakes?
- Demonstration: Web Link

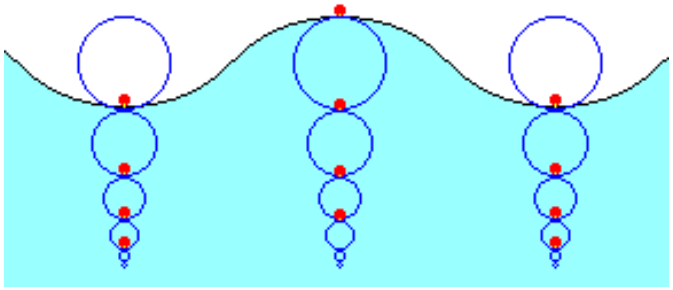
Waves and Earthquakes (H67)

- **Purpose**: To provide background on the connection between waves and earthquakes.
- **GQs**:
  - How is energy from an earthquake transferred?
  - What are the different types of waves generated by an earthquake?

What is a wave?

- A wave is one or more of a series of **movements** passing along a **surface** or through a **substance**.
- Waves have certain properties:
  - A wave can travel **through** a **material** without the material itself **moving** with the wave.
  - A wave can originate at one point and then travel in all directions. (It is not linear; think sphere!)

Waves do not move the matter forward. Matter returns to its starting point.



It's possible for there to be enough energy to displace the matter, but fundamentally waves are energy moving through matter.

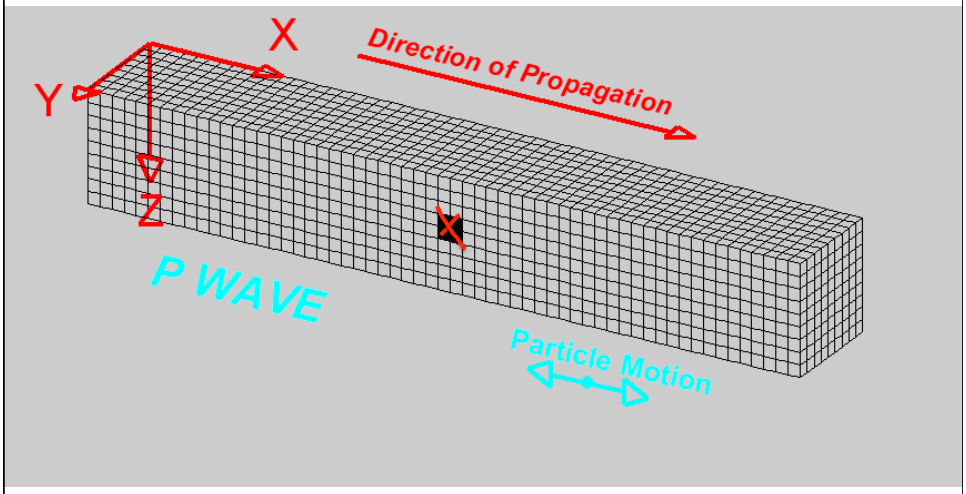
What are the types of earthquake waves?

- There are two main categories of earthquake waves: **body** waves and **surface** waves.
- Body waves move trough the earth and are **perpendicular** to the ground.
- Surface waves mainly travel at or below the earth's surface (up to 1000km), often **parallel** to the ground.

What are the types of earthquake waves?

- There are different types of body waves.
- One type of body wave is called a **P-wave**.
- They compress.
- An easy way to think of this is their action of **push** and **pull**.

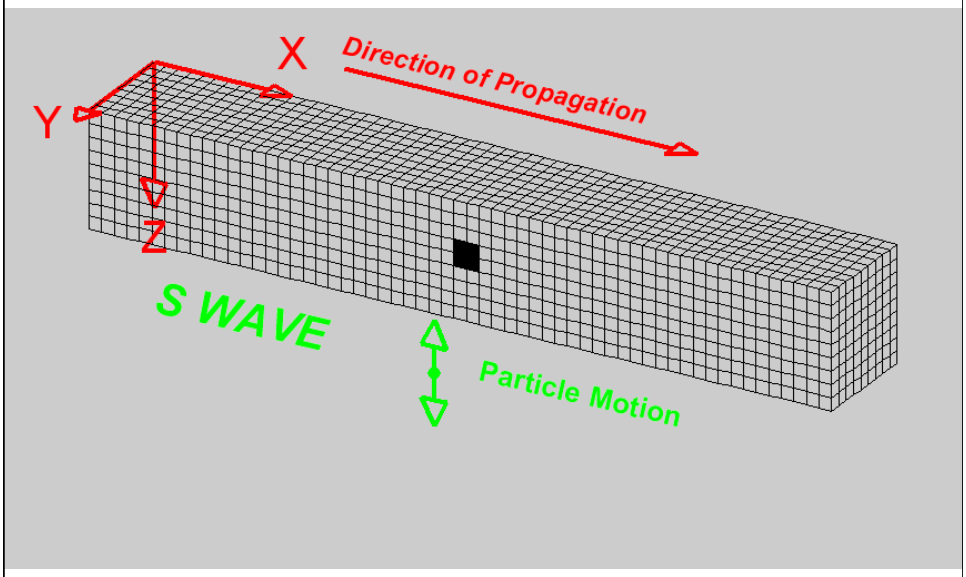
P-Wave



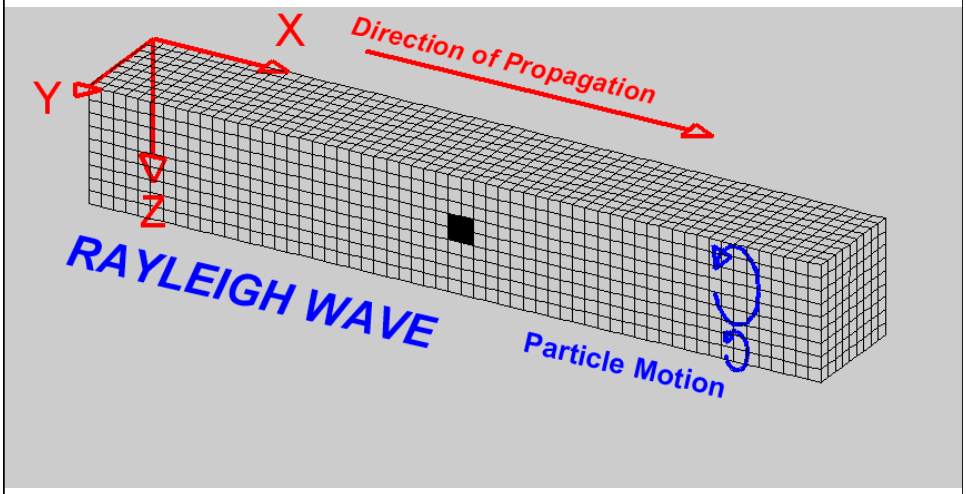
What are the types of earthquake waves?

- Another type of body wave is call an **S-wave**.
- Rather than compress, these waves cause **side-to-side** movement that is perpendicular to the surface of the planet.

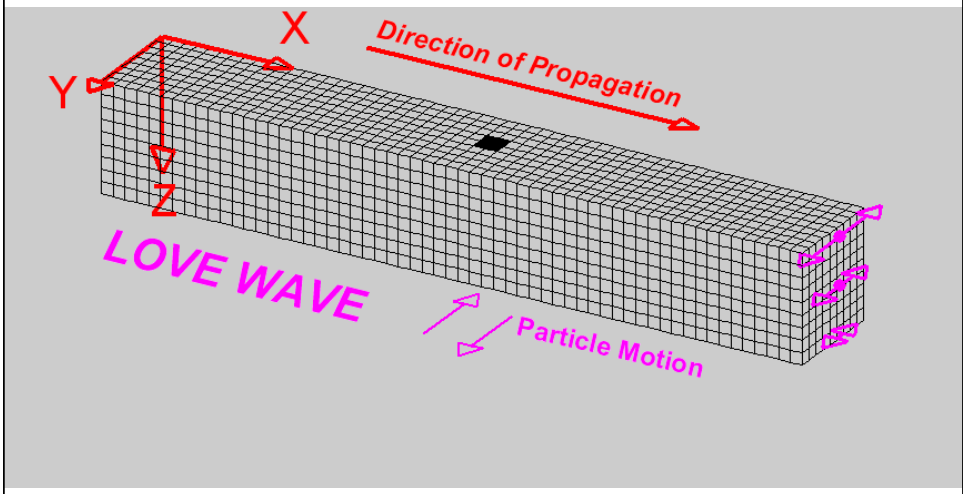
S-Wave



Example Surface Wave



Example of Surface Wave



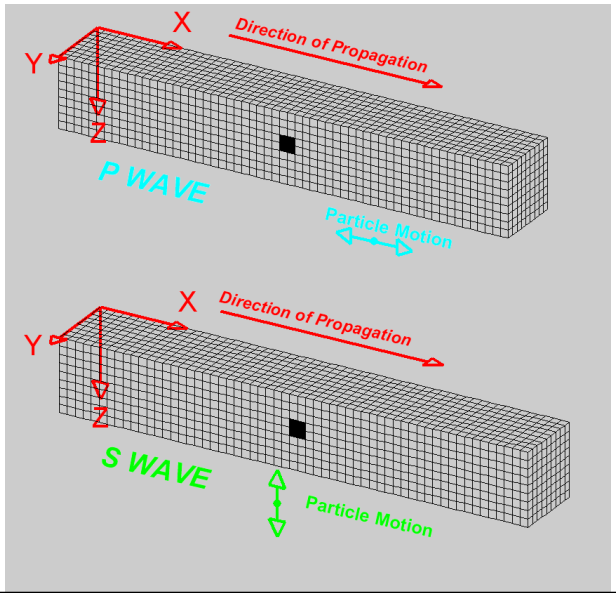
Jaws is like a body wave. S/he comes up from below.

Here Jaws is a surface wave. S/he moves across the surface.

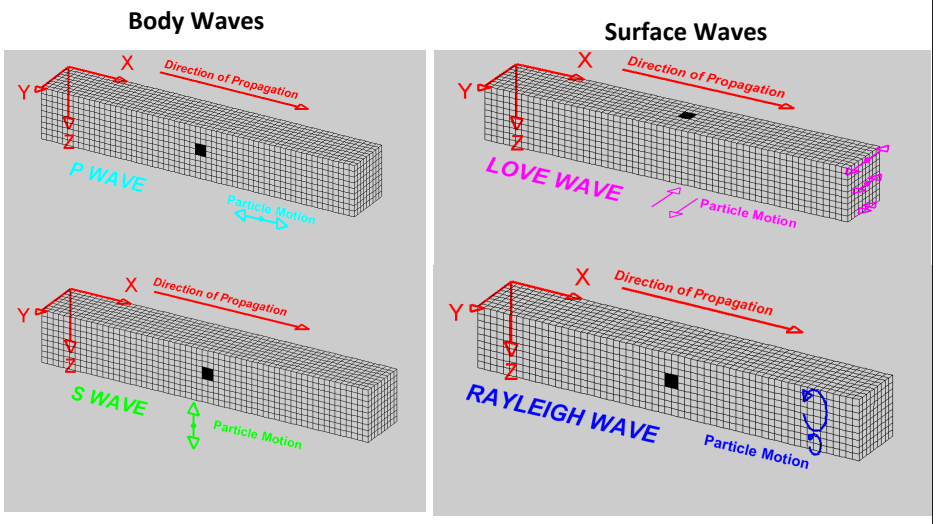
Ultimately

- Know that:
  - P-waves: Push and Pull
  - S-waves: Side to Side
  - Body waves come from below (perpendicular) to the surface.
  - Surface waves travel parallel to the surface.
- Don't worry about:
  - The types of surface waves.

Compare P- and S-Waves



Compare Body and Surface Waves



Update Vocab

- Update your vocab log with the following terms from handout 65:
  - Focus
  - Wave
  - Body Wave
  - Surface Wave
  - P-Wave
  - S-Wave