Discovering digestion

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Testing your food: Student sheet

Equipment

- A range of food samples
- Clinistix® test strips and colour chart
- Albustix® test strips and colour chart
- Iodine solution
- 5% glucose solution
- Spatula
- Dropping pipette
- Beaker
- Test tubes
- Test tube rack

Predictions

In the table below list the foods you think will be highest in glucose, protein and starch

Glucose	Protein	Starch

Lab activity 2
Method

1. Read the instructions in full before you begin
2. If the food is solid, grind or crush it in a pestle and mortar
3. Put half of each food sample in a test tube (to a depth of 2cm) and the other half in a petri dish
4. Clean pestle and mortar thoroughly to prevent contamination
5. Repeat for each food sample
6. Add distilled water to each test tube (so that the mixture is half food and half distilled water). Stir well with the glass rod and leave to stand for 2-3 minutes (so any glucose or proteins can dissolve into the water)
7. Use a dropping pipette to transfer a few drops of the liquid above the food to an Albustix® test strip (to test for protein) and a few drops to a Clinistix® test strip (to test for glucose). Hold the strip horizontally over a beaker and drip test liquid onto the test area until it is thoroughly wet

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Lab activity 2

Method Continued

8. Shake off excess liquid and leave for 10 seconds
9. Compare the colour of the test area with the colours shown on the side of the Clinistix® and Albustix® containers
10. Record your results
11. Dispose of the used test strips carefully
12. Add a few drops of iodine solution to the food samples in the petri dishes
13. If a blue or blue-black colour appears, that means starch is present
14. Record the results

Results table

Food	Relative glucose concentration (Clinistix® colour) (Negative, Low, Medium or High)	Relative protein concentration (Albustix® colour) (Negative, Low, Medium or High)	Starch (Reaction of food with iodine solution) (Stays orange: no starch or turns blue-black: starch present)

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Quiz

1. What is the main reason why we need protein in our diet?

Energy	Digestion	Growth and repair

2. Name two factors that affect how much energy someone needs

3. What nutrient is found in pasta and rice?

Lipids	Carbohydrate	Protein

4. $C_6H_{12}O_6$ is the chemical symbol for what?

5. Which of these contains the most protein?

Fish	Chips	Ketchup

6. Through which process is energy released in the body?

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Quiz

7. Which of these contains the most fibre?

Cheese	Carrots	Yoghurt

8. Name all seven food groups.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

9. Albustix® strips can be used to test for what?

Starch	Glucose	Protein