

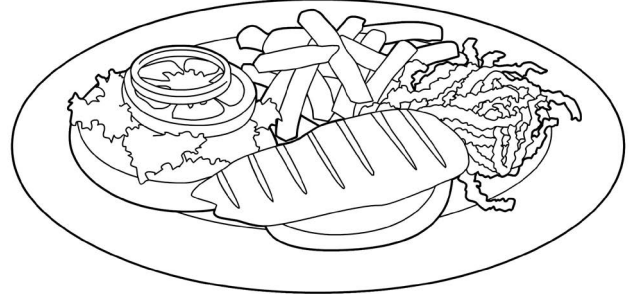
Photosynthesis - Plants and Food

Name: _____

ACTIVITY: WHERE DOES FOOD COME FROM?

Find FOUR pictures of a meal or a plate of food. Paste them into your book.

Write down what food items make up the meal in each of the pictures you selected.



The food we eat either comes from plants or from animals that eat plants.

Plants are called **producers** because they produce or **make their own food**. They do this through a process called **photosynthesis**.



Photosynthesis

The root word in “**photosynthesis**” is “**photo**” which means **light**. This makes it easier to remember that plants need light to make food. The light comes from the Sun.

Green plants use **sunlight** (energy), **water** (from the soil) and **carbon dioxide** (a gas in the air we breathe out).

Green plants have a chemical called **chlorophyll** in their leaves. The sunlight reacts with this chemical giving off all the energy that is needed for the process. In the process, the carbon dioxide and water mix together and change to make **glucose** (which is the plant’s food) and **oxygen**.

Fill in the missing words in this diagram that illustrates the inputs and outputs of photosynthesis:

C _____ +

E _____ +

S _____ +



G _____ +

W _____

O _____

+ C _____ d _____

Plants and food

A plant's food, as we have discovered, is called **glucose**. Glucose is a simple sugar and gives the plant all the energy it needs. The plant doesn't use all of this food at once, but stores some of it for later. The glucose has to change for the plant to store it. It is changed and stored in a new form called **starch**.

We can test if a food has starch in it using an **indicator** called **iodine**. Iodine is called an indicator because it can "indicate" or tell us, if a food has starch in it or not. It does this by **changing colour** or **staying the same colour**.

If a food **has starch** in it, the iodine will change from a yellow-brown colour to a **blue-black colour**. If a food **doesn't have starch** in it, it stays a **yellow-brown colour**.

ACTIVITY: STARCH TEST

AIM: To test which food items contain starch and which do not contain starch.

APPARATUS: Iodine solution, dropper, 5 petri-dishes or plates, small amount of different foods (flour, bread, apple, oil, cheese).

NOTE: Be careful when using iodine as it can stain your clothes – use a protective lab coat or an old T-shirt.



METHOD:

- 1) Put a small amount of each food item into a different petri-dish.
- 2) Using the dropper, drop a little bit of iodine onto each item of food.
Give it some time to soak in.
- 3) Observe any colour changes.
- 4) Record your results.

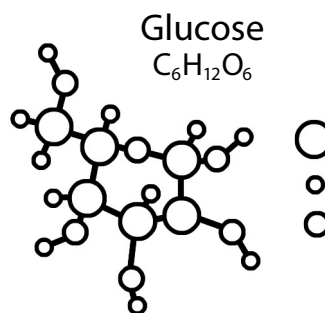
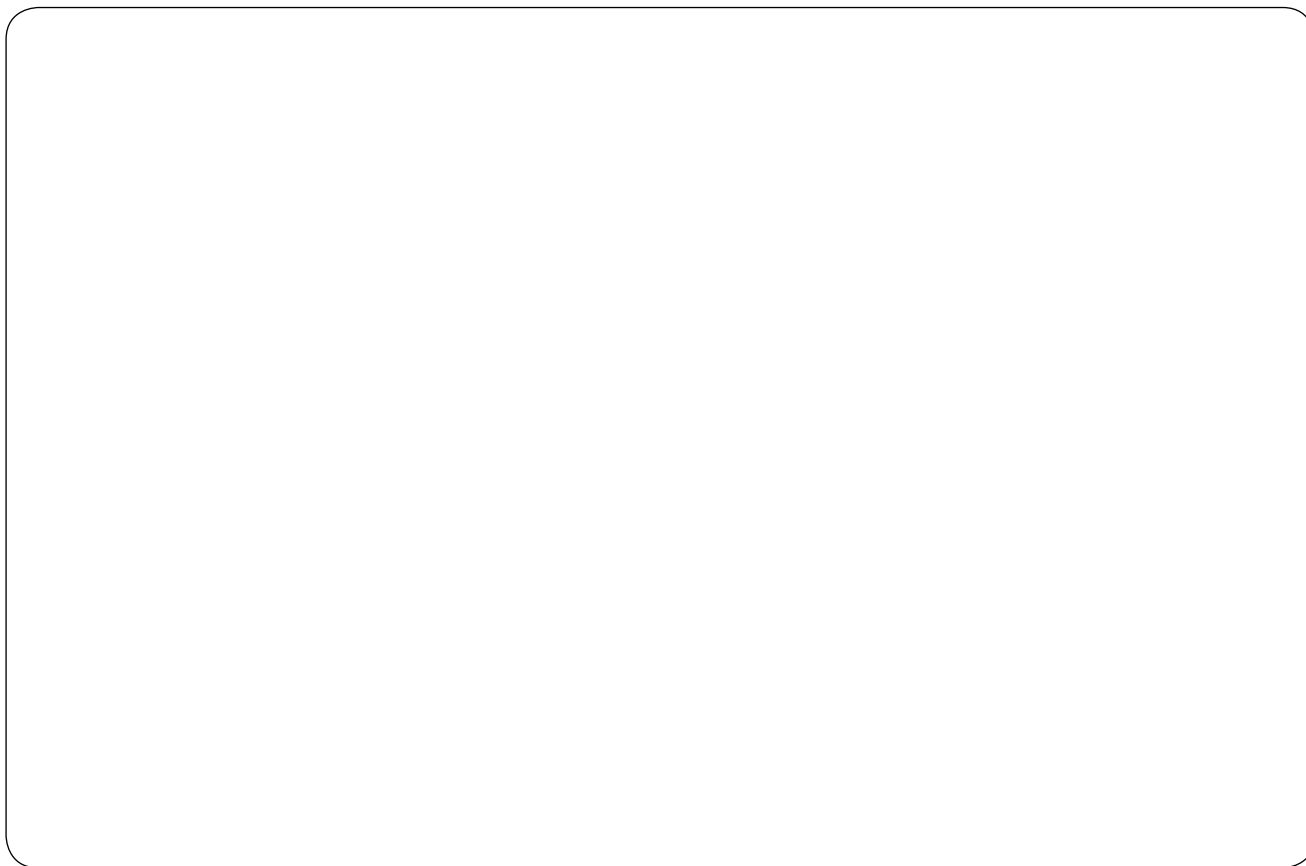


DIAGRAM: Draw a diagram in the space below, of one of your petri-dishes with a dropper placing iodine onto the food item. Label all of the parts underneath each other, on the right hand side of the diagram.



RESULTS: Fill in the table below to show the colour changes for each of the food items.

Food item	Colour using iodine

CONCLUSION:

These food items had starch in them: _____

These food items did not have starch in them: _____

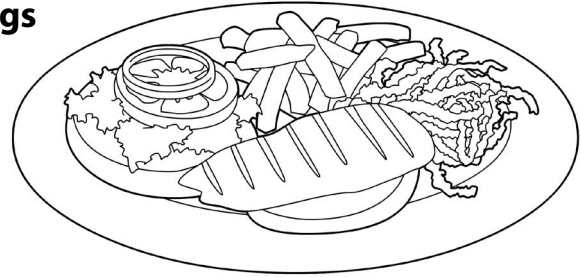
Answer sheet

ACTIVITY: WHERE DOES FOOD COME FROM?

Learners will have different answers but here is an example of what to expect:

Chicken Burger with Chips and Onion rings

- bread rolls (wheat flour, yeast, eggs, milk)
- Chicken breast
- Chips – potatoes
- Onion rings – onions, flour, eggs
- Salad – tomato, onion, lettuce.

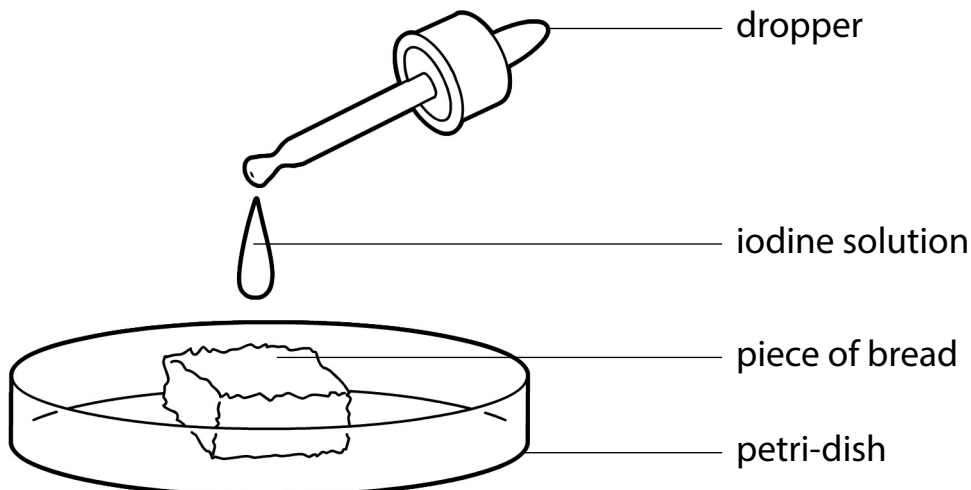


ACTIVITY: STARCH TEST

NOTE: Be careful when using iodine as it can stain your clothes – use a protective lab coat or an old T-shirt.

Please prepare the children for this and encourage them to bring an old T-shirt or a lab coat to class for this experiment.

DIAGRAM: Draw a diagram in the space below, of one of your Petri-dishes with a dropper dropping some iodine onto the food item. Label all of the parts, underneath each other, on the right hand side of the diagram.



Note: Diagram and label lines should be in pencil and labels written in blue or black pen. They should line up neatly on the right hand side of the diagram. The diagram should be a simple line drawing and not a sketch or artwork.

Answer sheet

RESULTS: Fill in the table below to show the colour changes for each of the food items.

Food item	Colour using iodine
Flour	Blue-black
Bread	Blue-black
Apple	Blue-black (takes some time to develop)
Oil	Yellow-brown
Cheese	Yellow-brown

CONCLUSION:

These food items had starch in them: Flour, bread and apple

These food items did not have starch in them: Oil, cheese