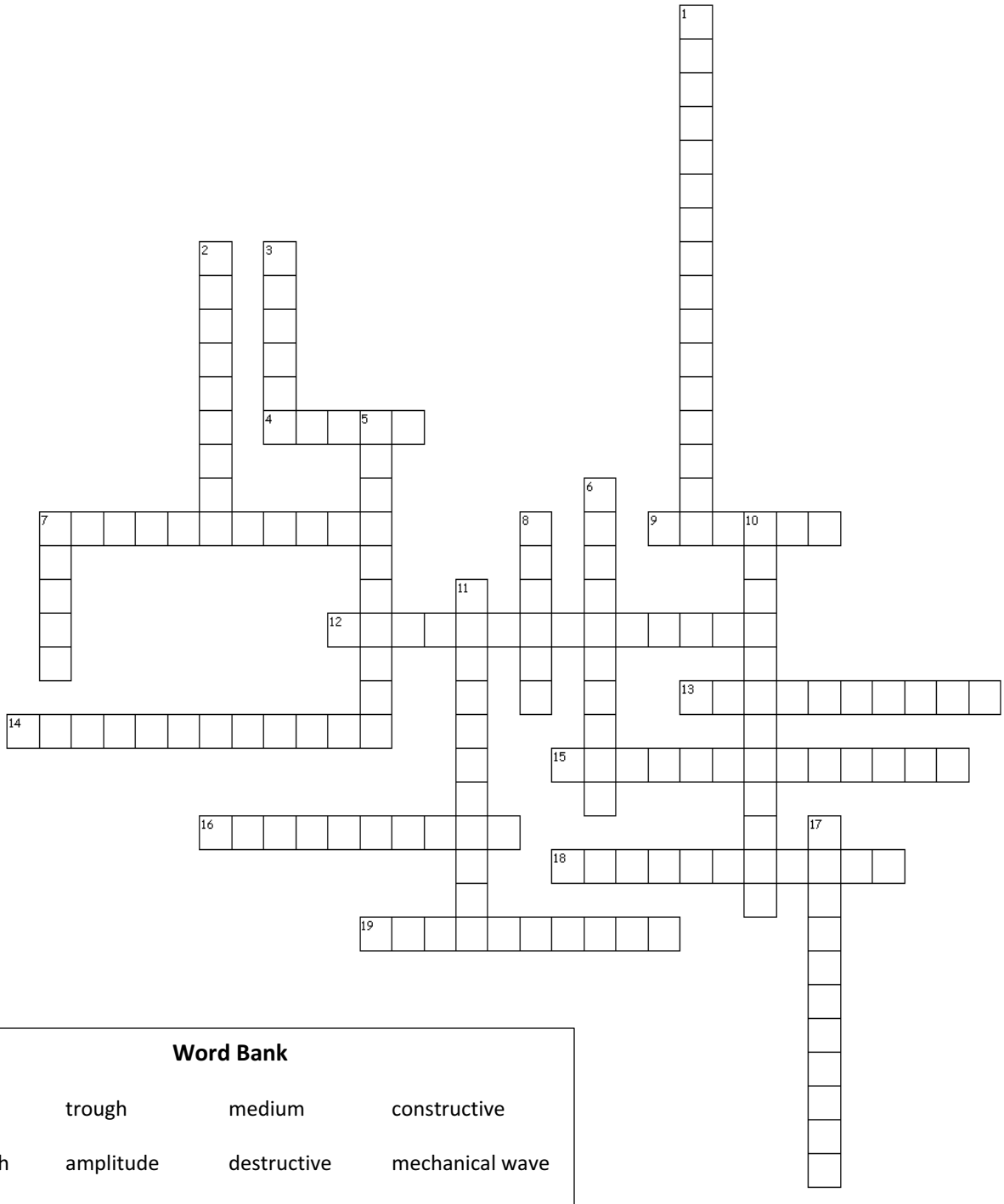
Name_____ **Physical Science Pd.** ____ **Date**_____

Ch. 17 Mechanical Waves and Sound Answer Key

SPS9. Students will investigate the properties of waves.



Word Bank			
crest	trough	medium	constructive
wavelength	amplitude	destructive	mechanical wave
reflection	refraction	diffraction	transverse
interference	compression	rarefaction	longitudinal wave
transverse	hertz	second	Doppler effect

Across

4. **Hertz** Unit used to measure frequency; cycles per seconds
7. **Compression** An area where the particles in a medium are close together
9. **Period** The time required for one cycle, a complete motion that returns to the starting point
12. **Mechanical wave** A disturbance in matter that carries energy from one place to another
13. **Reflection** Occurs when a wave bounces off a surface that it cannot pass through
14. **Constructive** Interference that occurs when waves combine to produce a wave with a larger displacement
15. **Doppler Effect** A change in sound frequency caused by the motion of the sound source, motion of the listener, or both
16. **Wavelength** The distance between one point on a wave and the same point on the next cycle of waves.
18. **Destructive** Interference that occurs when waves combine to produce a wave with a smaller displacement
19. **Transverse** Longitudinal waves- compressions and rarefactions that travel through a medium

Down

1. **Longitudinal wave** A wave in which the vibration of the medium is parallel to the direction the wave travels
2. **Amplitude** The maximum displacement of the medium from its rest position
3. **Trough** Lowest point of a wave below the rest position
5. **Transverse** A wave that causes the medium to vibrate at right angles (perpendicular) to the direction the wave travels
6. **Refraction** The bending of a wave as it enters a new medium at an angle
7. **Crest** The highest point of a wave above the rest position
8. **Medium** The material through which a wave travels
10. **Interference** Occurrence when two or more waves overlap and combine together
11. **Rarefaction** An area where the particles in a medium are spread out
17. **Diffraction** The bending of a wave as it moves around an obstacle or passes through a narrow opening