Physics > Big idea PSL: Sound, light and waves> Topic PSL4: Waves

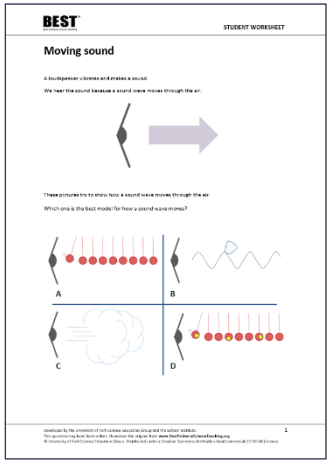
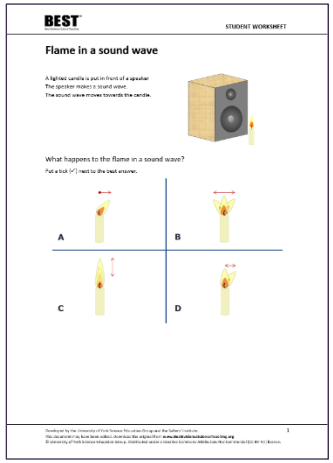
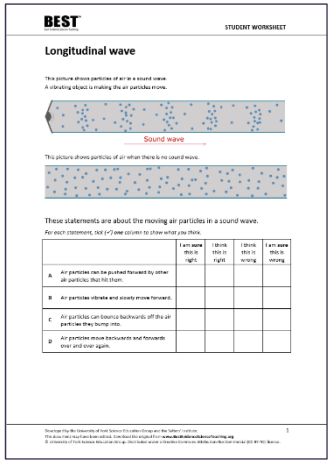
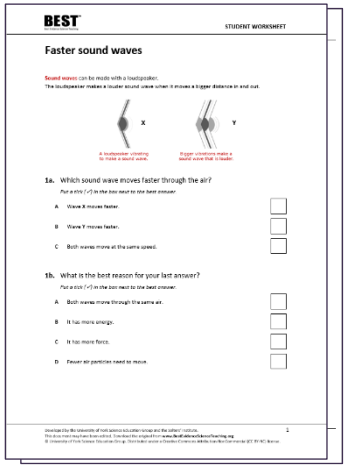
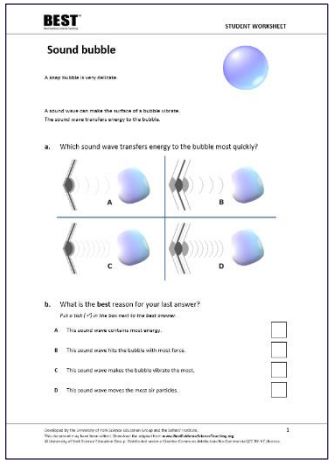
Key concept (age 11-14)
PSL4.2: A wave model of sound

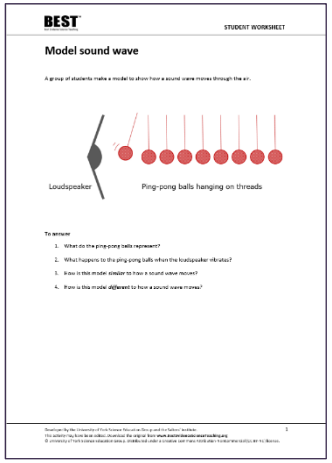
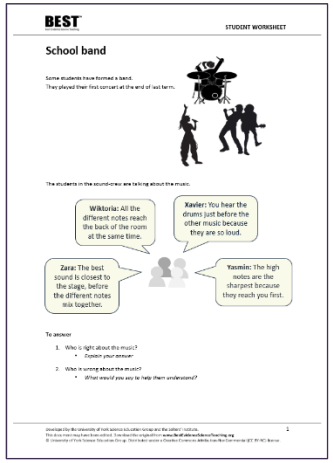
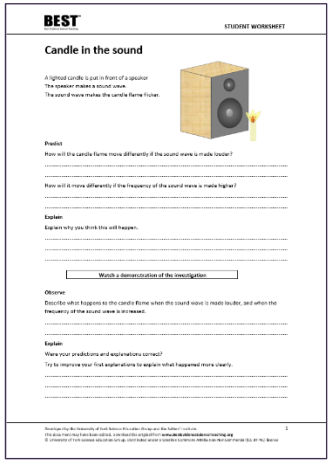
Progression toolkit: A wave model of sound

Learning focus	As a sound wave (longitudinal wave) travels it transfers energy, as particles of the medium through which it travels are successively made to vibrate forwards and backwards along the direction in which the wave travels.				
As students' conceptual understanding progresses they can:	CONCEPTUAL PROGRESSION →				
	Recognise that as a sound wave travels forward, the medium it travels through does not. **P**	Describe the movement of each 'particle' of a longitudinal (sound) wave as the wave moves forward. **P**	Explain how movement of each 'particle' of a longitudinal wave causes a perturbation to move forward.	Compare the speed of sound waves that have a different frequency or loudness to each other and are moving through a common medium.	Compare the energy transferred by sound waves that have a different frequency or loudness to each other and are moving through a common medium.
Diagnostic questions	Moving sound	Flame in a sound wave	Longitudinal wave	Faster sound waves	Sound bubble
Response activities	Model sound wave			School band	Candle in the sound

Key:

P Prior understanding from earlier stages of learning

Moving sound	Flame in a sound wave	Longitudinal wave	Faster sound waves	Sound bubble
				
Simple multiple choice	Simple multiple choice	Confidence grid	Two-tier multiple choice	Two-tier multiple choice

Model sound wave	School band	Candle in the sound
		
Critiquing a representation	Talking heads	Predict, explain, observe, explain