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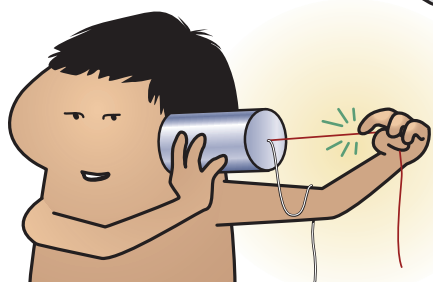
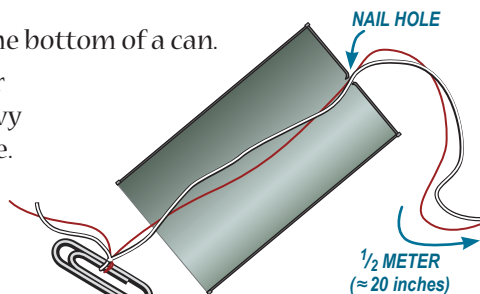
pitch variables

...adapted from **SOUND #18**
by TOPS Learning Systems

1. Punch a small hole in the bottom of a can.

a. Push about $\frac{1}{2}$ meter of light thread and heavy string through this hole.

b. Tie both strands to a paper clip at the open side of the can.



2. Hold the open end to your ear as you strum each string. Experiment with ways to raise or lower the pitch.

3. Summarize your results in a table like this:

VARIABLE:	To RAISE the pitch:	To LOWER the pitch:
1.		
2.		
3.		

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OBJECTIVE

To discover three variables that affect the pitch of a vibrating string.

LAB NOTES

Copy the lab for each student or lab team. Ask students to answer on notebook paper if you wish to save the labs for future use.

Step 3. Some students may stop after finding one or two variables. Prompt them to keep experimenting until they discover 3 ways to change the pitch.

ANSWERS

VARIABLE:	To RAISE the pitch:	To LOWER the pitch:
1. Tension	Increase tension	Decrease tension
2. Length	Shorten strand	Lengthen strand
3. Diameter	Use thinner strand	Use thicker strand

EVALUATION

Q: Name 3 different ways to lower the pitch on a stringed instrument.

A: Decrease the tension in the strings, lengthen the strings, or use thicker strings.

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