

FOSS® AT HOME

STRUCTURES OF LIFE

The FOSS® (Full Option Science System™) program offers a number of ways to get parents involved in their child's science education. Included here are short descriptions of several ways to bridge from classroom to home.

Letter to Parents. The letter to parents can be sent home at the start of a new science module. The letter describes what children will be learning and ways that parents can enrich the science-learning experience.

FOSS Science Stories. *FOSS Science Stories* is a series of original books developed to accompany and enrich the FOSS modules. The books include a variety of articles written in a number of styles, including narrative tales, expository articles, technical readings, and historical accounts.

Here are some suggestions for using *FOSS Science Stories* at home.

- **Expository and Historical/Biographical Readings.** The expository and historical/biographical readings provide excellent opportunities for students and parents to discuss the science content students are learning in the module. Specific articles include *Seeds are Everywhere!*, *Life Cycle of a Crayfish*, and *A Change in the Environment*.
- **"Questions to Explore."** Students can read the article in class and then answer the "Questions to Explore" at home in their science notebooks. You might consider this strategy after students read *Barbara McClintock* or *The Food Web*.
- **After the Story.** See the Science Stories folio in the Teacher Guide for suggestions on how to extend the stories at home. For example, after students read *Life on Earth*, you might have students gather a variety of wildlife magazines. Assign students one of the environments named in the FOSS article. Have students create a collage representing the environment they've been assigned, including pictures of plants, animals, water sources, and weather.

Student Sheets. Throughout the module, students complete various recording and response sheets. Students should bring the sheets and/or their science notebooks home for families to review and discuss. For example, student sheet number 18, *Land Snail Observations*, is a good opportunity for students to explain and review with parents the structures, behaviors, and functions of a land snail.

LETTER TO PARENTS

Cut here and glue onto school letterhead before making copies.

Science News

Dear Parents,

Our class is beginning a new science unit using the FOSS Structures of Life Module. We will be sharing space in our classroom with plants, crayfish, and land snails. It looks as if we have an interesting and exciting couple of months ahead.

In this module, children investigate the structures and behaviors of living things. You can increase your child's understanding and interest by asking about the investigations at school and by providing experiences at home. You might search for and count the seeds found in various fruits and vegetables as you prepare dinner (children will learn that all plant parts that hold seeds are technically fruits). You could grow plants from seeds, grow and eat edible sprouts, and look for the fruits and seeds of plants in your neighborhood.

Later we will be taking care of crayfish and land snails. Anything could happen, from eggs appearing to shells molting as crayfish grow. If you happen to see other animals when you are out and about with your child, you might take a moment to watch what they do, or take note of some interesting features of an animal's body. How might that behavior or body structure help the animal survive? Together, you become scientists searching for clues!

Watch for Home/School Connections. Your child may bring home one or more of these homework sheets, providing an opportunity for the whole family to look more closely at the structures of life around you.

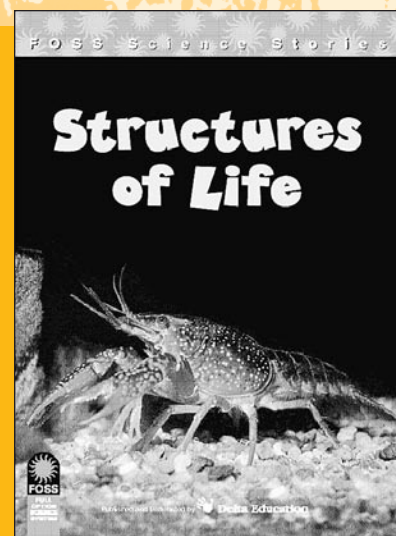
Our classroom will be even livelier than usual in the next several weeks. If you have any questions or comments, call or come in and visit our class.

Comments: _____

FOSS Structures of Life Module
© The Regents of the University of California
Can be modified for classroom or workshop use.

Investigation 1: Origin of Seeds
No. 1—Teacher Sheet

No. 1—Teacher Sheet





Name _____
Date _____

HOME/SCHOOL CONNECTION
INVESTIGATION 1: ORIGIN OF SEEDS

Where there are plants, there are seeds. Take a family excursion around the block or to a park, and look for seeds. Weeds are notorious for producing lots of seeds—that's one reason they are so successful.

Make a seed collection. Stick a few seeds in the spaces on this sheet with a drop of glue or a bit of tape. If you know the name of the plant the seed came from, write it in the space above the seed.

Look at each seed and try to figure out how it might move from the parent plant to a new location to grow.

Look for seeds in fruits that you eat. Stick a food seed on the sheet, too.

SEED COLLECTION			

SAFETY NOTE: Although most plants are harmless, some can cause allergic reactions. Use care to select your seeds. Don't eat anything you collect, and wash your hands after handling the seeds or plants.

FOSS Structures of Life Module
© The Regents of the University of California
Can be duplicated for classroom or workshop use.

Home/School Connection
No. 28—Student Sheet

No. 28—Student Sheet

Name _____
Date _____

MATH EXTENSION—PROBLEM OF THE WEEK
INVESTIGATION 1: ORIGIN OF SEEDS

Ray and Sandy were in charge of snacks for the math-club party. They decided to make a nut mix. (Did you know nuts are the seeds of trees and shrubs?) They made small samples of three nut mixes. Each nut mix included peanuts, almonds, and cashews.

Can you figure out how many of each kind of nut they put into each sample?

NUT MIX #1
There are 3 peanuts.
There are three times as many cashews as peanuts.
The total number of nuts is 15.

NUT MIX #2
There are twice as many cashews as almonds.
There are twice as many almonds as peanuts.
There are 12 cashews.

NUT MIX #3
The peanuts and almonds add up to 11.
There are three times more peanuts than cashews.
The total number of nuts is 14.

FOSS Structures of Life Module
© The Regents of the University of California
Can be duplicated for classroom or workshop use.

Problem of the Week
No. 24—Student Sheet

No. 24—Student Sheet

NOTE: All student sheets, including the Letter to Parents, Home/School Connection, and Math Problems of the Week, are available in FOSS Teacher Guides and online at www.fossweb.com. They are also available in Spanish. See For Parents and Teachers: Home/School Connection on page 4 of this folio.

Home/School Connections. Home/School Connections are activities developed specifically for the whole family to enjoy at home. For example, in Investigation 1 (student sheet number 28), students are encouraged to search for seeds around their homes and neighborhoods. Seeds may be found in the foods they eat, on outdoor plants, or around the home. Students can then compare the structures of the seeds they found and try to figure out how each seed might travel away from the parent plant to find a place to grow.

Interdisciplinary Extensions. Each investigation has suggestions for art, language, math, social studies, and science extensions. These are good family activities. For example, after Investigation 2 students can take home hydroponics. Mini-hydroponic containers can be made by cutting the top half off 2-liter plastic soda bottles. Plant holders can be made from clean plastic-foam trays. Cut out a circular float. Make holes in the float for one or more seedlings. Houseplant fertilizer supplies the nutrients. They might also do the *Math Problem of the Week* at home.

FOSSweb (www.fossweb.com). FOSSweb is an interactive website where families can find instructional activities and interactive simulations specifically designed for each FOSS module.

FOSSWEB Calculator Search Another Module Welcome Page

Home/School Connection

Hello parents and teachers:

Download a copy of the Structures of Life Home/School Connection PDF in English or in Spanish. To view or print the Home/School Connection PDF, you must have the Adobe Acrobat Reader plug-in. Acrobat Reader is available free at <http://www.adobe.com>.

Inside the PDF you'll find

Letter to Parents

Each FOSS module includes a letter to parents to tell you what your child will be doing in the investigations at school and to share ways that you can develop your child's scientific interests at home.

Project Ideas, Proposal, and Presentation Guidelines

At the end of the last investigation in most modules, students have the opportunity to follow their interests and conduct a related investigation of their own design or do a small research project. The student sheets for project ideas, planning, and presentations are included in the pdf.

Math Problem of the Week

Each investigation has a Math Problem of the Week. The teacher may provide classroom time for students to work on these and share their thinking or the problems may be assigned as homework. We have included the duplication masters for the math problems (but not the possible solutions) in the pdf.

Home/School Connections

There are many ways to extend your child's science experiences at home and to have fun together. We have developed a Home/School Connection for three investigations in the Structures of Life Module. These require little or no

NOTE: Pages 3 and 4 of this folio can be photocopied and sent home for parents to read. Those pages provide information on the resources for students and their families on FOSSweb.

FOSSWEB (WWW.FOSSWEB.COM)

The FOSS program maintains a resource-rich website for students and their families and friends. To explore the resources available for the **Structures of Life Module**, first enter www.fossweb.com in your browser.

The FOSS website requires plug-ins for your browser. We recommend that you click the “Test Your Browser” link at the bottom of the home page before you begin to ensure your computer has the minimum requirements.

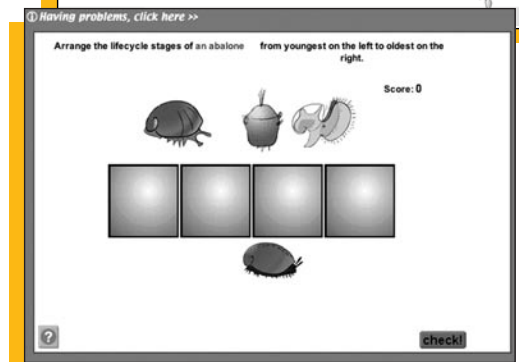
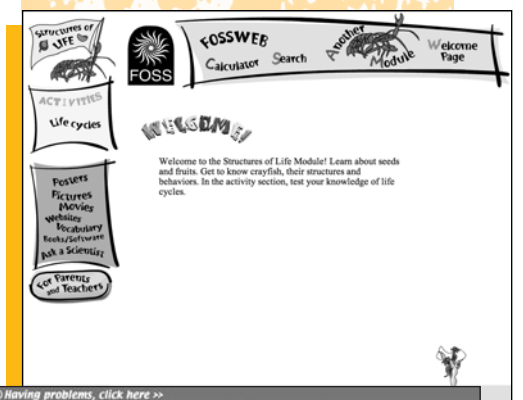
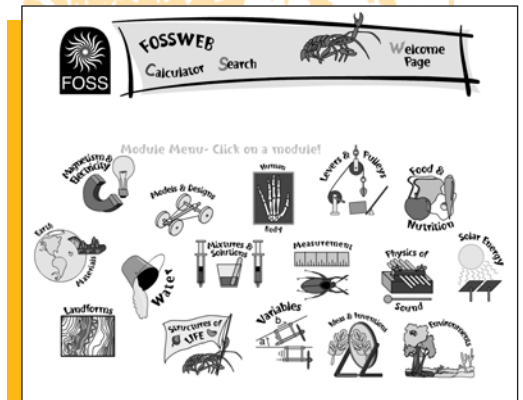
Click the grades 3–6 icon to get a menu that links to each of the 3–6 modules. There you can choose **Structures of Life** and travel to a wealth of information and activities specific to this module.

ACTIVITIES

In the **Structures of Life Module**, you’ll find an activity called Life Cycles. This activity should be introduced after students have completed investigating the life cycle of at least one of the organisms introduced in the module. Children are challenged to order the stages of an organism’s life cycle, such as an abalone. You might ask,

- *What is a life cycle?*
- *What are the stages of the life cycle for a crayfish (or seeds from a bean plant, or snails)?*
- *Are the stages the same for all types of organisms? If not, how are they alike and how are they different?*

If necessary, review the stages of the life cycles for the organisms children have investigated. At the computer, show children the stages of the abalone life cycle and explain that they are to put the stages in order from youngest on the left to oldest on the right. Have children decide on the order and then check the results. The activity will show which stages are in the correct locations and which stages need to be moved. Once the order is correct, labels will appear on the stages. The activity tells about the organism, and shows the score. Show children how to continue to another organism. They can choose a life cycle and a level (level 1 is easier than level 2).



MOVIES

The Movies section shows a number of different organisms, including a jellyfish in action.

PICTURES

In the Pictures section, you can view images of several organisms. You can use the images to discuss where these organisms are found on Earth and what the stages of their life cycles might be. Students may want to do further research on these organisms as part of their end-of-module project.

WEBSITES

The Websites section includes links to sites that can extend and enrich children's experiences with the **Structures of Life Module**.

VOCABULARY

In the Vocabulary section, you will find the glossary words and definitions used in the **Structures of Life Module**. They are provided in English and Spanish.

BOOKS/SOFTWARE

This section includes an annotated list of books, videos, and software recommended for the **Structures of Life Module**. You should be able to find many of these titles at your local library.

FOR PARENTS AND TEACHERS: HOME/SCHOOL CONNECTION

The For Parents and Teachers section includes the Home/School Connection that describes ways for families to do science together. For example, in Investigation 2, students consider the needs of household plants. With their families, students look around their neighborhood for plants, observe their structures and properties, and draw a picture of an interesting plant. Look in this section for other resources included in a downloadable PDF file, including a general letter introducing the module, student projects, and math problems that relate to the science investigations.

