Thread NSTA light and Sound Question

Denise Oppenhagen wrote:

Good morning, all.
I need a little brainstorming help. My students did VERY poorly on their light and sound unit. I want to reinforce the important concepts by giving them an "extra-credit" optional project -- one for light and one for sound. They will only have until next Wednesday to complete it. I'm looking for something other than a writing assignment, although I like the scientist idea that was just posted.

Please help!!

Denise Oppenhagen
Rippon Middle School

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Greetings,

Check out my website listed below. Light and sound
in all three areas.

Dick


Helping teachers who facilitate, motivating
students who learn.
Dick Heckathorn  14665 Pawnee Trail  Middleburg
Hts, OH  44130  440-826-0834
http://web.cvcaroyals.org/~rheckathorn/
Adjunct Physics Teacher - Baldwin Wallace College
Physics is learning how to communicate with ones
environment so that it will talk back.
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Sound and light are complicated and difficult topics for middle schoolers. I suggest that you find as many concrete ways to show the concepts. For example, go to a toy store and buy a cheap plastic toy horn, one with a fairly wide bell (opening). Dip the opening of

the bell in soap bubble solution. Blow the horn. The sound energy moves across the room, not the bubble. This is but one way to show that sound is energy, not some kind of bundle of matter.
whpeltz@yahoo.com

I had my students make a musical instrument, then explain how the sound waves traveled from the instrument and how we hear them. They came up with some really great ideas - a lot of stringed instruments, because they could vary the pitch. (One of the things they were required to do) I think the more open-ended it is, the more variety of instruments you will get. I got the idea from our Prentice Hall 8th grade Physical Science book –

The rubric is below

Patti Grammens
South Forsyth Middle School

For sound, I have my students make a musical instrument, capable of producing at least 3 distinct musical sounds.

For light, they make pinhole cameras.
sdorshan@aol.com

	4	3	2	1
Creativity of design, planning and building the instrument	Design is very creative, planning is thorough, student has created an instrument that he/she can play for the class	Design is fairly creative, planning is good, instrument can be played but could be better thought out	Design is somewhat creative, planning is adequate. Instrument may or may not play	Design is not creative, planning is minimal. Student did not follow directions. Instrument construction is poor
Instrument quality	Sound is excellent for the construction – student can explain why the sounds are produced	Sound is good for the construction – student attempts to explain why sounds are produced	Sound is fair for the instrument student cannot explain why sounds are produced	Sound is poor or non-existent student does not attempt to explain sound
Class presentation	Student gave a thorough explanation of instrument – how it was made, materials, etc. student explained how the sound "worked" and why they chose the instrument they did	Presentation is good, most of the information is explained to the class	Presentation is adequate, little information is explained	Presentation is brief and hard to follow. Little or no information is given

Music to your Ears

Name _____

Score _____