Name: _____ Group: _____ Date: _____

LAB 32
EXPERIMENT

THE EFFECT OF DISTANCE ON SOUND INTENSITY

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Goal

Determine the effect of distance on intensity of sound.

1. What is the independent variable in this lab?

_____

2. What is the dependent variable in this lab?

_____

Hypothesis

I think that _____

Because _____

Materials

- sound source (musical instrument, whistle, alarm, etc.)
- sound meter
- tape measure

Procedure

1. Place the sound source at one end of the lab.
2. Place the sound meter next to the sound source.
3. Produce a continuous sound.
4. Measure the sound intensity. Record the result.
5. Move the sound meter 0.5 m away from the sound source.
6. Measure the sound intensity. Record the result.
7. Repeat steps 5 and 6 until the sound meter is 3 m away from the sound source.
8. Put away materials.

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Results

Record your results in the table below. Give the table a title.

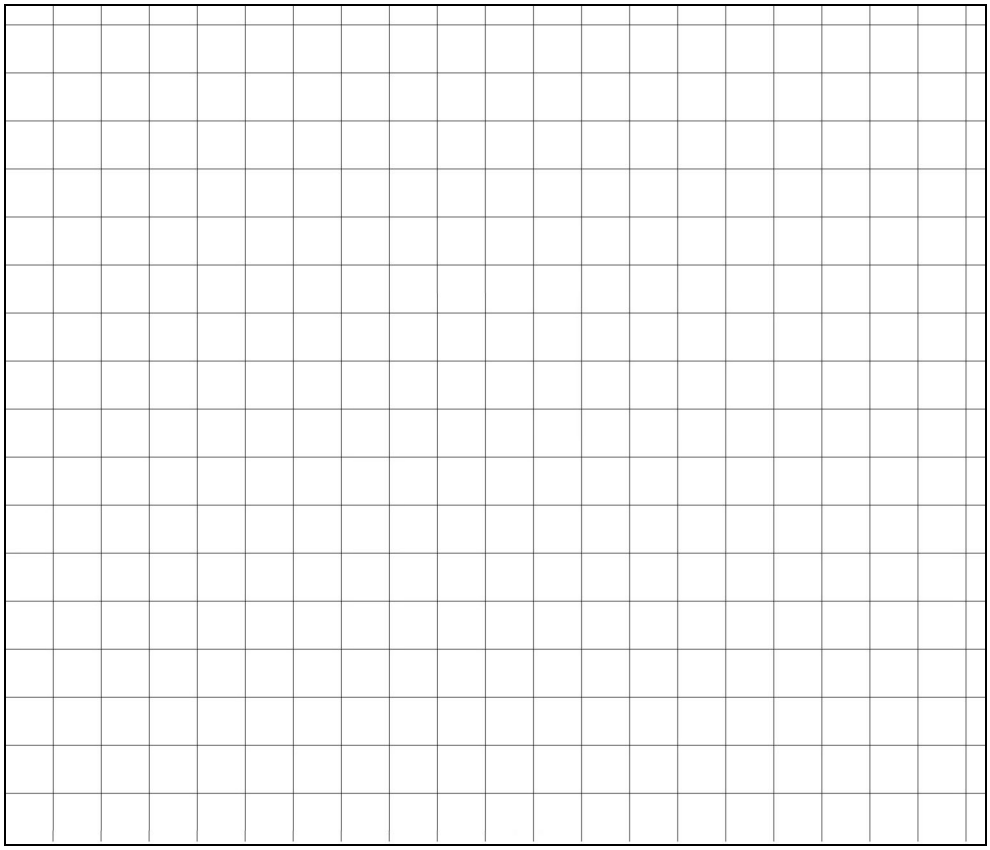
Title:

Distance (m)	Sound intensity (dB)

Graph

Plot the intensity of sound according to distance. Give the graph a title.

Title:



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Analysis of the results

1. What happens to sound intensity as distance increases?

_____

2. Does sound intensity vary linearly?

_____

3. What are the possible sources of error in this lab?

_____

4. How could you improve the protocol for this lab?

_____

Conclusion

1. Complete the following sentence:

As distance increases, _____.

2. Was your hypothesis confirmed or not? Explain your answer.

_____

Application

Headsets of portable audio players can be very damaging to hearing. Explain why.

_____

_____