Food Fats Test

Thank you for downloading the science and mathematics activity packet! Below you will find a list of contents with a brief description of each of the items. This activity packet contains all the information (including any handouts) you will need to run this activity in your own classroom or at a science festival.

Please note: some activities might require the need for a facilitator to be present to oversee the activity. Activities that require a facilitator will be clearly noted.

-Community Resources for Science

Food Fats Test

ACTIVITY PACKET CONTENTS

1. Organizer instructions for the person running the activity
    - Print suggestion: 1 for the facilitator
    - Includes information for setup prior to the event (e.g., materials prep)
2. What's Going On? (tabletop sign/printout)
    - Print suggestion: 1 to put in a plastic sign holder
    - Explains the science and background information behind the activity
3. Participant Instructions (tabletop sign/printout)
    - Print suggestion: 1-2 to put in a plastic sign holder
4. Take home sheet for participants
    - Print suggestion: number of expected participants (most packets are formatted as 2 half-sheet handouts)
    - Easy-to-follow instructions for participants to try the activity at their homes

Food Fats Test

ORGANIZER INSTRUCTIONS

Grade(s): K-5

Standard connections:

CCSS.Math.Practice.MP5 Use appropriate tools strategically

Next Generation Science Standards: Science and Engineering Practices

Analyzing and Interpreting Data

Objective: Determine which food samples contain more fat

Activity overview and background: Students will test and compare how food samples differ in the amount of fat they contain

Materials:

- Desk lamp or other light source
- Pencil
- Ruler
- 2-inch (5-cm) squares cut from paper bag
- Scissors
- Pen
- Eyedropper
- Oil (e.g., vegetable oil)
- Paper towel
- 6 food samples (potato chips, carrots, mayonnaise, bread, water, apple juice)

Setup:

1. Cut 2-inch squares from paper bags
2. Set out all materials on a table, including What's Going On and Instructions

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What's Going On?

Light passing through the papers rubbed with water, apple juice, carrot, and bread matched how light passed through the test paper without oil. Light passing through the papers rubbed with a potato chip and mayonnaise matched how light passed through the test paper with oil.

In this experiment, the paper without any food rubbed on it showed the known results for 0% fat. The paper with oil, a known fat, rubbed on it showed the known results for 100% fat. How the light passed through the sample papers (With Oil, Without Oil) was compared to how light passed through the testing papers.

Paper becomes more translucent (lets some light pass through) when fat is rubbed on it. The fact that fats make paper translucent is used in this experiment to test for the presence of fats in foods.

This test is not always accurate if the amount of fat in a food is very small. For example, bread contains a small amount of fat, but in testing, it did not make the paper translucent. Different types of bread may give different results.

Instructions

1. Label one paper square “Without Oil” and the other “With Oil”
    - These papers will be used to determine the amount of fat, from 0 to 100%, in the food samples
2. Put 1 drop of oil in the center of the paper marked “With Oil”
    - Rub the oil across the paper with your finger
3. Wipe your finger with the paper towel to remove any leftover oil
4. Label each of the remaining 6 papers with the name of one of the food samples
5. Rub each solid sample hard across the corresponding paper
6. Put 1 drop of each liquid food in the center of the corresponding paper. Then, with your finger, rub the food back and forth across the paper
7. Allow the squares to dry (about 10 minutes)
8. Hold the 2 control papers up to the light
    - Note the difference in how the light shines through paper
9. Compare the sample papers to the test papers
    - Hold the test papers in one hand and one sample paper at a time in the other hand
    - Compare how the light passes through the papers
    - *Can you tell which samples contain fat*

Food Fats Test

What you'll need:

- Desk lamp or other light source
- Pen/pencil
- 2-inch squares cut from paper bag
- 6 food samples (such as: potato chips, carrots, mayonnaise, bread, water, apple juice)
- Oil (e.g., vegetable oil)
- Paper towel
- Ruler, scissors

Instructions:

1. Label one paper square "Without Oil" and the other "With Oil"
    - These will determine the amount of fat (0 to 100%) in the food samples
2. Rub 1 drop of oil in the center of the paper marked "With Oil"
3. Label each of the remaining 6 papers with the name of one of the food samples
4. Rub each solid sample hard across the corresponding paper
5. Put 1 drop of each liquid food in the center of the corresponding paper. Then, with your finger, rub the food back and forth across the paper
6. All the squares to dry (about 10 minutes)
7. Hold the 2 control papers up to the light. Note the difference in how the light shines through paper
8. Compare the sample papers to the test papers: hold the test papers in one hand and one sample paper at a time in the other hand. Hold the papers up to the light and compare how the light passes through the papers

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