

What Do Scientists Do?

Learning Objective:

To create a hypothesis and plan an investigation to answer an enquiry question.



Think, pair, share...

What do you
think a botanist
studies?



A botanist studies plants and how they interact with their ecosystems. They've studied environmental sciences and biology to become experts.



Like zoologists, a botanist might specialise in a specific species of plant.

An illustration of a male scientist with glasses and a white lab coat, pointing his right index finger upwards.

Back

An illustration of a laboratory flask containing blue liquid with three bubbles rising from it.

Next

Think, pair, share...



Why is the study of plants important?

How could a botanist's research help human lives?

Back

Next



The research into plants is incredibly important to develop our understanding of our planet and its eco-systems.



Botanists can study the effects of pollution on plants as well as investigating how plants can be used to tackle pollution in different ways.

Back

Next

Researching how different plants reproduce and respire can help us become more environmentally friendly.



Plants absorb carbon dioxide from the air around them and release oxygen into the air as a waste product. Very helpful for anything that needs oxygen to live!



Did you know that botanists help with space missions?



They investigated the best ways to help plants grow whilst they're on space stations!

A zinnia flower grown on the ISS



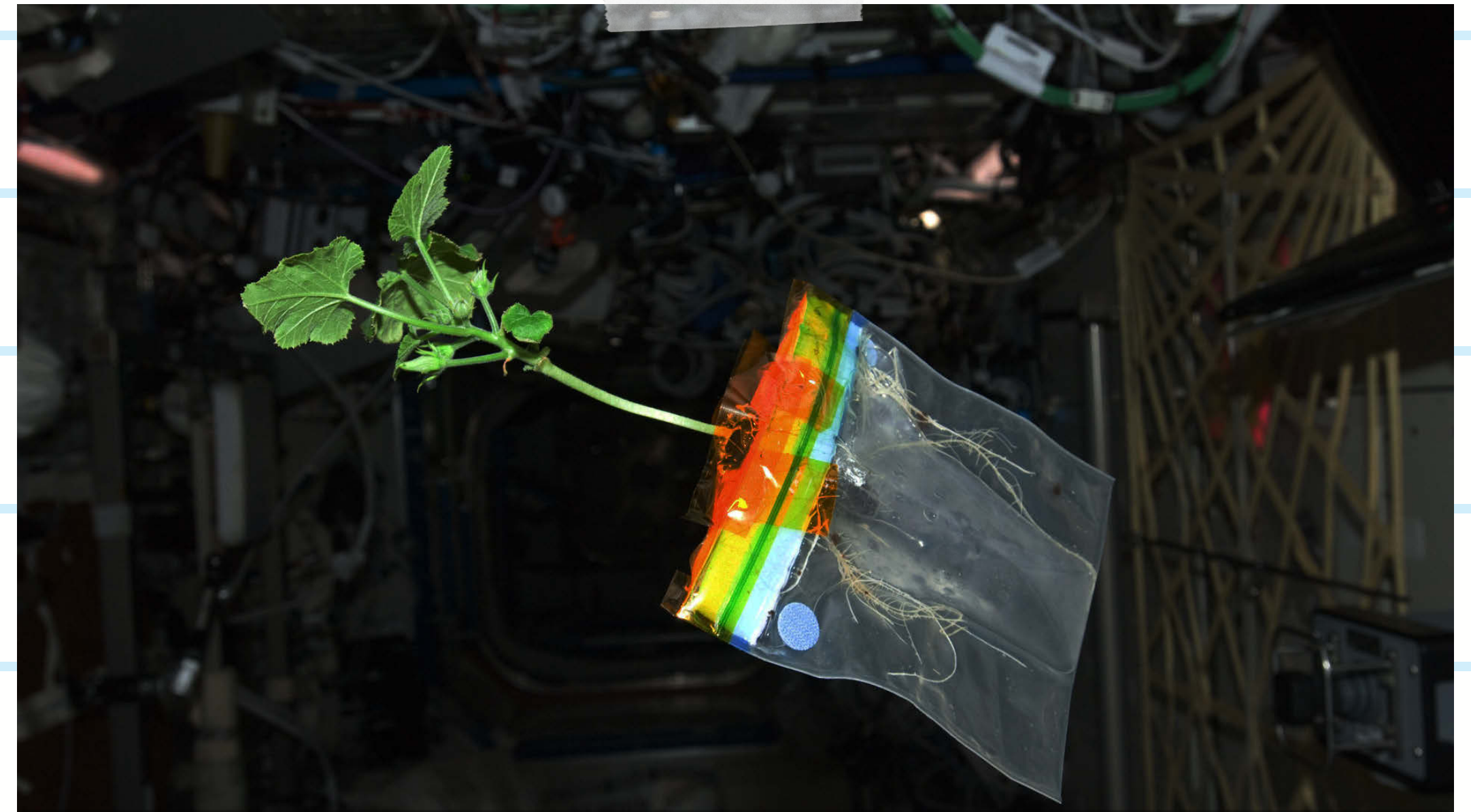
Back

Next



What sort of experiments and tests do you think they did to prepare for growing plants in space?

A zucchini plant grown on the ISS



Why is growing healthy plants in space useful for astronauts?



The food we eat comes from plants, or animals which eat plants, so they are incredibly important for human survival.



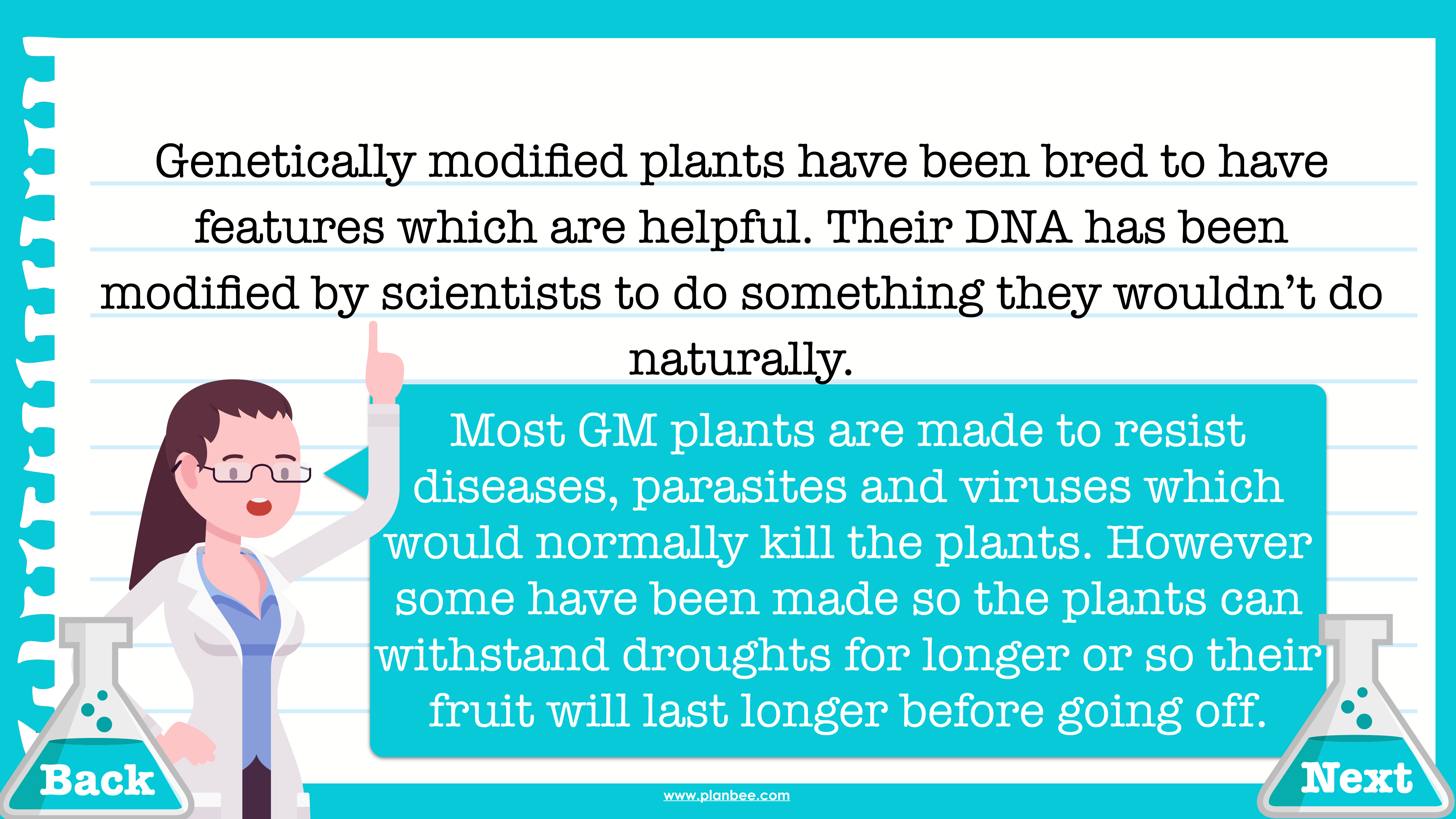
Botanists can use their knowledge and understanding to grow healthier plants which grow bigger fruits and vegetables.

Back

Next

Genetically modified plants have been bred to have features which are helpful. Their DNA has been modified by scientists to do something they wouldn't do naturally.

Most GM plants are made to resist diseases, parasites and viruses which would normally kill the plants. However some have been made so the plants can withstand droughts for longer or so their fruit will last longer before going off.



Back

Next

Do you know
any famous
botanists?



Back

Next



You've probably heard of Beatrix Potter for her wonderful stories of woodland creatures like Peter Rabbit.

But she was also interested in natural sciences. She used her artistic skills to draw and record information about different fungi and how they reproduce.



Back

Next

What do plants need to grow and stay healthy?



Plants need access to sunlight, air, nutrients, warmth and water to grow well.

Soil is important too. This is where the plant gets its nutrients from. However, it is possible for plants to grow without soil.



Plants are primary producers which means they can produce their own food and energy from the sunlight they receive.

Do you know what this process is called? Which part of the plant does it happen in?



Back

Next



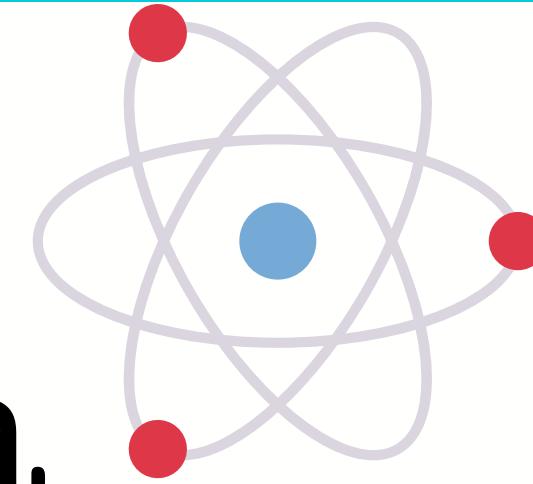
It's called photosynthesis. This process happens in the leaves when they are exposed to sunlight. They use the water and carbon dioxide the plant has collected and turn them into energy for growing.

Back

Next

Plenary

How have you been a
scientist today?



Did you use
the
scientific
method in
any way?

What
scientific
skills or
qualities did
you use?

Back