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Do You See What I Hear?

The purpose of this experiment was to see if there was a relationship between sound waves and the medium that it was conveyed through. In this experiment I used a device called Ruben's tube and for the different mediums I used propane and methane gas. The reason that I chose these two gasses was because they are made of the same chemical components, carbon and hydrogen. The only difference is that propane has more hydrogen and carbon atoms than methane. My dad and I made the device called Ruben's tube. This device never changed during the entire experiment. The only thing that was the variable was the gas that was being put into the tube. When methane was put into the tube there was definitely a very long wave length; but when propane was put into the tube it had a higher crest and at the same time had a shorter wave length. The reason for this is propane is a heavier gas than oxygen and so the entire tube was filled up with propane. There was more gas to bring up the flame as compared to methane which is lighter than air. The methane would just float to the top of the tube and the tube wasn't completely filled with methane. I did find out that because methane had a smaller molecule it had a longer wave length and since it had a longer wave length it had a greater velocity.