

QUIET, INC.

Teaching Guidelines

Subject: Science

Topics: The Nature of Science and Technology

Grades:

Knowledge and Skills:

- Can create a chart for the collection of experimental results
- Can present experimental results clearly in written form.
- Can design an experiment which compares behavior or characteristics of classes of objects or subjects

Materials: Data collection device, box, soundproofing material

Procedure:

This project should be done by students in teams of two or three. It is a project that may best be done as a homework assignment.

Distribute the handout and discuss it. Ensure that students understand the assignment.

Once students understand that each team is to construct its own “soundproof” box, discuss the ways in which to ensure that the boxes are then tested fairly. Help students to see why it is important that all boxes be the same size and shape. (You may want to ask all students to use fruit boxes from grocery.)

To make this experiment quantitative, you may wish to use a sound measurement device (such as the Casio EA-100 Data Collection device) and measure the difference in sound intensities at a certain distance from the source, with and without the soundproof box. In this case you will probably want to explain and use the concept of “decibels”.

Give students a schedule for working on the project and a due date.

Quiet, inc.



Date: June 11, 1955

To: Research

From: Marketing

Re: Product development

You are no doubt aware of the public concern over the kind of music that young people are listening to these days.

I have even heard rumors that the sound from those new "electric" guitars can be dangerous to human health.

I don't know if that is true, but I do know that this kind of music is just going to get more and more popular.

Which is good news for those of us in the soundproofing business.

I expect that we are soon going to be receiving many, many requests to soundproof garages, sheds, and possibly even living rooms. However, the type of material we have been using for soundproofing in radio stations and so on is far too expensive for this new market. We need something that is maybe not quite so effective but much cheaper.

So could you guys in research get to work on this?

This is a big project, but I suggest we start with something simple. Let's see who can make the most soundproof cardboard box with common household materials. Use these guidelines:

- 1) All soundproofing has to be inside the box.
- 2) All boxes must be the same size, with one side removed.
- 3) The soundproofing may not be more than 2" thick.

We will test the boxes by turning them upside down and putting them on top of a radio playing some of this new "rock and roll" stuff. I need you to come up with a reliable and fair testing procedure.

I can foresee a real business boom coming out of these boxes.