CurriculumVisions Lesson

Students: fill in next to the word answer and return the document for assessment.

Science

Book: Changing sounds (5F)

Pages 4-11

Everything here is based on our Curriculum Visions book Changing sounds (5F)

In this segment, we are going to learn about what causes sound.

Part 1

You will need to go to pages 4-5 of the book. How is sound made?

Answer.....
Sound is made by vibrations

Describe one way of feeling or seeing sound vibrations.

Answers can include.....
Feeling: Touching your throat while singing; touching a loudspeaker while sound is coming from it
Seeing: Covering a glass or jar with cling film, placing a few grains of rice on top and striking a tuning fork and placing it near the glass; covering both ends of a cardboard tube with thin, plastic sheets, making a very small hole is made in one sheet, then tapping the other sheet while holding the tube near a lit candle.

Part 2

Go to pages 6-7. How do sound waves travel through air?

Answer.....
Sound travels through air in bunches - the bunched-up air pushes against the air next to it, causing it to bunch up in turn and move along

Describe why a cup and string telephone works.

Answer.....
Sound can travel through solid objects. The sound waves pass along the string.

Part 3

Go to pages 8-9. How does a cabinet help to make the sound of a loudspeaker louder and deeper? What is this called?

Answer.....
The vibrations from the speaker bounce around inside the cabinet, causing the cabinet to vibrate as well, making sounds louder and deeper.
This is called resonance.

At what decibel level do sounds become dangerous? Where can you find sound above this level?

Answer.....
120dB
Near the loudspeakers at a concert.

Part 4

Go to pages 10-11. Write down a plan for finding out the speed of sound. If your teacher agrees, try it out. What happened?

Answers may vary.....
Students should use the example on page 11 of the book. Look for a plan to stand at a measured distance from a wall and make a sound, then use a stopwatch to count how long it takes to hear the echo. Then divide the total distance by the time it takes the sound to return.
Note: If the students try this, it may not produce an answer close to the actual speed of sound. Explain that this is likely due to the students' reaction time in clicking the stopwatch – they move slower than the speed of sound so by the time they have clicked, the sound has actually travelled further.

If you are interested in this topic continue to browse the book and watch our amazing videos. They start right on the book cover.