Parts of a Longitudinal Wave
[specifically, focusing on a longitudinal wave of air molecules]

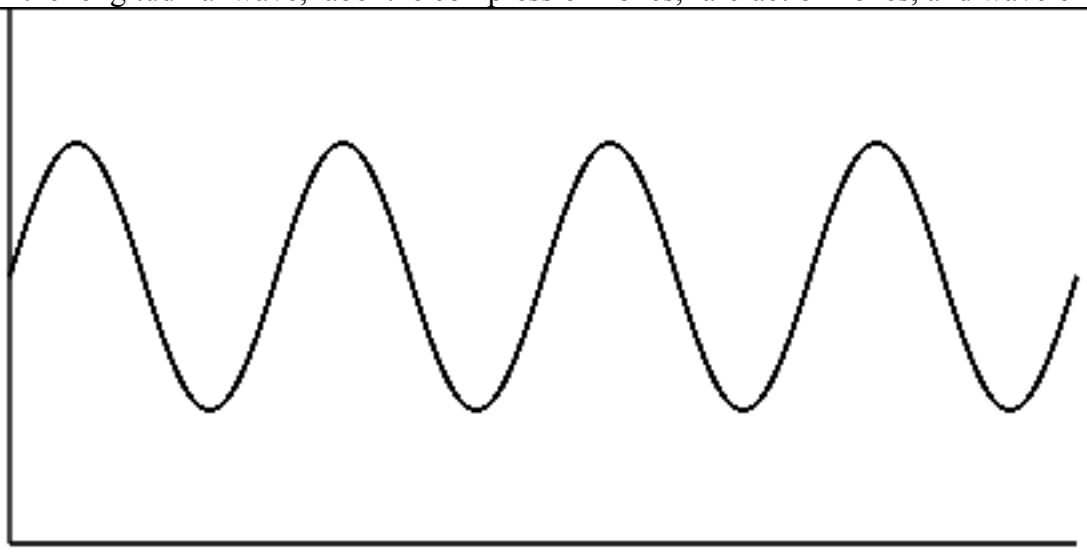
Review: Parts of a Transverse Wave

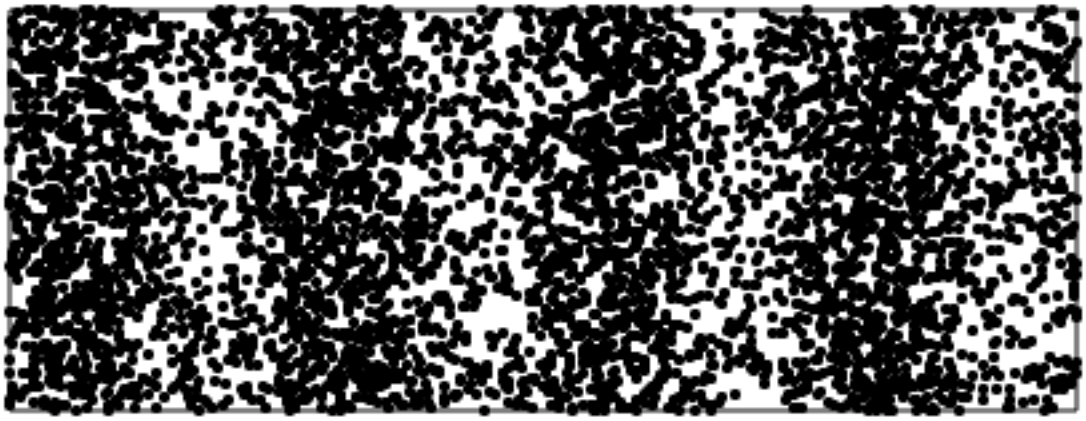
Crests The tops of a transverse wave
Trough The bottom of a transverse wave
Wavelength The distance from crest to crest or from trough to trough
Amplitude The distance from the middle of a wave to the height of a crest or trough.

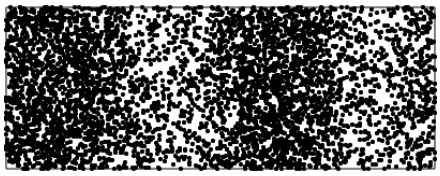
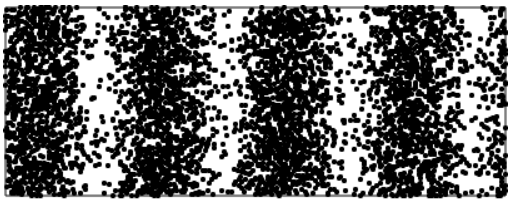
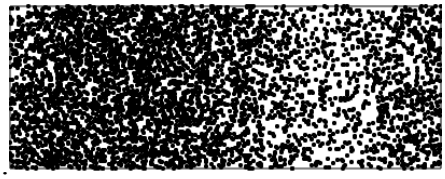
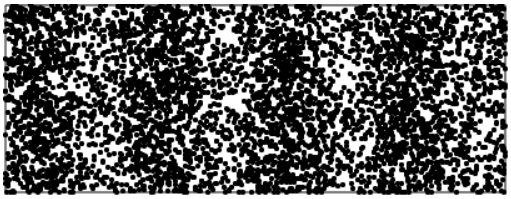
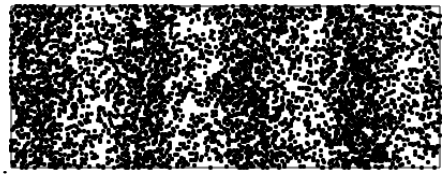
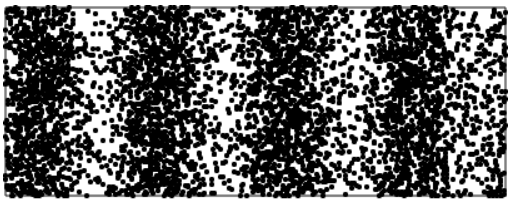
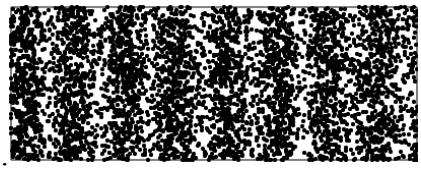
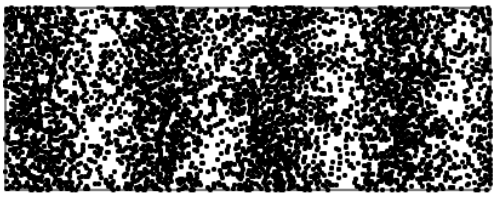
New Information: Parts of a Longitudinal Wave

Compression Zone Area with many compressed air molecules and higher air pressure. Corresponds with a *crest* of a transverse wave.
Rarefaction Zone Area with fewer air molecules and lower air pressure. Corresponds with *trough* of a transverse wave.
Wavelength Distance between two compression zones or between two rarefaction zones. Same as the wavelength of a transverse wave.
Amplitude How much the wave changes the air pressure. Cannot be easily drawn on a picture of a longitudinal wave. (Air pressure at compression zone – Air pressure at rarefaction zone) / 2

The following picture shows a transverse wave, and below it a longitudinal wave.
On the transverse wave, label the crests, troughs, and wavelength.
On the longitudinal wave, label the compression zones, rarefaction zones, and wavelength.





The following 5 longitudinal waves all have the same amplitude but different wavelengths. Rank them from longest wavelength to shortest wavelength.	The following 4 longitudinal waves have the same wavelength but different amplitudes. Rank them from greatest amplitude to least amplitude.
A. 	F. 
B. 	G. 
C. 	H. 
D. 	I. 
E.