PowerPoint Notes on Wave and MOSAIC Basics

Slide 1

Slide 2

Slide 3

Students may or may not be familiar with the atmosphere and its layers, so it might be worth spending a bit of time talking about the structure and temperature profile of the atmosphere.

Slide 4

Slide 5

Slide 6

Slide 7

Slide 8

You may have studied simple harmonic motion already, or you may be planning on studying it later. This slide is intended to provide an introduction so that students can follow the discussion of waves.

Slide 9

This is a good moment to demonstrate these types of waves using a slinky.

Slide 10

Slide 11

Slide 12

I always struggle to pronounce rarefaction correctly. According to dictionary.com, (where you can play the word pronounced correctly), it should be rair-uh-FAK-shun.

Slide 13

Amplitude is labeled here, and it should be emphasized that it is measured from the middle of the wave to the peak or trough.

Slide 14

For the wave given, the period is 2.0 seconds, while the frequency is 0.5 Hz.

Slide 15

Because many students know that velocity = wavelength x frequency, they tend to assume that wavespeed depends on frequency or wavelength. This slide tries to emphasize the fact that the wavespeed depends only on the properties of the medium, and that, within a medium, the wavelength and frequency are inversely related.

Slide 16

The higher the tension in a string, the faster the speed of the wave in the medium, and thus, the higher the pitch. Students who play stringed instruments may be familiar with this.

Slide 17

As ocean waves come to shore, their speed decreases due to the interference of the ocean bottom with the bottom of the circular wave. This causes the wavelength to decrease and the wave to break.

Slide 18

The length of these waves is measured to be 0.027094263 meters.

Slide 19

Slide 20

You can discuss here the misleading nature of many science fiction movies and television shows. Almost always, these depict large explosions in space with an accompanying loud sound.

Slide 21

http://www.classzone.com/books/earth_science/terc/content/visualizations/es1002/es1002page01.cfm?chapter_no=visualization
is a good demo of s- and p- waves.

Slide 22