Sound Lesson Scope and Sequence

Lesson	Focus Question	Main Learning Goal	Science Content Storyline
1	How can you tell if something is making a sound?	To produce sound, object must move back and forth quickly (vibrate).	In science, evidence is what you find out or understand that that helps you know something. For you to hear a sound, an object or material must vibrate. Vibrate means to move back and forth quickly. Often we can see the vibrations when an object is making a sound. We may also be able to feel the vibrations. Seeing and feeling vibrations as well as hearing sound are evidence that an object is making a sound.
2	Do sound makers always vibrate? How can we tell?	To produce sound, object must move back and forth quickly (vibrate).	All objects that produce a sound vibrate. Sometimes you cannot see these vibrations but there is other evidence that the object is vibrating. You may be able to feel the vibrations or see other objects move because of the vibrations.
3	How does sound move?	Vibrating objects can make other objects vibrate.	Vibrations of a sound maker can make objects around it vibrate. This sets up a repeating pattern of waves. These waves can be represented by a sine wave to show this repeating pattern.
4	How does sound get from a sound maker to my ear?	When something vibrates, it makes the air all around it vibrate.	Sound must move from a vibrating object to the ear. All sound makers vibrate and cause the air around them to vibrate. These vibrations reach our ears and we hear sound.
5	When something makes a sound, where does the sound go?	Sound moves in all directions.	When an object makes a sound the sound moves away from the object in all directions. The sound does not stop when it is detected.
6	How does my ear help me hear sound?	Vibrating air (sound) can make other objects vibrate. When vibrating air makes your eardrum vibrate, you hear sound.	The air all around a sound maker vibrates. These vibrations move through the air away from the sound maker. Some of the vibrations reach our ears. This vibrating air makes our ear drum vibrate. The eardrum sends a message to the brain that there is sound.
7	Why are some sounds we hear loud and some sounds quiet?	Louder sounds have bigger vibrations and quieter sounds have smaller vibrations.	Sound can be different because they are louder or quieter. Bigger vibrations produce louder sounds than smaller vibrations do. When your eardrum vibrates with bigger vibrations, you hear louder sounds.
8	Why do we hear sound?	*Synthesis of earlier lessons:* Vibrating objects produce sound. Vibrations travel through air in all directions as waves. Vibrating air can make our eardrums vibrate so we hear sound.	All sound makers vibrate. They vibrate with bigger vibrations when they make loud sounds and smaller vibrations with quiet sounds. Vibrating objects make the air all around them vibrate. Vibrating air makes the ear drum vibrate. The ear sends a message to the brain that the vibrations are sound.