

9. Look at the graph on the graphing calculator, which shows the sound plotted against time in seconds. There should be two peaks on the graph, one near the beginning and one a little later. The first peak is the sound, and the second peak is the echo of the sound. Use the arrow keys to trace the graph. (Note: If the graph has spikes or black lines, repeat the trial to obtain a smooth graph.)
10. Find the difference between the x-values of the two peaks to find the time interval between them. Record the time interval in your data table. Sketch the graph in your lab notebook. Press ENTER on the calculator to return to the main screen.
11. Repeat the procedure for several trials. Try different sounds, such as a soft noise, a loud noise, a high-pitched sound, and a low-pitched sound. Record all data in your data table.
12. Clean up your work area. Put equipment away safely so that it is ready to be used again. Recycle or dispose of used materials as directed by your teacher.

## ANALYSIS

1. **Organizing Data** For each trial, multiply the measured distance by 2 to find the total distance that the sound traveled.
2. **Organizing Data** Use the values for the distance traveled and the time interval from your data table to find the speed for each trial.

## CONCLUSIONS

Complete the Conclusions items for the Skills Practice Lab “Speed of Sound” in the chapter “Sound.”



**Figure 1**

**Step 7:** The interface will begin collecting sound data as soon as you make a sound, so work quietly until you are ready to begin the experiment. Remain quiet until data collection has finished. Background noise may affect your results.

**Step 9:** On the graph, the first and second peaks may not be the same height, but they should both be noticeably higher than the other points on the graph. If the sound was too loud, the graph will show many high and low points. Repeat with a softer sound for better results.