THE SOUND PROJECT

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What was the learning outcome?

In this project, students learned about the properties of sound travelling through different media (solids, liquids, and air). They investigated mostly the effect of distance on the clarity and loudness of the sound in different media.

Summary of the project

Students were given a research question in context: If they were stranded on an unknown beach, would it be more efficient to send a sound message through water, ground, or air? We first defined criteria for an «efficient» message. Students then came up with their own experiment, performed it, and drew a conclusion based on their results. All throughout their work periods, students added material to a thoughtbook. At the end of the project, they submitted a lab report and their toughtbook.

Images

I added 2 pictures. One represents a student preparing her data tables, and the second shows a student producing sound by dropping magnets from a constant height (the height of the water jug).

Source of the idea for thoughtbooks

A few days before the STAO conference, I attended a workshop by Garfield Gini-Newman, from the Critical Thinking Consortium. He gave us all a booklet about thoughtbooks (https://tc2.ca/shop/creating-thinking-classrooms-using-thoughtbooks-sustain-inquiry-p-2156 (https://tc2.ca/shop/creating-thinking-classrooms-using-thoughtbooks-sustain-inquiry-p-2156)) . That's why I included thoughtbooks in this project.

Digital tools used

One student uploaded a Decibel meter to more reliably measure the loudness of sound at a certain point.

Other resources

The lab reports were evaluated using a rubric focusing on objective, materials, steps, results, discussion, conclusion, respect of the deadline, scientific vocabulary, and bibliography. I added a copy of the rubric.

RESOURCES

- Using Thoughtbooks to Sustain Inquiry (https://tc2.ca/shop/creating-thinking-classrooms-using-thoughtbooks-sustain-inquiry-p-2156)
- A student dropping a magnet from a specific height in order to produce sound. (https://connex.stao.ca/sites/default/files/collecting_data.jpg?width=2448px&height=3264px&iframe=true)
- A student preparating her data tables. (https://connex.stao.ca/sites/default/files/preparing_data_table.jpg?width=3264px&height=2448px&iframe=true)
- Sample rubric (in French). (https://connex.stao.ca/sites/default/files/sph3u4c_-_projet_son_-_grille_vide.pdf)
- Project description (in French). (https://connex.stao.ca/sites/default/files/sph3u4c_-_projet_musique_0.pdf)

ELEMENT

- Critical Thinking (/expert-elements/critical-thinking)

(/classroom-catalysts) RETURN TO CATALYSTS (/classroom-catalysts)