Spectacular Starch

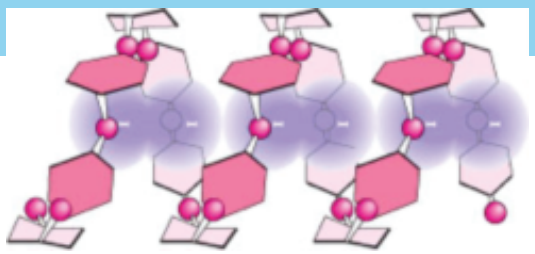
Aim: To find out which foods contain starch and investigate the properties of starch.

Background Information

Starch is a **carbohydrate** consisting of a large amount of sugar (glucose) molecules joined together.

Starch is produced by green plants as an energy store and is the most important carbohydrate in the human diet.

The experiment we will do now investigates how we can detect starch in everyday foods using iodine. **Iodine** will change from an **orange/brown colour to blue/black** if **starch** is present. This happens when the starch molecules form a spiral and help the iodine molecules to line up.



What to do

1. For each food sample, record in the results table whether you think it contains starch or not.
2. Using the dropper, place a few drops of iodine onto each food (one at a time) and watch for the colour change.
3. Record your results in the table.

Your Table

Results

Sample	Do you think it contains starch? Yes/ No?	Did iodine change colour Yes/ No?	Did the food contain starch Yes/ No?
Apple slice			
Milk			
Bread			
Uncooked Pasta			
Cooked Pasta			
Potato Slice			
Cheese			

Conclusions

Which foods contained;

a) The most starch (i.e. the iodine turned darkest)? _____

b) No starch (i.e the iodine didn't change colour)? _____

Take a piece of uncooked pasta and a piece of cooked pasta. Drop iodine onto each at the same time - which changes colour quickest? Which contained more starch – the cooked pasta or the uncooked pasta?

_____

Why do you think there was a difference between the cooked pasta and the uncooked pasta?

_____

Exploring the Science

Grains of starch are stored in plant cells. The picture shows starch grains in potato.

When we eat plants or seeds, our bodies break down this starch into glucose which we can use for energy.

Cooking helps to break cell walls and release the starch. This explains why the iodine became darker on the cooked pasta than on the uncooked pasta.