DETERMINING THE SPEED OF SOUND IN AIR

Purpose: To experimentally determine the speed of sound in air in Fenelon Falls and compare it to the theoretical value.

Theory: What is the equation for the speed of sound? What is the expected value? What equations will you use to experimentally determine the speed of sound in air?

Apparatus: Thermometer, Measuring Tape, Stopwatch, Noise-Making Device

Procedure:

1. Record the outside temperature.
2. Stand at the edge of the community centre parking lot. Measure the distance from here to the outside wall of the community centre.
3. Use the noise-making device to make a loud noise in the direction of the community centre. Record the time it takes the sound to travel to the community centre and return to you (the echo).

Calculations:

1. Use the temperature to determine the theoretical value for the speed of sound.
2. Use the distance and time to determine the experimental value for the speed of sound in air in Fenelon Falls.

Errors: Include any errors and improvements; determine the error between your experimental and theoretical values.

Conclusion: Write a conclusion.