

Dietary Fiber Lab

Summary

A lab activity preparing a cake, showing the students how easy it is to increase the fiber in our foods by adding beans and fruit.

Main Core Tie

Food And Nutrition I

[Strand 3 Standard 2](#)

Time Frame

1 class periods of 90 minutes each

Group Size

Small Groups

Materials

Handouts:

Nutrition quiz

Fiber Wordsearch

High Fiber Cake Lab

Ingredients needed for 6 units in a Lab:

2 chocolate cake mixes

1 yellow cake mix

6 eggs

1/2 cup Great Northern White Beans

1/2 cup refried beans - fat-free

1/2 cup kidney beans

1/2 cup applesauce

1/2 cup apricot

1 baby food jar baby food prunes

toothpicks

blender

bowls

labels to identify cakes

Background for Teachers

Knowledge of adapting recipes to increase the fiber content and lower the fat in recipes.

Student Prior Knowledge

How to read and follow a recipe. Adapting a recipe to increase the fiber and making adjustments to lower the fat in a given recipe.

Intended Learning Outcomes

Identify fiber in foods and how to increase the fiber in the preparation of low-fiber foods.

Instructional Procedures

Before class, you will need to puree for the students the white beans, kidney beans and apricots. Use a blender and pour the puree into separate labeled bowls. Keep the cans to identify which is which. I can usually get three labs out of one small can. I buy an extra can just incase I run out.

Get the other necessary ingredients out for the lab and have ready before class begins.

Hand out recipe for each group. Explain the recipe and directions in detail (refer to the cake mix box and the amount of fat called for in the recipe for proper amounts as listed on handout) and refer to identifying how to alter the fat in the recipe by adding fruit and increasing the fiber with beans.

Each unit will share 1/2 cake mix. Show them how to half the cake mix by removing the cake mix from the box and fold the plastic in half giving you approximately two equal portions. Have them cut and divide it into two portions.

As a suggestion to camouflage the fiber and fruit in the cake - Use a chocolate cake for the Great Northern White Beans, Refried Beans, Kidney Beans and Prunes and use a yellow cake for the Applesauce and Apricots or your preference as desired.

Each group will make a 1/2 recipe. The amount of fruit or beans will depend on the amount of fat in the original recipe from the cake box used, but remember to half it.

Have them bake the cake in their 9 X 9 - inch sq. cake pan for 20 minutes. Be sure they preheat their oven to bake and they are hot when they bake their cakes.

Lab: High Fiber Cake Lab - Students will prepare their own cake and clean up unit. Give them no more than 20 minutes to get cake in oven and clean up dishes.

Quiz: While the cake is baking, hand out quiz. Correct the quiz together.

Optional Activity - Wordsearch: Review words pertaining to Fiber - Students can work on wordsearch after the quiz and while cake finishes baking.

Evaluation of lab: When the cakes are done, have the students check them with a toothpick. Let them cool for five or so minutes. Have the students cut the cake into pieces (enough for each member of the class) and place on a large plate. Place the plate on a table with a label identifying the different cakes.

Students will form a single line and with a small plate in their hand and their thumb on the plate, have them put one piece of cake in a circle on the plate so they can identify which one is which.

Then you will tell them to take a bite from each cake identifying for them which cake is which. They will compare the taste and the added fiber in each. Ask, if they liked it or not. What was their favorite cake and why? How would it taste if they had frosting? If you made them at home, you can see how one can decrease the fat and increase the fiber and still get a good product.

Allow enough time for the students to clean-up the lab before leaving.

Bibliography

Original recipe for Bean Cake came from Susan Schumacher, Pleasant Grove High.

Authors

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