

## Learning Intent

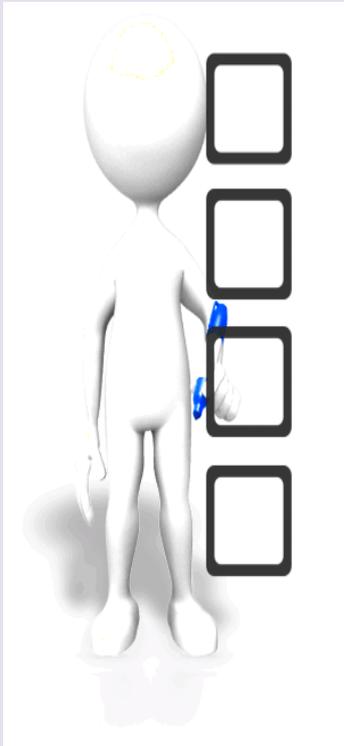
Explore how a plant uses the glucose produced from photosynthesis

## Success Criteria

Identify how a plant gets the reactants for photosynthesis

Describe the uses of glucose in a plant

Explain the advantages to a plant of storing glucose as starch



# Identify how a plant gets the reactants for photosynthesis

Describe the uses of glucose in a plant

Explain the advantages to a plant of storing glucose as starch

New Info



1. Stick the picture into your book.
2. Mark on the plant where it gets the reactants for photosynthesis.

Identify how a plant gets the reactants for photosynthesis

**Describe the uses of glucose in a plant**

Explain the advantages to a plant of storing glucose as starch



**What does a plant use the glucose it gets from photosynthesis?** Use the picture clue to work out one use.

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Activities



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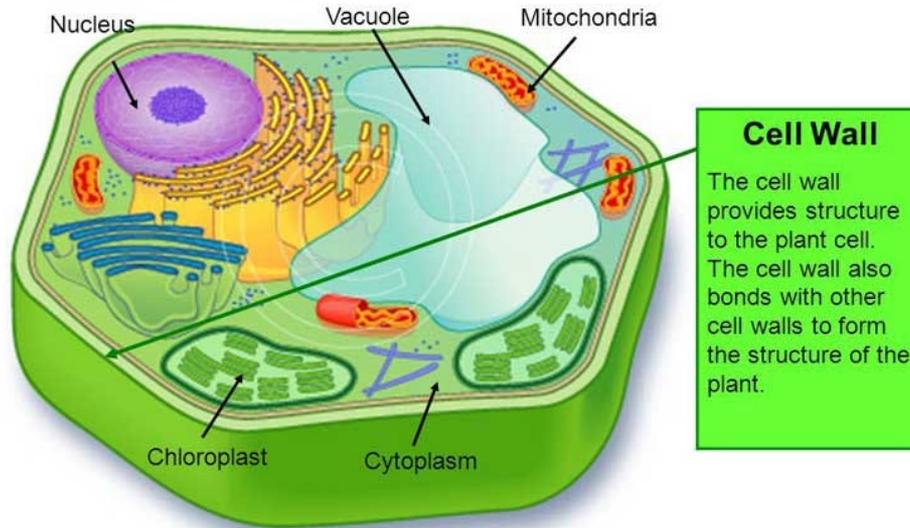
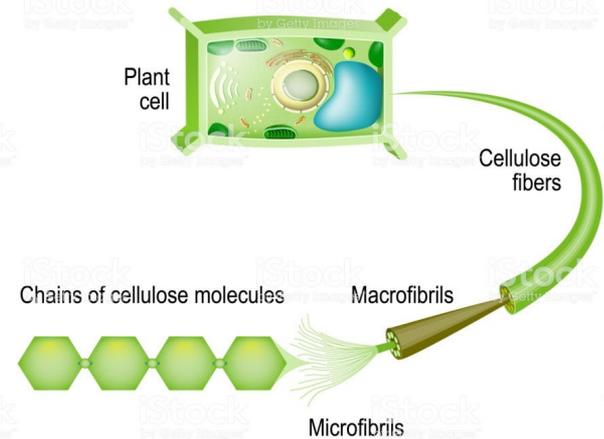


Image source: [scienceillustration.org](http://scienceillustration.org)

## CELLULOSE



What does a plant use the glucose it gets from photosynthesis? Use the picture clue to work out one use.

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New Info

## How could we prove that a leaf stores glucose as starch?



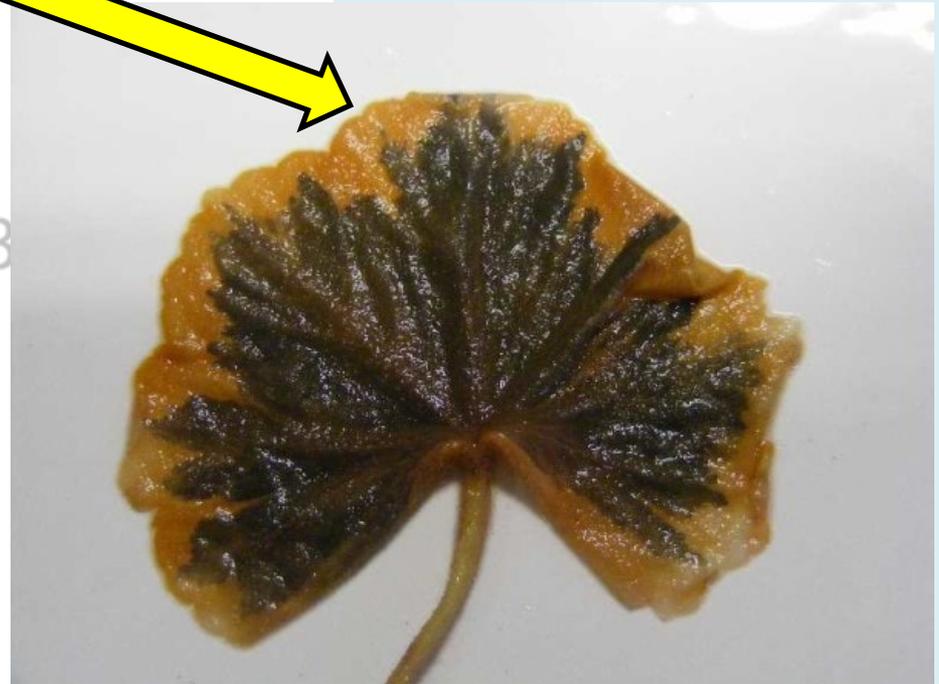
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New Info

Iodine added



Purple or black means there is starch

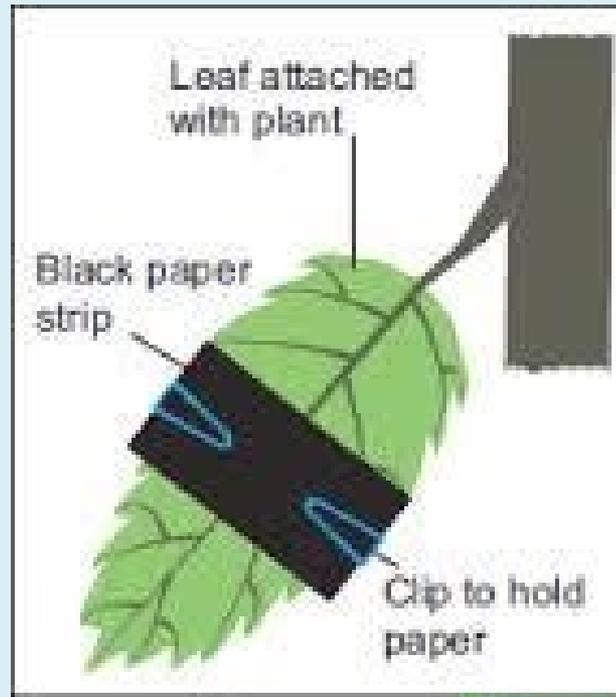
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New Info

Part of the leaf  
is covered.



This prevents photosynthesis from happening - No glucose  
– **No starch.**

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## Activities

- **Collect your equipment:**

- 250ml beaker,
- bottle of iodine,
- boiling tube,
- tweezers,
- clear dish and
- white tile.

- ✓ Goggles on
- ✓ Chairs under
- ✓ Stand up

**Identify how a plant gets the reactants for photosynthesis**

**Describe the uses of glucose in a plant**

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## Activities

1. Collect a leaf from Mr Schuller.
2. Put 200ml of kettle hot water in your beaker.
3. Place your leaf in the beaker for 2 minutes.
4. Half fill your boiling tube with ethanol.
5. Place the leaf in the boiling tube.
6. Put the test tube into the hot water.
7. Start the stopwatch. Wait 5 minutes.
8. Take the leaf out of the test tube with some tweezers. Wash it carefully in your beaker of water.
9. Put the leaf in the petri dish on top of the white tile.
10. Add one drop of iodine at a time all over the leaf. Wait a few moments.
11. Write down/draw what you see.

**Identify how a plant gets the reactants for photosynthesis**

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## Activities

1. Collect a \_\_\_\_\_.
2. Put 200ml of \_\_\_\_\_ in your beaker.
3. Place your leaf in the beaker for \_\_\_\_\_ minutes.
4. Half fill your boiling tube with \_\_\_\_\_.
5. Place the \_\_\_\_\_ in the boiling tube.
6. Put the test tube into the \_\_\_\_\_.
7. Start the stopwatch. Wait \_\_\_\_\_ minutes.
8. Take the leaf out of the test tube with some tweezers. Wash it carefully in your beaker of water.
9. Put the leaf in the petri dish on top of the white tile.
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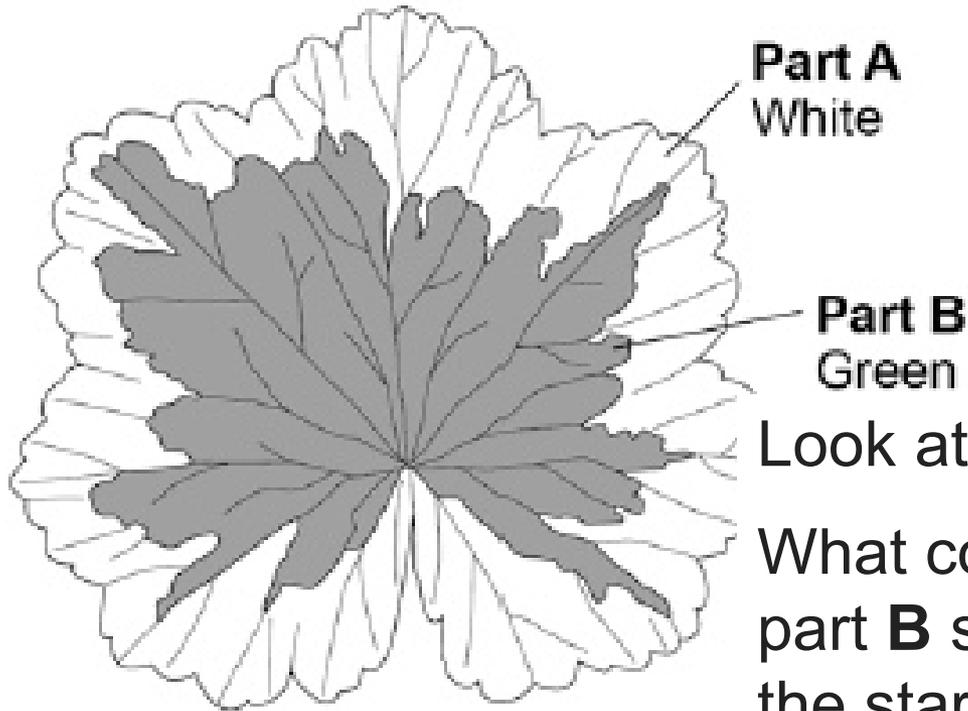
Activities



- ✓ Starch takes up less space than glucose
- ✓ Starch is insoluble in water – Glucose is
- ✓ Excess glucose is converted into starch
- ✓ Starch can be converted back to glucose when needed



A student investigated where starch was made in a leaf. She used a leaf that was part green and part white as shown in the diagram.



Look at the leaf in the diagram.

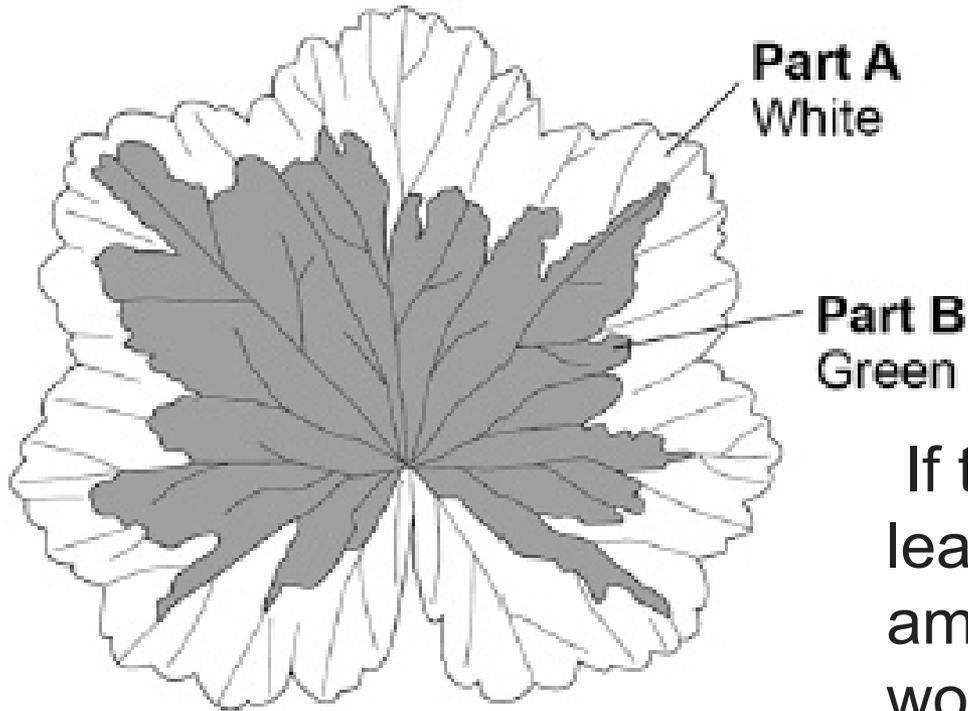
What colour would part **A** and part **B** stain with iodine solution after the starch test?

**A** Orange or brown

**B** Blue or blue or black



A student investigated where starch was made in a leaf. She used a leaf that was part green and part white as shown in the diagram.



*Starch could still be broken down into glucose if reactions weren't stopped.*

If the chemical reactions in the leaf were not stopped, the amount of starch in the leaf would decrease.

Give the reason why.

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