

LETTER FOR FOSS MIDDLE SCHOOL COURSES

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Hello Students, Teachers, and Families,

To facilitate science teaching and learning during school closures, the FOSS team has provided additional Home/School Connections on the FOSS website <https://www.fossweb.com>. Students and families gain access to resources on FOSSweb through the class pages set up by the teacher. The teachers can leave notes on the class pages for students. Students can read those notes with assignment instructions from the teacher when they sign in to FOSSweb. Note that teachers may, instead, send FOSSweb assignments to students through other established parent communication apps or emails.

The new Home/School Connections for each course are active investigations that can be conducted at home (inside or outdoors), online readings, or online multimedia experiences including research. Most of these activities are part of the existing course that the students are learning, now formatted for students to access at home.

The teacher will decide which of the suggested activities are appropriate for students based on the classroom science experiences students have had through the year. Please refer to the teacher's communications home for specific expectations for assignments. The teacher may assign *FOSS Science Resources* readings, videos, and multimedia from investigations in the module or course.

For Students and Families: To sign in to FOSSweb, use the student user name and password provided by your teacher. Here's a short video to get you started on FOSSweb.

For Student Sign in Video: <https://youtu.be/Fcfjbt7Li2k>

For FOSSweb help: <https://www.fossweb.com/student-parent-help>

Preview the **Course Summary** from the Student Page. The **Module Overview** is available to download as a PDF. The first few pages of the Overview will help to set the context for the Home/School Connections.

For Teachers: For help in setting up and using Class Pages, use the Walk-through Videos on FOSSweb: <https://www.fossweb.com/fossweb-walkthrough-videos>

Visit the Home/School Connection for each module or course you teach, select the specific assignments that will be most relevant to your students at this point in instruction. Communicate with families about which content you are assigning through the Class Pages Notes on FOSSweb or through any other established parent communication channel your school has in place.

Tech support on FOSSweb: <https://www.fossweb.com/contact-us#jotform>

Together we will continue to make progress in science teaching and learning during school closures. Now, more than ever, we appreciate the role that science plays in our lives, and how important it is for citizens of all ages to understand and act based on scientific evidence

Sincerely, The FOSS Team at the Lawrence Hall of Science

FOSS Waves, Home/School Connections, Families version COVID-19 School Closure Instructional Opportunities—March 18, 2020

NOTE: For all online research projects, we suggest that students use our [Internet Disclaimer](#) to help guide their independent evaluation of digital sources.

Make Another Wave Model

Students can construct a simple “wave machine” to change the wave properties of waves, such as amplitude, frequency, and speed. View [Wave Machine](#) and students can take pictures of their model, or even video to explain what they are doing. Can the model be constructed using other household items rather than dowels and candy? Students could try building and testing their model, reporting on their successes or failures.

Investigate Fire Extinguishing Sound

Students can view the “[Fire Extinguishing](#)” video to see how college engineering students designed a tool that extinguishes flames using sound waves.

Answer Light Questions

At the beginning of Investigation Three, students are asked to record at least one question they have about light. These are common questions that students ask prior to instruction. Students can research the answer to these questions online or use FOSS Science Resources. Students can record their answers in their notebooks.

- How does light travel?
- What kind of wave model describes light?
- How are different colors created?
- What kind of media can light waves travel through?
- How far can light waves travel?
- How fast can light waves travel?
- What units can you use to measure light waves?
- How many light waves does it take to harm you?

See How Optical Fibers are Made

Students can watch the video, [How Optical Fibers Are Made and Work](#), and record the advantages of fiber optic cables over copper cables.

Find Speed of Light in the Kitchen

Students can access the video “[Calculate the speed of light](#)” and complete a science experiment using marshmallow Peeps. The video also uses Peeps to illustrate the history of the search for how fast light travels.

Research Careers

Students can research science and engineering careers related to the content in the course, using the [Science and Engineering Careers Database on FOSSweb](#). Students can pick a scientist or career from Engineering, Technology, or Physical Science and then complete a report on the person or career. Students with access to a smartphone could video themselves reporting as if it were a news segment.

Photo challenges

Students can take photos to answer one of the challenges below and create their own website, social media collection, or share the files with their teacher/classmates.

- Lenses Photo Challenge
Lenses are transparent materials that refract light. There are lenses in eyes, lenses in cameras, and lenses in nature! Take pictures of objects that work as lenses. Take pictures of the images produced by these lenses.
- Rainbows Photo Challenge
When and where can we see rainbows? Take a picture of rainbows or something that makes rainbows.