

**Kingsborough Community College City University of New York**  
**The Science of Nutrition Laboratory**  
**Science 70**

## **Detecting the Presence of Fat in Food**

Fat is present in a variety of foods. Sometimes it is very visible, such as in oil or butter or in the marbling in meat. Other times, you cannot see it, so you may not even be aware of it. These fats are called invisible fats.

**Purpose:** To investigate the presence of fat in various products.

**Background:** When AICR's expert international panel reviewed all the scientific findings relating to fat and cancer, they found a pattern suggesting that diets high in animal fat and/or saturated fat possibly increase the risk of lung, colorectal, breast, uterine and prostate cancers. We also know that saturated fat contributes to cardiovascular disease risk. Saturated fat comes mostly from foods of animal origin, such as beef, pork, whole milk, cheese, eggs, butter and lard.

Cutting all the fat in your diet isn't necessary -- just choose your fats carefully and be moderate. We continue to learn more through research, but strong evidence shows that a shift toward a plant-based diet rich in a variety of vegetables, fruits, whole grains and beans and away from a diet of high-fat animal and processed foods, will help you achieve a longer and healthier life.

**Materials:** 6 foods and Writing Paper

(apple, butter, olives, potato chips, carrot, banana)

### **Method**

1. Smear a small amount of the food on a piece of paper.
2. Wipe off the food so there is no residue.
3. Let the paper dry for about 30 min. then make your observations.

### **Observations**

Complete the chart below using the foods your group has selected. If the substance turns the paper translucent (or slightly see-through), it contains fat. If it dries to the original color of the paper (and opaque), it does not contain fat.

| FOOD |             | PAPER                                |  | CONCLUSION           |
|------|-------------|--------------------------------------|--|----------------------|
| Item | Description | How it affects the paper immediately | How it affects the paper after 30 min. | Does it contain fat? |
| 1.   |             |                                      |  |                      |
| 2.   |             |                                      |  |                      |
| 3.   |             |                                      |  |                      |
| 4.   |             |                                      |  |                      |
| 5.   |             |                                      |  |                      |
| 6.   |             |                                      |  |                      |

### Questions

1. Why are fats needed in the body?
2. Why are fats a concern when eaten in excess amounts?
3. This experiment tests only for the presence of fat; it does not differentiate between types of fats. From the foods you chose, determine saturated versus unsaturated fats and whether the product has been hydrogenated or not. Give reasons for your conclusions.