

Food, Fiber & You Lab Choices

2013-2014



New this year...

Farmers Protect the Environment (Env)* (Grades 4-5)

This lesson supports the new Environmental Literacy standards as students discover four of the ways (manure pits, fencing, cover crops, buffers) farmers protect the environment and the Chesapeake Bay. The team designs their own environmentally friendly farm.



The Science of Chocolate (Chocolate)* (Grades 3-5)

Students act as food scientists as they discover the properties of chocolate, investigate the taste and production of chocolate, and explore the concept of viscosity. *(Students will be taste-testing less than 1/16 of a teaspoon of cocoa and sugar and a drop of vanilla.)*



The Art of Making Cheese (Cheese)* (Grades 3-5)

Milk is used to make familiar products that we eat such as ice cream, yogurt, and cheese. In this experiment, students make cottage cheese using a process that causes the casein in milk to curdle. *(With the classroom teacher's permission, students may be allowed to taste a sample of the cottage cheese they make.)*



Banana DNA (DNA)* (Grades 4-5)

Students put their scientific skills to work as they create banana slurry and extract the DNA from the banana in an effort to understand how biotechnology enables scientists to change characteristics in food products.



Fiber Up for a Clean Sweep (Fiber)* (Grades 3-5)

Nutrition and the fiber content of favorite foods are explored in this scientific investigation as students act as food nutritionists and test 6 different foods in order to determine if fiber is present.



How Well Do You Wash? (Wash)* (Grades 3-5)

Students apply "germs (glitterbug lotion)" to their hands and then perform several hand washing tests to determine which method most effectively removes the "germs". A special light source helps to detect the "germs" remaining. (Knowledge of percent is beneficial.)





Sugar Sheriffs (Sugar)* (Grades 3-5)

Students discover the nutritional content of some of their favorite beverages as they experiment with density. The lesson ends with learning how to read nutrition labels on beverages and hopefully selecting drinks that will be good for you.



Snack Attack (Snack)* (Grades 3-5)

Students discover the nutritional content of some of their favorite foods as they experiment to discover which ones contain fat. The lessons ends with learning how to read nutrition labels and hopefully selecting snacks that are good for you!



Spinning and Dyeing Wool (Wool)* (Grades 3-5)

Students try their hand at replicating the spinning process and then dye the wool to make a bookmark to take home.



Sticky Bean (Sticky)* (Grades 3-5)

Isolated soy protein and calcium hydroxide are used to produce a vegetable based glue made from soybeans. The glue because of its long polymer chains makes a good adhesive. Students test the strength of their glue against Elmer's glue using a peel test, tensile strength test, and shear strength test.



Yeast Action (Yeast)* (Grades 3-5)

Fungi organisms called yeast are used in bread making. Students set up an experiment to observe the conditions that create the best environment for yeast to grow.

Using Genetics to Improve Agriculture (Genetics)* (Grades 3-5)

Hands-on activities introduce students to the fundamentals of genetics as they develop a basic understanding of the role of chromosomes and how genes are inherited from parent to offspring.



Important Scheduling Information

When planning a schedule, allow a minimum of **50-60 minutes** for scientific investigations. Allow 10 minutes between classes for clean up and set up. If the need arises to change entirely from one experiment to another (this is NOT recommended) an additional 30 minute break must be allotted for the change-over. A 30 minute lunch break for the teacher must be included.

***When listing your selections on the class schedule, just use the shortened (Title)* for lab choice. Our teachers have the option of changing a lab selection when it seems not to be age appropriate.**

A parent volunteer is needed for each morning and afternoon (not each class) to help prepare materials, cut yarn, refill containers, and assist with classes.

Food, Fiber & You Walk-Through Selections



New
this
year...

Prior to coming out to the lab, please divide your class into 12 equal teams for each of the 12 work stations.

1. **Football and Agriculture (Foot)*** (Grades K-5)

Students learn how football and agriculture are connected and make their own Football Charm. Super Bowl Ravens' gear is connected to the farm! (offered September to first week in February)



2. **Take Me Out to the Ball Game (Ball)*** (Grades K-5)

Students learn how the world of baseball and agriculture are connected and make a Baseball Charm to take home. (offered 2nd week in February through June)



3. **Forest & Me (F&M)*** (Grades 2-5)

Through interaction with a story, pictures, text and discussion, students will realize the many benefits trees provide. The lesson closes with students making a bracelet to remind them of these benefits.



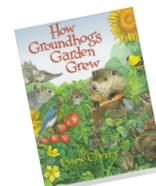
4. **Extra Cheese Please (ExCh)*** (Grades 2-5)

This story line shares mozzarella's journey from calf to pizza and explains how cheese is actually produced. Session includes a cheese making demonstration and a sequencing activity.



5. **How Groundhog's Garden Grew (GGG)*** (Grades K-4)

Students participate in telling a story using props and puppets and culminate the activity as they recall story elements and make a "healthy hand" reminding them to eat more fruits and vegetables each day.



6. **Sheep Surprise (SS)*** (Grades K-4)

A delightful "wordless" tale about a sheep on his motorcycle that help students understand the production process from sheep to sweater. This session ends with students making a colorful sticker bookmark.



7. **Seeds, Seeds, Seeds (Seeds)*** (Grades K-5)

Students examine seeds and match them to the foods they eat.



8. **Beanie Baby (BB)*** (Grades K-5)

Students plant seeds in a new growing medium (soil moist) and watch for the first signs of growth.

When planning walk-throughs, allow **25-30 minutes** per class. Allow **10 minutes** between classes for clean-up and set up time. **Kindergarten classes may only visit the lab one time. Lab experiences are not appropriate for Pre-K classes.**



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