The Sounds of Baseball

Teacher Answer Key:

1. D

2. C

3. A

4. B

5. B

6. C

7. D

8. Students should explain that because the ball was traveling in one direction and the bat forces it back the other way, rapid vibrations in both the bat and the ball occur when they smack into each other. Those vibrations quickly cause the air molecules to vibrate too and the sound waves are created. These sound waves are picked up by the fans’ ears and processed by their brains, allowing them

to hear the impact.

9. Students should explain that inside of the vendor’s throats are wiry looking parts

that vibrate when a person wants to make a sound and communicate their thoughts to others. The voice box vibrates and the beginnings of sound waves that shoot through the stadium’s air are rooted there. The energy created by the vibrations sends the air molecules into unrest. In turn, this creates air pressure from all that wild movement of the molecules smashing into one another, that nobody can see, but they can certainly hear. Finally, those sound waves of vibrations make a connection inside a person’s ear.

10. Students should explain that when an object vibrates, the molecules of the object knock into the molecules of air that surround it, or possibly the molecules of another object next to it. Air molecules bash into each other like millions of microscopic Ping-Pong balls, transporting the sound through what becomes a sound wave. Depending on how strong or soft the vibrations are, the sound’s volume and tone will vary. The person’s ears pick up the vibration and the brain processes the sound.