

IPC Curriculum Bundle #6



Title	Suggested Dates
Sound	12/6-12/17 (9 days)

Big Idea/Enduring Understanding	Guiding Questions
Sound waves interact with other waves and with matter.	How do sound waves effect your daily life? How does sound travel?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
Vocabulary: intensity, pitch, doppler effect, echolocation, frequency, noise pollution, constructive interference, destructive interference, decibels, ultrasound, absorption, acoustics, sonar		
<p>IPC.5 Science concepts. The student recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:</p> <p>5G explore the characteristics and behaviors of energy transferred by waves, including acoustic, seismic, light, and waves on water as they superpose on one another, bend around corners, reflect off surfaces, are absorbed by materials, and change direction when entering new materials;</p>	<p>Including</p> <ul style="list-style-type: none"> • Radar • Doppler Effect <p>Including</p> <ul style="list-style-type: none"> • Sonar • Describe how sound waves are heard • Relate loudness to intensity and pitch to frequency • Acoustics • Speed of sound in different mediums (refraction) • Calculate the speed of sound • Echoes (reflection) 	<p>Sounds Demonstrations</p> <p>“Natural Frequency and Resonance” – <u>Investigations in Physics and Chemistry</u></p> <p>http://www.kettering.edu/~drussell/Demos/doppler/doppler.html</p> <p>Doppler Effect Demo (outside by road)</p> <p>Australian Bull Roarer Lab</p> <p>http://www.kettering.edu/~drussell/Demos/doppler/doppler.html</p> <p>“Sound Lab” – <u>Investigations in Physics and Chemistry</u></p> <p>Resonance Box and Tuning Fork (demonstration)</p> <p>Identify Items by dropping them and recognizing their natural frequencies</p> <p>Harmonic Tubes (twirl overhead and change frequencies)</p> <p>Doppler videos</p> <p>Sound Video</p>