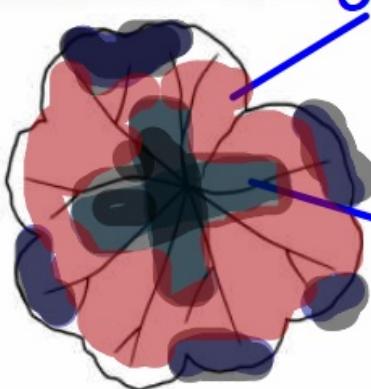


9BC PLANT PRODUCTS

1 A plant was left in the dark for 24 hours. A metal foil stencil was then attached to one leaf and the plant was left in bright light. The leaf was then removed and tested for starch.



foil stencil



after testing for starch

Orange brown

Blue black

Iodine

a What solution is used to test for starch?

b Why is a metal foil stencil used and not a clear plastic one? **The metal foil prevents light from reaching some of the leaf, but clear plastic would not.**

c Complete the drawing on the right of the diagram to show the result you predict from this experiment. Compare your drawing with a partner to check if any correction is needed.

d Explain what you drew in part c.

Light cannot get through the stencil, so no photosynthesis occurs in those cells. So, no glucose is made there, which means no starch is produced.

SB 2 Why do seeds need starch?

As a store of energy (for respiration).

3 Enzymes are proteins.

a Describe how plants make proteins. **Glucose from photosynthesis is combined with nitrates to make amino acids, which form proteins**

b Describe the role of enzymes in germinating seeds.

Enzymes break down starch to glucose, which is used in respiration and to make new substances for growth

4 Describe a test that would show that glucose is produced in seeds.

Benedict's reagent should change from blue to orange or red when heated with the crushed seed.