Vernier

Experiment and Sample Data Library

To assist you as you quickly move from the classroom or laboratory setting to online teaching, Vernier Software & Technology is offering the Vernier Experiment and Sample Data Library—a library of over 200 experiments with sample data files covering many subjects that you can distribute to your students at home. Students won't actually conduct the experiment themselves, but they can follow along with the written procedure and access sample data. Students can then perform their own analysis of the sample data. You can browse a full index of the Library contents here.

While we strongly advocate for hands-on science when possible, we understand that many schools are in a situation where it is not possible at this time. We hope you and your students find this option helpful.

Instructions for Teachers

 Download and peruse the library of available experiments for your subject. Note that most experiments consist of two or more files.
 These files include

· Student handout

Each experiment has one Word file. This file includes the experiment instructions and is meant to be distributed to students. The file can be opened in Word or uploaded into Google Drive and converted to a Google Doc. You can edit the instructions before sending the file to your students if you wish, or distribute as is.

Sample data files

Each experiment has one or more sample data files. To open and use these files, you and your students will need to install the appropriate app. The file extension indicates which app to use, all of which are free for the remainder of the school year or longer:

- ambl files use <u>Graphical Analysis™ 4</u>. Always free and available for Windows[®] macOS[®] Chrome OS[™] iPadOS[®] iOS, and Android[™]
- .smbl files use Spectral Analysis. Always free and available for Windows, macOS, Chrome OS, iPadOS, iOS, and Android
- .cmbl files use <u>Logger Pro</u>, available for Windows and macOS.
 A free demo is available through October 1, 2020. If you already own a license for Logger *Pro*, you can log into <u>your account</u> to share it with your students.
- .mov or .mp4 files are sample videos that can be inserted into Logger Pro or opened in our new Video Analysis app. Vernier Video Analysis™ is free through June 30, 2020, and available for Windows, macOS, Chrome OS, iPadOS, iOS, and Android.
- Send your students the files for the experiment(s) of your choice.
 Ask them to read the written instructions as if they were conducting
 the experiment themselves but complete the data analysis and
 questions using the sample data provided.

Tips for Teaching with Vernier Sample Data Files

Note that the student handouts, as written, are designed for an in-person classroom or laboratory environment. We encourage you to read through the Word files prior to sending them to your students, as you may wish to edit to improve their online-learning experience.

Some experiments require multiple sample data files. The file naming convention will make this clear (e.g., "PEP 23 Magnetic Field—Current Data" and "PEP 23 Magnetic Field—Distance Data"). If you choose to use one of these experiments, make sure to include all the files with the same experiment name.

Over the years, we have created videos that might be useful to you or your students as they visualize an experiment. Some of these videos may show the experiment using older equipment or software but still may be useful, as they show the experimental setup. Direct links to these videos are available **here**.

Answers to the analysis questions are not being provided in an effort to keep them from circulating freely and being found by students. If you need assistance with an answer, email support@vernier.com using your school email address so we can verify your identity.