

Clean Sweep

A lesson from the New Jersey Agricultural Society Learning Through Gardening Program

Grades: 2-5

Overview: Students will learn what fiber is and how it benefits their bodies by comparing two different crackers: one that contains fiber and one that doesn't. The crackers will be placed in small hand strainers, covered with water and pushed through. Students will then examine what remains in the strainer to observe fiber that is left behind. This indigestible fiber is what our bodies use to help clean out the intestines efficiently.



Objectives: The student will be able to:

- Explain what fiber is and what it does for our bodies.

Materials:

per group: 1 hand-held strainer, 2 saltine crackers, 2 Triscuit crackers, paper towel, measuring cup, water, 2 cups, 2 plastic spoons, Clean Sweep Procedures Sheet, Clean Sweep Lab Sheet

per student: Clean Sweep Worksheet

Introduction:

1. Engage students by asking them why you use a broom. How does it work? Elicit the response, "It sweeps away dirt and other things you don't want on the floor."
2. Ask students how they clean their bodies. Can they use a broom? What about their insides? Ask students if they think they need to "clean" the inside of their bodies.

3. Talk to students about what they put into their bodies (food, beverages). Ask them what their bodies do with the things they put in. List responses on the board (chew, swallow, take nutrients out). You will inevitably get to the topic of what happens to waste with a few giggles, but explain this is a natural process.

4. Explain to students that our bodies don't use all of the parts of the food we eat. Whatever we don't need our bodies pass during a bowel movement. We want to get rid of what our bodies don't need, so it doesn't make us sick.

5. Explain to students that since we can't use a broom to sweep out the waste, we need to eat foods that can "clean out" the intestines. This is called fiber. Fiber doesn't get absorbed into our systems, so it pushes the toxic waste through the intestines more quickly and keeps the pH levels healthy so cancer-causing bacteria can't grow.

Procedure:

Tell students the fiber contained in food can be demonstrated by comparing different types of crackers.

Divide students into small groups. Have each group gather their materials. Give each group a Procedures Sheet and a Lab Sheet and read through them together. Give each student a Clean Sweep Worksheet.

Students will crumble one saltine cracker between their fingers. Then list words to describe the texture of the cracker in the space on the Clean Sweep Worksheet.

Students will then put the remaining saltine cracker into the hand strainer and hold it over a cup. Have them slowly pour 1/8 cup of water over the cracker. Let the cracker stand wet in the hand strainer for about 1 minute. Describe what they see on their worksheets.

Using the back of a plastic spoon, students will press the wet cracker through the hand strainer and then examine what is left behind. Have them describe the texture of what is left in the strainer on their worksheets.

Have students repeat this process with the Triscuit cracker and complete their lab sheet and worksheet. Students check the nutrition labels on the cracker boxes to see if their conclusions are correct.

Evaluation:

Completed Clean Sweep Worksheet.

Clean Sweep Procedures



1. Crumble one saltine cracker between your fingers.
2. List words to describe the texture of the cracker in the space on your Clean Sweep Worksheet.
3. Put the remaining saltine cracker into the hand strainer and hold it over a cup.
4. Slowly pour $\frac{1}{8}$ cup of water over the cracker. Let the cracker stand wet in the hand strainer for about 1 minute. Describe what you see on your worksheet.
5. Using the back of a plastic spoon, press the wet cracker through the hand strainer and then examine what is left behind. Describe the texture of what is left in the strainer on your worksheet.
6. Repeat steps 1-5 with the Triscuit cracker.
7. Answer the questions on your worksheet.

Clean Sweep Worksheet



Complete the chart for each cracker.

	Saltine	Triscuit
Describe the cracker after you crumbled it with your fingers.		
Describe the cracker after it sat in the water for one minute.		
Describe what was left in the strainer after pushing with the spoon.		

Which cracker do you think contains the most fiber and why?

Look at the nutrition labels of each cracker. Which cracker contains the most fiber?

Clean Sweep Lab Sheet

Fiber helps clean us on the inside by “sweeping” away waste our bodies don't need. Which cracker contains the most fiber?

To find out, answer the following questions as you follow the steps on your procedure sheet. Then read the nutrition labels on both boxes and compare them with your data.

Problem Write the question you are trying to answer.

Hypothesis Write what you think the answer will be and why.

Materials List the material you will use during your experiment.

Procedures Write the steps you took to complete the experiment.

Observations Complete the chart on the Clean Sweep Worksheet.

Conclusions Answer the questions on the Clean Sweep Worksheet.