

Food Testing for Nutrients

Name _____

Date _____ Per. _____

CAUTION: Students must wear safety goggles and an apron.

Safety Concerns:



Testing for Starches

Indicator: Iodine

Iodine is poisonous! Do not get it in your eyes, nose or mouth.
It will also stain clothing.

1. Place a small amount of solid food into a section of a spot plate.
(must be small enough to fit in a section of spot plate)
If using a liquid, add enough to fill section of spot plate about half full.
2. Add 1-2 drops of Iodine.
3. A blue-black color indicates that starch is present.
4. Use potato as your control sample.

Testing for Fats and Oils

Indicator: Shiny spot on unglazed paper or brown paper bag

Make sure to label each section of your paper or bag with the name of the food or the liquid used.

1. Rub a solid sample of food onto a sectioned off piece of unglazed paper or brown paper bag.
2. If using a liquid, dip a cotton swab into the liquid, and then smear a sectioned off area of your paper with the liquid.
3. Let dry. (may take overnight) If a shiny spot appears when held up to the light, fat or oil is present.
4. Use salad oil as your control sample.

Testing for Vitamin C

Indicator: Indophenol

Indophenol is poisonous! Do not get it in your eyes, nose or mouth.
It can also stain clothing.

1. Place a small amount of solid food in a section of the spot plate. If using liquid, add enough to fill a section of spot plate half full.
2. Crush solid with glass rod and add 5 drops of water to it and mix.
3. Add 1-2 drops of indophenol to the sample.
4. If Indophenol turns colorless, vitamin C is present.
5. Use lemon juice or grapefruit juice as your control sample.

Testing for Proteins

Indicator: Biuret Solution

Biuret Solution is poisonous! Do not get in your eyes, nose or mouth.
It can also stain clothing.

1. Place a small amount of solid food in a section of the spot plate. If using liquid, add enough to fill a section of spot plate half full.
2. Crush solid with glass rod and add 5 drops of water to it and mix.
3. Add 2-3 drops of biuret solution to the sample.
4. A color change to a purple indicates that protein is present.
5. Use milk as your control sample.

Testing for Glucose Sugar

Indicator: Benedict's Solution


Benedict's Solution is poisonous! Do not get it in your eyes, nose or mouth.
It can also stain clothing.

1. Pour $\frac{1}{2}$ inch of Benedict's Solution into a test tube. (3mL).
2. Add a small amount of solid food or a few drops of liquid to the solution.
3. Heat the contents gently until it just begins to bubble. **Be very careful not to point the open end of the test tube towards anyone and never leave flame unattended.**
4. A color change of green to yellow to orange to brick red indicates glucose is present.
The closer to the brick red color it turns, the more glucose is present in food.
5. Use any fruit as your control sample.

FOOD TESTING LAB DATA SHEET

Name _____
Date _____ Per. _____

- **For Controls:** Describe the change that the indicator results in
- **For All Other Food Tests:** Write **YES** in box if nutrient is present and **NO** if it is not present
- Use the **SAME FOOD** for ALL 5 indicators

Safety Concerns:					
Control For:	Starch	Fats/Oils	Vitamin C	Protein	Glucose Sugar
Use:	Potato	Salad Oil	Lemon Juice	Whole Milk	Any Fruit
Describe Result of Indicator:					
Required Food Tests:					List final color below
Regular Sprite or 7-UP					
Diet Sprite or 7-UP					
Whole Milk					
Skim Milk					
Choose Any 5 Other Foods (Required):					List final color below
1					
2					
3					
4					
5					
Extra Credit:					List final color below
1					
2					