See if light is needed for photosynthesis (TASK TWO )

Green plants make simple sugars from carbon dioxide and water by photosynthesis. Therefore, they need not only carbon dioxide and water but also sunlight as the energy needed in order to complete the chemical reaction.

In order to prove that, take a healthy leaf of a Pelargonium plant (or similar) and leave it in a cupboard for a few days to destarch it (or in any other places where it can be kept away from light).

Test one of the leaf for starch in order to check that it does not contain any (see task ONE).

Using a folded piece of black paper or aluminium foil, a little larger than a leaf, cut out a shape (like in the figure). Then fasten the paper or foil over both sides of a leaf of the plant, making sure that the edges are held firmly together. Don’t take the leaf off the plant!

Leave the plant near a warm, sunny window for a few day.

Remove the cover from the leaf and test the leaf for starch.

Make a labelled drawing of the appearance of your leaf after testing for starch.

Questions:

1. why was the plant destarched before the beginning of the experiment?
2. why was part of the leaf left uncovered?
3. what do your results tell you about light and photosynthesis?



