

Chapter 3 - Greenhouse!

Charlotte looked at the spaceship happily - they'd done a good job so far. The ship was airtight and well insulated, with a source of power. They had water, air to breathe, food to eat now and food to grow.

"I think we're ready, Zach!" she said, looking around.

Zach was nowhere to be seen! Charlotte searched the room, but there was no sign of her fellow astronaut. She poked her head out of her bedroom door. The front door was wide open and a cold gust of air made her shiver. She grabbed an extra jumper just in case went back to do a final check of the ship.

Suddenly, Zach appeared. He was dancing around in excitement.

"I can't wait to see Earth from space," he cried.

"Me too!" shouted Charlotte. "Let's go!"

The two friends snuggled inside the spaceship. Charlotte pressed the BLAST OFF button and they shot upwards into space. Soon they were orbiting Earth. The views were incredible!

"I can't believe we did it!" said Zach. "This is the best birthday ever!"

It had been a long time since lunch and the children were very hungry. Zach reached for two packs of sandwiches, but Charlotte stopped him. She said that they needed to be careful with their supplies so they didn't run out. Zach thought for a while. Perhaps if they needed more food they could build a greenhouse just like his grandad's?

Grandad always said that his greenhouse was amazing. Everything grows better in there as it stays warm, lets the sunlight in and keeps the bugs away. It would be perfect for growing space food!

"What a great idea," said Charlotte. "Now, how do we build a greenhouse?"



Challenge - Build a greenhouse

Your challenge is to build a greenhouse to allow Charlotte and Zach to grow food so that they don't run out and get hungry. You need to think about creating the best conditions for the plants to grow on the spaceship – you might need to be quite creative!



Make a plan before you start!

A white notepad with two orange rings at the top and several horizontal lines for writing.

Black card



Art straws

Sellotape

Glue

Plastic containers

Plastic cups

Cellophane

Cling film



To build our greenhouse you might need...

Get building! Good luck!

Do your plants have all the things they need to grow properly?

We need the greenhouse to allow the plants plenty of light. Does your greenhouse do that?

No — Can you change the materials for your greenhouse to allow light to reach the plants?

Yes — Well done!

We need a water supply for the plants. Have you added a way of watering the plants?

Yes — Excellent!

No — Design a way to water the plants so they can grow fully.

We need the greenhouse to have good ventilation. Does your greenhouse have gaps so that the air can move in and out?

No — Make some changes to the greenhouse so that this can happen.

Yes — Brilliant!

Have you created a greenhouse which is full of healthy plants for us to eat?

No — What else do the plants need?

Yes — Hurrah!



Congratulations!

You are now a greenhouse guru! Show your greenhouse to the other groups in your class and compare ideas. Is there anything you would do differently next time?

Challenge completed! Move on to Chapter 4...

Teacher/Parent Guide

Downloadable Resources

- Planning pad template
- Recording tables
- Observation table
- Questions to ask the gardener

Download at
millgatehouse.co.uk/eespace

The children encounter decision-making about properties of materials again in this activity. It is important to provide them with some resources that wouldn't be suitable for a greenhouse, such as tin cans and cardboard cups so that they have to think carefully about their choices of materials. It is suggested that there is time dedicated to some research from secondary sources, to allow the children to find out information about what plants may need to survive before they start building their greenhouse.

Ideally, the children will have the opportunity to question a gardener about what makes a good greenhouse. Questions can be prepared prior to the interview.

Challenge extension - Reviewing

Can the children find out about industrial-scale greenhouses, or how about designing a self-watering greenhouse?

Bigger questions to think about: How do plants survive in the desert? How do plants live in cold places? Can the children draw plants with features that would allow them to survive on a cold planet/hot planet with little water/wet planet?

Seasonal investigations: Do taller trees have more leaves (scientific enquiry: pattern seeking). How long do buds take to form leaves (observing over time)?