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## INTRODUCTION

Technology is an integral part of the teaching and learning with FOSS Next Generation. FOSSweb is the Internet access to FOSS digital resources. FOSSweb gives students the opportunity to interact with simulations, virtual investigations, tutorials, images, and text—activities that enhance understanding of core ideas. It provides support for teachers, administrators, and families who are actively involved in implementing FOSS.

Different types of online activities are incorporated into investigations where appropriate. Each activity is marked with the technology icon in the *Investigations Guide*. You will sometimes show videos to the class. At other times, individuals or small groups of students will work online to review concepts or reinforce their understanding.

To use these digital resources, you should have at least one computer with Internet access that can be displayed to the class by an LCD projector with an interactive whiteboard or a large screen. Access to enough devices for students to work in small groups or one-on-one is recommended for other parts.

All FOSS online activities are available at [www.FOSSweb.com](http://www.FOSSweb.com) for teachers, students, and families. We recommend you access FOSSweb well before starting the module to set up your teacher-user account and to become familiar with the resources.



### ► NOTE

For details on setting up accounts and using FOSSweb, see the Website Help under the FOSSweb top menu Updates and Help. You can access this as a guest.

To get the most current module information, download the latest Technology chapter from your Module Page on FOSSweb.

## TECHNOLOGY *for Students*

FOSS is committed to providing a rich, accessible technology experience for all FOSS students. Students access FOSSweb using a class login that you set up. Here are brief descriptions of selected resources for students on FOSSweb.

### ► NOTE

The following student-facing resources are available in Spanish on FOSSweb using a teacher's class page.

- Vocabulary
- Equipment photo cards
- eBooks
- Select streaming videos
- Home/school connections
- Audio books

### ► NOTE

For details on setting up teacher and student accounts, see the FOSSweb Walkthrough Videos under the Connecting with FOSS menu on FOSSweb. You can access this as a guest.

**Online activities.** The online simulations and activities are designed to support students' learning at all grades. They include virtual investigations and tutorials, grades 3–5, that review selected active investigations and support students who have difficulties with the materials or who have been absent. Summaries of some of the online activities are on the next page.

**FOSS Science Resources—eBooks.** The student book is available as an audio book on FOSSweb, accessible at school or at home. In addition, as premium content, *FOSS Science Resources* is available as an eBook on computer or tablet, either as a read-only PDF or in an interactive format that allows text to be read and provides points of interactivity. The eBook can also be projected for guided reading with the whole class. With individual student accounts for grades 3–5, students can use the interactive eBook enhanced features (highlighting and note taking).

**Media library.** A variety of media enhances students' learning and provides them with opportunities to obtain, evaluate, and communicate information. FOSS has reviewed print books and digital resources that are appropriate for students and prepared a list of these resources with links to content websites. There is also a list of regional resources for virtual and actual field trips for students to use in gathering information for projects, and a database of science and engineering careers. Other resources include vocabulary lists to promote use of academic language.

**Home/school connections.** Each module includes a letter to families, providing an overview of the goals and objectives of the module. There is also a Module Summary available for families to download. Most investigations have a home/school science activity that connects the classroom experiences with students' lives outside of school. These connections are available as PDFs on FOSSweb.

**Class pages.** Teachers with a FOSSweb account can easily set up class pages with notes and assignments for each class. Students and families can then access this class information online, using the teacher-assigned class login. Teachers can also set up individual student accounts. It is recommended that students in grades 3–5 have individual accounts in order to use the enhanced interactive eBooks (private books) and the online assessment system FOSSmap for taking assessments and reviewing reports.

## Sound and Light Online Activities

Here is a sampling of the online activities used in the **Sound and Light Module** investigations.

### Investigation 1, Part 1: Making Sounds

- “Sound Cards”

The sounds associated with the objects on the sound cards are available on FOSSweb as a resource for teacher and student use.



### Investigation 1, Part 3: Outdoor Sounds

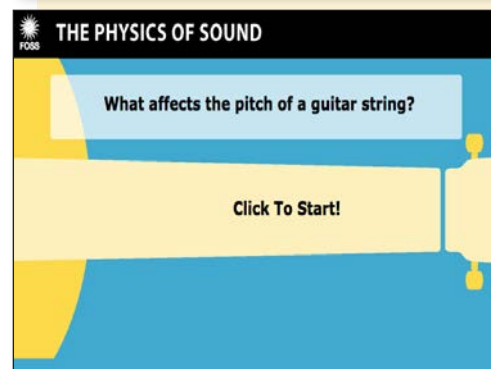
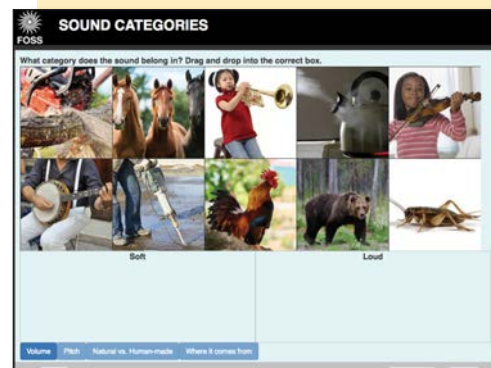
- “Sorting Sounds”

Students can test their ability to match sounds to sound sources such as animals, instruments, and machines. They sort these into categories based on the properties of volume, pitch, and source. These sound sources are the same as those on the Sound Cards included in the kit.

### Investigation 2, Interdisciplinary Extensions

- “Guitar String Pitch”

Students explore how guitar string pitch is affected by different variables such as length of the string, thickness of the string, string tension, and type of vibrating material. Students may need a partner to read the instructions to them the first time.



## ► NOTE

There are several options for implementing FOSSweb in your district. Check with your administrator for the option your district is using.

### Option 1:

Teacher-registered accounts.

A. using common class credentials (recommended for K–2)

B. using individual students accounts (recommended for 3–5)

### Option 2:

District-created accounts for teachers, classes, and students using SIS (Student Information System) data upload.

Contact FOSSwebDistrict@schoolspecialty.com with questions.

See the FOSSweb Walkthrough Videos with downloadable pdfs for specific information. (The videos are accessible under the top menu Connecting with FOSS.)

## ► NOTE

Student access to the student eBook from your class page requires premium content.

For more information about FOSS premium content, including pricing and ordering, contact your local Delta sales representative by visiting [www.DeltaEducation.com](http://www.DeltaEducation.com) or by calling 1-800-258-1302.

## TECHNOLOGY *for Teachers*

The teacher side of FOSSweb provides access to all the student resources plus those designed for teaching FOSS. By creating a FOSSweb user account and activating your modules, you can personalize FOSSweb for easy access to your instructional materials. You can also set up a common class login for students and their families or individual student accounts.

### Creating a FOSSweb Teacher Account

**Setting up an account.** Check with your administrator to find out the option your district is using to implement FOSSweb (see sidebar note). With option 1, set up a teacher account on FOSSweb before you begin teaching a module. Go to FOSSweb and register for an account with your school e-mail address. Complete registration instructions are available online. Go to the Connecting with FOSS pull-down menu, and look at FOSSweb Walkthrough Videos.

**Entering your access code.** Once your account is set up, go to FOSSweb and log in. To gain access to all the teacher resources for your module as a self-registered teacher, you will need to enter your access code. Your access code should be printed on the inside cover of your *Investigations Guide*. If you cannot find your FOSSweb access code, contact your school administrator, your district science coordinator, or the purchasing agent for your school or district.

Familiarize yourself with the layout of the site and the additional resources available when you log in to your account. From the module detail page, you will be able to access teacher masters, science notebook masters, assessment masters, the FOSSmap online assessment component, and other digital resources not available to “guests.”

Explore the Resources by Investigation, as this will help you plan. This page makes it simple to select the investigation you are teaching, and view all the digital resources organized by part. Resources by Investigation provides immediate access to the streaming videos, online activities, science notebook masters, teacher masters, and other digital resources for each investigation part.

**Setting up class pages and student accounts for self-registered teachers.** To enable your students to log in to FOSSweb to see class assignments and student-facing digital resources, set up a class page and generate a username and password for the class (recommended for K–2), or set up student accounts with individual usernames and passwords (recommended for 3–5). To do this, log in to FOSSweb and go to your teacher page. Under “My Class Pages,” add a new class page using one of the two options (common class or student accounts).

## Support for Teaching FOSS

FOSSweb is designed to support teachers using FOSS. FOSSweb is your portal to instructional tools to make teaching efficient and effective. Here are some of the tools available to teachers.

- **Grade-Level Planning Guide.** The Planning Guide provides strategies for three-dimensional teaching and learning.
- **Resources by Investigation.** The Resources by Investigation organizes in one place all the print and online instructional materials you need for each part of each investigation.
- **Investigations eGuide.** The eGuide is the complete *Investigations Guide* component of the *Teacher Toolkit*, in an electronic web-based format for computers or tablets. If your district rotates modules among several teachers, this option allows all teachers easy access to *Investigations Guide* at all times.
- **Teacher preparation videos.** Videos present information to help you prepare for a module, including detailed investigation information, equipment setup and use, safety, and what students do and learn in each part of the investigation.
- **Interactive whiteboard resources for grades K–5.** You can use these interactive files with or without an interactive whiteboard to facilitate each part of each investigation. You'll need to download the appropriate software to access the files. Links for software downloads are on FOSSweb.
- **Focus questions.** The focus questions address the phenomenon for each part of each investigation, and are formatted for classroom projection and for printing, so that students can glue each focus question into their science notebooks.
- **Module updates.** Important updates cover teacher materials, student equipment, and safety considerations.
- **Module teaching notes.** These notes include teaching suggestions and enhancements to the module, sent in by experienced FOSS users.
- **Home/school connections.** These masters include an introductory letter home (with ideas to reinforce the concepts being taught) and the home/school connection sheets.
- **State and regional resources.** Listings of resources for your geographic region are provided for virtual and actual field trips and for students to use as individual or class projects.
- **Access to FOSS developers.** Through FOSSweb, teachers have a connection to the FOSS developers and expert FOSS teachers.

### ► NOTE

There are two versions of the eGuide, a PDF-based eGuide that mimics the hard copy guide, and an HTML interactive eGuide that allows you to write instructional notes and to interface with online resources from the guide.

### ► NOTE

The following resources are available on FOSSweb in Spanish.

Teacher-facing resources:

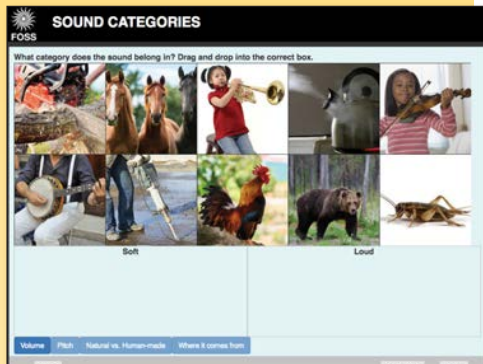
- Notebook masters
- Teacher masters
- Assessment masters
- Focus questions
- Interactive whiteboard files

Student-facing resources:

- Vocabulary
- Equipment photo cards
- eBooks
- Select streaming videos
- Home/school connections
- Audio books

## Technology for Differentiated Instruction

Some resources are for differentiated instruction. They can be used by students at home or by you as part of classroom instruction.



### ► NOTE

The eBook is premium content for students.

- **Online activities.** The online simulations and activities described earlier in this chapter are designed to support student learning and are often used during instruction. They include virtual investigations and student tutorials for grades 3–5 that you can use to support students who have difficulties with the materials or who have been absent. Tutorials require students to record data and answer concluding questions in their notebooks. In some cases, the notebook sheet used in the classroom investigation is also used for the virtual investigation.
- **Vocabulary.** The online word list has science-related vocabulary and definitions used in the module (in both English and Spanish).
- **Equipment photo cards.** Equipment cards provide labeled photos of equipment that students use in the investigations. Cards can be printed and posted on the word wall as part of instruction.
- **Student eBooks.** Student access to audio-only *FOSS Science Resource* books requires basic access. With premium content, students can access the books from any Internet-enabled device. The eBooks are available in PDF and interactive versions. The PDF version mimics the hard copy book. The interactive eBook reads the text to students—highlighting the text as it is read—and provides students with video clips and online activities.
- **Streaming videos.** Some videos are part of the instruction in the investigation and are in Resources by Investigation for each part. Those videos also appear again in the digital resources under “Streaming Videos” along with other videos that extend concepts presented in a module.

- **Recommended books, websites, and careers database.** FOSS-recommended books, websites, and a Science and Engineering Careers Database that introduces students to a variety of career options and diversity of individuals engaged in those careers are provided.
- **Regional resources.** This list provides local resources that can be used to enhance instruction. The list includes website links and PDF documents from local sources.

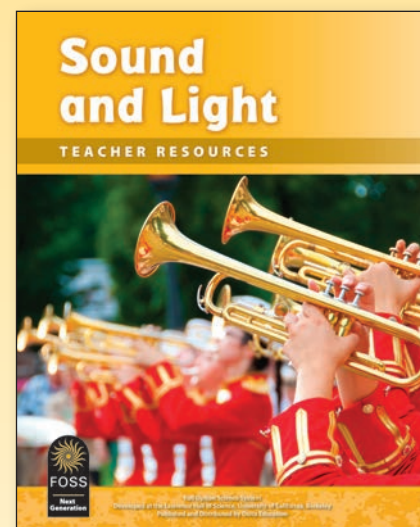
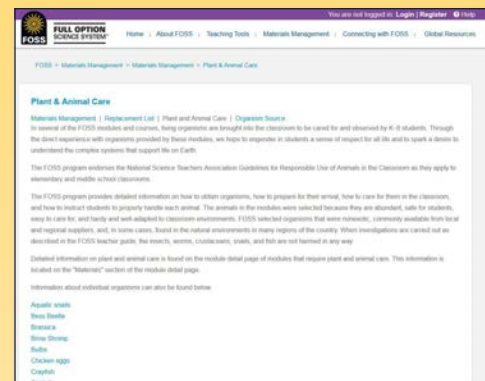
## Support for Classroom Materials Management

- **Materials chapter.** A PDF of the Materials chapter in *Investigations Guide* is available to help you prepare for teaching. A list, organized by drawer, shows the materials included in the FOSS kit for a given module. You can print and use this list for inventory and to monitor equipment condition.
- **Safety Data Sheets (SDS).** A link takes you to the latest safety sheets, with information from materials manufacturers on the safe handling and disposal of materials.
- **Plant and animal care.** This section includes information on caring for organisms used in the investigations.

## Professional Learning Connections

FOSSweb provides PDF files of professional development chapters, mostly from *Teacher Resources*, that explain how to integrate instruction to improve learning. Some of them are

- Sense-Making Discussions for Three-Dimensional Learning
- Science-Centered Language Development
- FOSS and Common Core English Language Arts and Math
- Access and Equity
- Taking FOSS Outdoors



## REQUIREMENTS *for Accessing FOSSweb*

### FOSSweb Technical Requirements

To use FOSSweb, your computer must meet minimum system requirements and have a compatible browser and recent versions of Flash Player, QuickTime, and Adobe Reader. Many online activities have been updated to an HTML5 version compatible with all devices. (Those designated with “Flash” after the title require Flash Player.) The system requirements are subject to change. It is strongly recommended that you visit FOSSweb to review the most recent minimum system requirements and any plug-in requirements. There, you can access the “Tech Specs and Info” page to confirm that your browser has the minimum requirements to support the online activities.

**Preparing your browser.** FOSSweb requires a supported browser for Windows or Mac OS with a current version of the Flash Player plug-in, the QuickTime plug-in, and Adobe Reader or an equivalent PDF reader program. You may need administrator privileges on your computer in order to install the required programs and/or help from your school’s technology coordinator.

By accessing the “Tech Specs and Info” page on FOSSweb, you can check compatibility for each computer you will use to access FOSSweb, including your classroom computer, computers in a school computer lab, and a home computer. The information on FOSSweb contains the most up-to-date technical requirements for all devices, including tablets and mobile devices.

**Support for plug-ins and reader.** Flash Player and Adobe Reader are available on [www.adobe.com](http://www.adobe.com) as free downloads. QuickTime is available for free from [www.apple.com](http://www.apple.com). FOSS does not support these programs. Please go to the program’s website for troubleshooting information.

#### ► NOTE

It is strongly recommended that you visit FOSSweb to review the most recent minimum system requirements.



## Other FOSSweb Considerations

**Firewall or proxy settings.** If your school has a firewall or proxy server, contact your IT administrator to add explicit exceptions in your proxy server and firewall for FOSSweb Akamai video servers. For more specific information on servers for firewalls, refer to “Tech Specs and Info” on FOSSweb.

**Classroom technology setup.** FOSS has a number of digital resources and makes every effort to accommodate users with different levels of access to technology. The digital resources can be used in a variety of ways and can be adapted to a number of classroom setups.

Teachers with classroom computers and an LCD projector, interactive whiteboard, or a large screen will be able to show online materials to the class. If you have access to a computer lab, or enough computers in your classroom for students to work in small groups, you can set up time for students to use the FOSSweb digital resources during the school day. Teachers who have access to only a single computer will find a variety of resources on FOSSweb that can be used to assist with teacher preparation and materials management.

Teachers who have tablets available for student use and have premium content can download the FOSS eBook app onto devices for easy student access to the FOSS eBooks. Instructions for downloading the app can be found on FOSSweb on the Module Detail Page for any module. You’ll find them under the Digital-Only Resources section and then under the tab for Student eBooks.

**Displaying online content.** Throughout each module, you may occasionally want to project online components for instruction through your computer. To do this, you will need a computer with Internet access and either an LCD projector and a large screen, an interactive whiteboard, or a document camera arranged for the class to see.

You might want to display the notebook and teacher masters to the class. In Resources by Investigation, you’ll have the option of downloading the masters to project or to copy. Choose “for Display” if you plan on projecting to the class. These masters are optimized for a projection system and allow text entry directly onto the sheet from the computer. The “for Print” versions are sized to minimize paper use when photocopying for the class. In Resources by Investigation the print versions of the masters are typically unlabeled.

### ► NOTE

FOSSweb activities are designed for a minimum screen size of 1024 × 768. It is recommended that you adjust your screen resolution to 1024 × 768 or higher.

## **TROUBLESHOOTING** *and Technical Support*

If you experience trouble with FOSSweb, you can troubleshoot in a variety of ways.

### ► **NOTE**

The FOSS digital resources are available online on FOSSweb. You can always access the most up-to-date technology information, including help and troubleshooting, on FOSSweb.

1. Test your browser to make sure you have the correct plug-in and browser versions. Even if you have the necessary plug-ins installed on your computer, they may not be recent enough to run FOSSweb correctly. Go to FOSSweb, and select the “Tech Specs and Info” page to review the most recent system requirements and check your browser.
2. Check the FAQs on FOSSweb for additional information that may help resolve the problem.
3. Empty the cache from your browser and/or quit and relaunch.
4. Restart your computer, and make sure all computer hardware turns on and is connected correctly.

If you are still experiencing problems after taking these steps, send FOSS Technical Support an e-mail to [support@FOSSweb.com](mailto:support@FOSSweb.com). In addition to describing the problem you are experiencing, include the following information about your computer: Mac or PC, operating system, browser name and version, plug-in names and versions. This will help us troubleshoot the problem.

### **Where to Get Help**

For further questions about FOSSweb, please don't hesitate to contact our technical support team.

#### **Account questions/help logging in**

School Specialty Online Support  
[techsupport.science@schoolspecialty.com](mailto:techsupport.science@schoolspecialty.com)

Phone: 1-800-513-2465, 8:30 a.m.–6:00 p.m. ET

#### **General FOSSweb technical questions**

FOSSweb Tech Support  
[support@fossweb.com](mailto:support@fossweb.com)