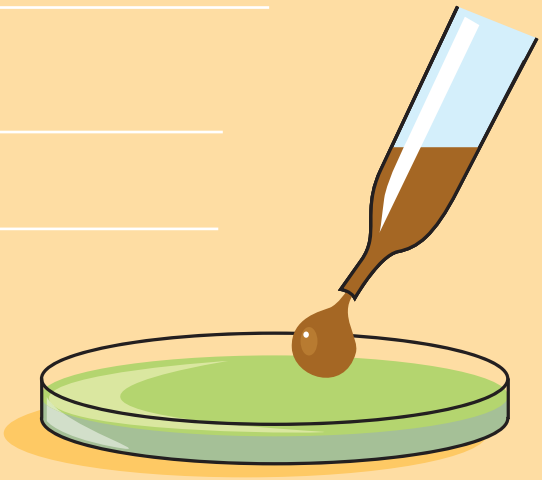
Starch is Everywhere

Preparation

EQUIPMENT	Tincture of iodine (available from chemists) Small dropper bottles (available from chemists) Measuring Jug Funnel Small samples for testing, such as paper, cardboard, polystyrene, plastic, bread, potato, apple, salt, cheese, rice, spaghetti, sugar, flour, biscuit, etc.
PREPARATION	Prepare the iodine solution for use by the children. Dilute the tincture of iodine with water (about 1:10 iodine: water). One dropper bottle per 4 children should be sufficient. Store the tincture of iodine away from the classroom. Take care – iodine stains. Cover the work surfaces with newspaper.
BACKGROUND INFORMATION	Starch is a carbohydrate. It is found in plants. Green plants make carbohydrates through photosynthesis. Starch is therefore in many foods, but also in other things as well, e.g. some paper. Starch is a white powder. Starch reacts with iodine to produce a blue or blue-black colour. It can therefore be used as an 'indicator', i.e. to test if starch is present in something.
TRIGGER QUESTIONS	**Where do you find starch?** (Most likely responses are: In food and for stiffening clothes) **Where do you think starch comes from?** (Plants)
CROSS-CURRICULAR LINKS	**SPHE:** Myself - Taking care of my body **SESE:** Geography - Natural Environments
SKILLS	**Predicting, experimenting, observing, recording, classifying, analysing** (what types of things contain starch?)
CONTENT	Plants and animals Materials



Starting and Stopping

Activity

ACTIVITY

Add a few drops of iodine solution to each of the items and observe the change of colour of the iodine (if any). Anything that turns blue-black contains starch.

Record the results in a table:

ITEM	Did iodine turn blue or blue-black?	Was there starch in the item?
Tissue		
Kitchen paper		
Plastic mug		
Polystyrene mug		
Bread		
Potato		
Apple		
Biscuit		

SAFETY

Care with iodine – close adult supervision; handle with care - do not get into mouth, etc.
Store the tincture of iodine away from the classroom.
Care with clothes – iodine can stain.
Wash hands after activity.

FOLLOW-UP ACTIVITIES

CHILDREN CAN:

Find out the uses of starch.
(Starch has three main uses: It is a major food, can be used as a thickener for sauces, and can be used to stiffen clothes)

Look at food packaging to see which foods contain starch. You'll find that bread, pasta, cereals, potatoes and many other foods contain starch.

Find out about food, the food pyramid.

Discuss the main types of food and a balanced diet.
(The main food types are carbohydrates, proteins, fats, vitamins, minerals, etc.)

Design a healthy lunchbox for themselves or a younger child.

Find out about the types of starch eaten around the world.

Survey their own class to find out which starch they eat.

Find out about the Potato Famine of the 1840s in Ireland.

Make their own starch.

Make Starch Goo – this is very messy.

See www.primaryscience.ie for flashbased version of activity.