

NUTRIENT ANALYSIS LAB

Read and carefully follow the instructions at each station. WEAR SAFETY GLASSES.

1. Carbohydrates (Monosaccharides)

Substances	Observations (Colour, etc.)	Positive or Negative
Water + Benedict's solution		
Glucose + Benedict's solution		
Describe the positive test for glucose:		

2. Carbohydrates (Polysaccharides)

Substances	Observations (Colour, etc.)	Positive or Negative
Water + Iodine solution		
Starch + Iodine solution		
Describe the positive test for starch:		

3. Proteins

Substances	Observations (Colour, etc.)	Positive or Negative
Water + Biuret solution		
Protein + Biuret solution		
Describe the positive test for protein:		

4. Lipids

Substances	Observations (Colour, etc.)	Positive or Negative
Water + Sudan IV solution		
Veg. Oil + Sudan IV Solution		
Describe the positive test for lipid:		

5. Which foods contain starch?

Place a small piece of each food sample in a separate test tube. Add a few drops of Iodine solution. Record your observations in the table and identify the food as positive or negative for starch.

Table: Testing Foods For Starch:

Bread	Potato	Carrot	Pasta	Rice
Pos. or Neg.?	Pos. or Neg.?	Pos. or Neg.?	Pos. or Neg.?	Pos. or Neg.?

Carbohydrates (Monosaccharides)

Use masking tape to label two clean test tubes, 1 and 2, and write your initials on the tape to identify them as yours.

Add about 2 cm (in height) of water to test tube 1.

Add about 2 cm (in height) of glucose solution to test tube 2.

- If a solution is not already prepared, add a small amount of glucose powder to 2 cm of water.)

Add a small volume of **BENEDICT'S** solution to both test tubes. Mix gently by shaking or agitating the tubes.

Place both tubes in the hot water bath for 10 minutes. Wear safety glasses.

Record your observations and then carefully clean up the equipment.

Carbohydrates (Polysaccharides)

Use masking tape to label two clean test tubes, 1 and 2.

Add about 2 cm (in height) of water to test tube 1.

Add about 2 cm (in height) of starch solution to test tube 2.

- If a solution is not already prepared, add a small amount of starch powder to 2 cm of water.

Add a small volume of **IODINE** solution to both test tubes. Mix gently by shaking or agitating the tubes.

Record your observations and then clean up the equipment.

Proteins

Use masking tape to label two clean test tubes, 1 and 2.

Add about 2 cm (in height) of water to test tube 1.

Add about 2 cm (in height) of water to test tube 2. Then add a small amount of protein powder and mix.

- If a protein solution is already prepared, add 2 cm of the solution to the test tube.

Add a small volume of **BIURET** solution to both test tubes. Mix gently by shaking or agitating the tubes.

Record your observations and then clean up the equipment.

Lipids

Use masking tape to label two clean test tubes, 1 and 2.

Add about 2 cm (in height) of water to test tube 1.

Add about 2 cm (in height) of vegetable oil to test tube 2.

Add a small volume of **SUDAN IV** solution to both test tubes. Place a stopper on each test tube and shake vigorously for a minute.

Record your observations and then clean up the equipment.