

# Growth

- Parts of plants
- Plant life cycles
- Plant needs
- Useful plants

A little seed for me to sow

A little earth to make it grow

A little hole, a little pot

A little wish and that is that

A little sun, a little shower

A little while and then a flower

THE BIRMINGHAM  
BOTANICAL  
GARDENS  
TURN OVER A NEW LEAF

# Brief Descriptions of Activities

Print off a copy of the “My Plant Explorer’s Diary” page (Worksheet 1) for each pupil and then choose sheets from the pack that match the age/ability of your pupils and the focus of your work.

## **Basic Botany – parts of plants**

What are the parts of a plant?

- Using the correct vocabulary to label a drawing of a plant (Worksheet 2)
- Making observational drawings of different plant parts from around the world (i.e. in the different glasshouses) (Worksheet 3a is a simplified version and Worksheet 3b is suitable for older/more able pupils)

## **Life cycle of a plant**

- Observe seasonal changes of plants to illustrate stages of their life cycles
- Find examples of different plant life cycle stages around the glasshouses/grounds and draw them in the correct boxes (Worksheet 4)
- Find examples of seeds that are dispersed in different ways (Worksheet 5)
- Link to storytelling e.g. ‘The Tiny Seed’ by Eric Carle

## **Plants Growing in Different Conditions**

How are plants adapted to each environment?

- Observing, drawing and describing key survival features (Worksheet 3a/3b can also be used to show this)
- Observing and drawing adaptations of plants to ensure all their needs are met (i.e. nutrients, sunlight, air) (Worksheet 6)
- Imaginative work – creating a plant passport (Worksheet 7)

## **Growing Plants for a Purpose**

How might plants be used by people?

- Children find as many useful plants in the glasshouses as they can, using the plant labels and focusing on plants used for food, medicine and everyday materials (“house and home”) (Worksheet 8)
- Links to stories about food plants, e.g. *Handa’s Surprise*.
- ‘Starting the Day the Botanical Way’ – plants we use to start the day (i.e. breakfast, washing, getting dressed) (Worksheet 9)

## **Measurement**

How can we measure plant growth?

- Using standard and non-standard measurements to investigate and record the differences in plant growth
- Estimating and measuring; investigations to find longest, smallest, etc. (Worksheet 10)

# My Plant Explorer's Diary

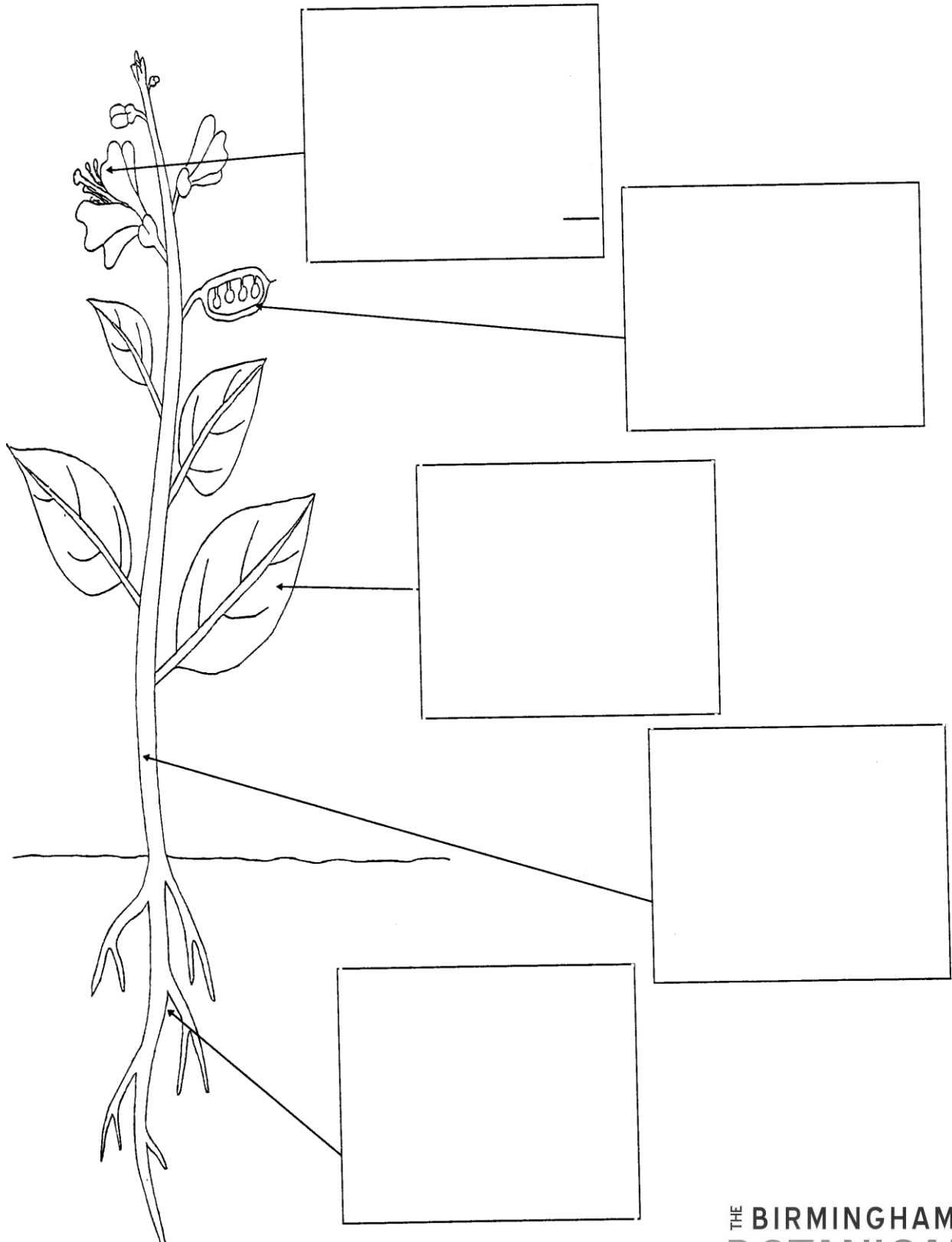


Written by:

Date:

Name: \_\_\_\_\_

# Label the Parts of the Plant



Name: \_\_\_\_\_

## Plant Parts from Around the World

<p><b>Draw a rainforest plant with big leaves or coloured leaves to absorb sunlight. (Remember to show the veins!)</b></p>	<p><b>Draw a flower from one of the glasshouses. Use the words in the box to label the parts of the flower.</b></p>
<p>Name of plant:</p>	<p>roots stem leaf petal pollen</p> <p>Name of plant:</p>
<p><b>Draw a fruit growing in the Mediterranean House. Write some adjectives around the picture to describe it.</b></p>	<p><b>Draw a cactus that has a fat, spiky stem. This helps it to store water and protects it from animals.</b></p>
<p>Name of plant:</p>	<p>Name of plant:</p>

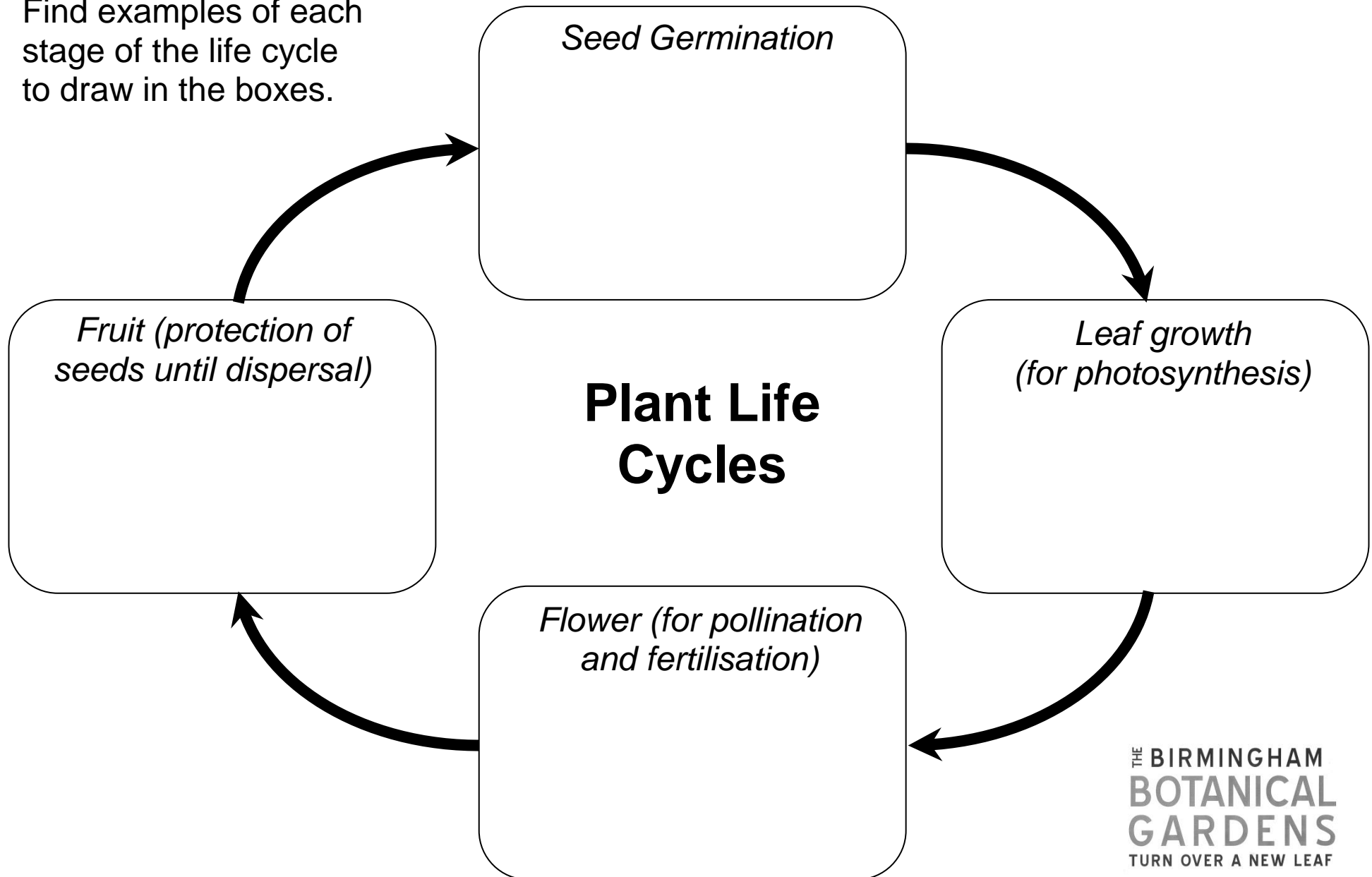
Name: \_\_\_\_\_

## Plant Parts from Around the World

<p><b>Draw a rainforest plant with big leaves or coloured leaves to absorb sunlight. (Remember to show the veins!)</b></p>	<p><b>Draw a flower from one of the glasshouses. Use the words in the box to label the parts of the flower.</b></p>
<p>Name of plant:</p> <p>A fact about this plant:</p>	<p>petal pollen sepal leaf stem stamen stigma ovary</p> <p>Name of plant:</p>
<p><b>Draw a fruit growing in the Mediterranean House. Can you label where the sepals were when it was a flower?</b></p>	<p><b>Draw a desert plant that stores water in a fat stem or thick leaves and has prickles/spikes to protect it.</b></p>
<p>Name of plant:</p> <p>A fact about this plant:</p>	<p>Name of plant:</p> <p>Country of origin:</p>

Name: \_\_\_\_\_

Find examples of each stage of the life cycle to draw in the boxes.


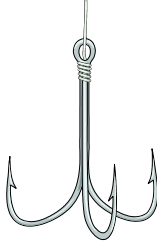








# Getting Around

The job of the fruit is to protect the seeds and help them to travel away from their parent plant. This is called seed dispersal. Plants use many ways to help seeds on their travels.

The pictures below suggest ways seeds are dispersed. Can you find and draw examples of seeds that travel in each different way?

	
(Parachute/wind)	(Hooks onto animals' fur)
	
(Tastes nice!)	(Pepper-pot/shaker)
	
(Helicopter/spinner)	(Explosion)

Name: \_\_\_\_\_

# Plant Needs – unusual plants

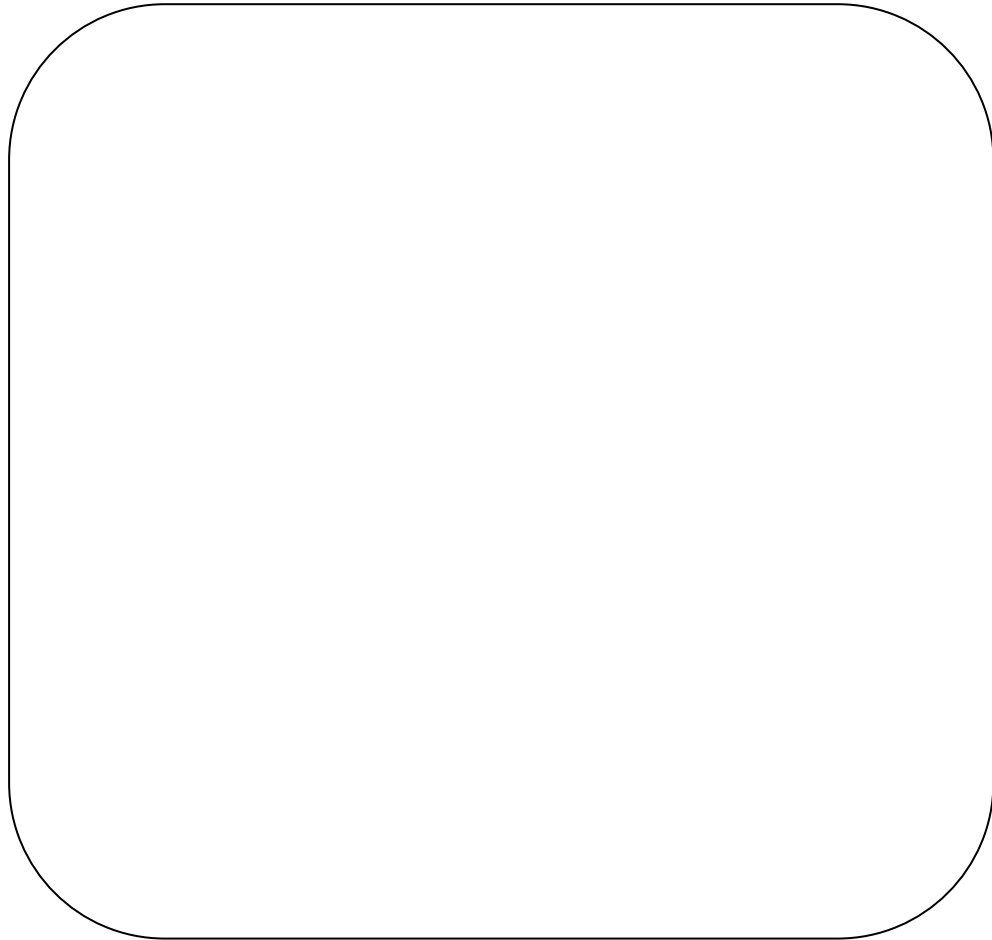
All plants need to get enough water, light, nutrients (minerals) and carbon dioxide (from the air) to grow and be healthy. However, some plants do this in very strange ways...

<p><b>Find a plant that grows up on other plants and catches rainwater in a tank at the bottom. (This is an <i>epiphyte</i> or “air plant”.)</b></p>	<p><b>Find a plant that sends down extra roots from its branches to collect water. (These are called “prop roots”.)</b></p>
<p>Name of plant:</p>	<p>Name of plant:</p>
<p><b>Find a plant that has brightly coloured leaves that catch lots of sunlight in order to make its food. (This is called <i>photosynthesis</i>.)</b></p>	<p><b>Find a plant that eats insects in order to get enough nutrients. Can you see how it attracts and traps them?</b></p>
<p>Name of plant::</p>	<p>Name of plant:</p>

Name: \_\_\_\_\_

Worksheet 7

# Plant Passport






**Name:**  
**Country:**  
**Climate:**  
**Height:**  
**Appearance:**  
**Used for:**

Name: \_\_\_\_\_

# Useful Plants from Around the World

Write the names of as many useful plants as you can find in the glasshouses. Some plants could go into more than one box. Can you beat your classmates? Who will find the highest number of useful plants?

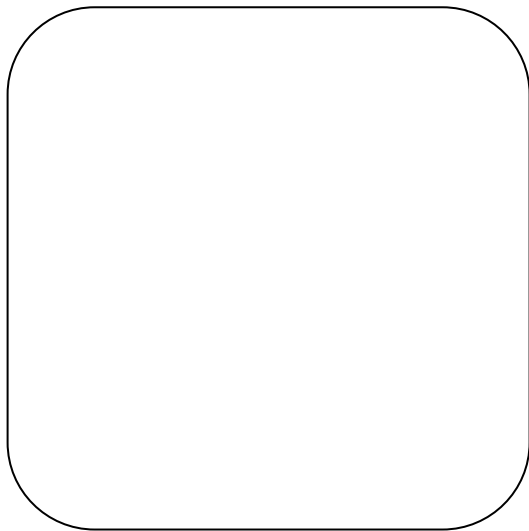
 <b>Food and Drink</b>	 <b>Medicine</b>	 <b>House &amp; Home</b>

Name: \_\_\_\_\_

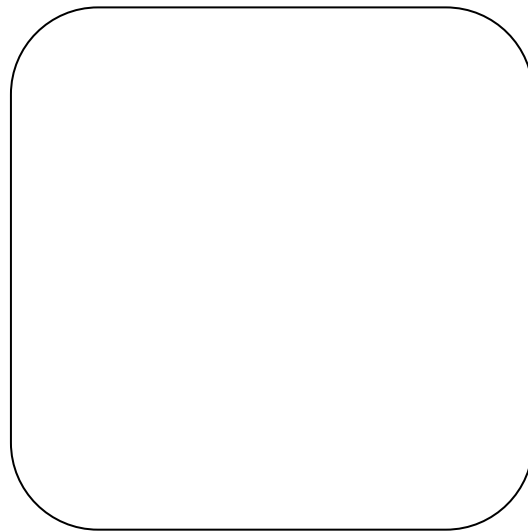
# Starting the Day the Botanical Way

Did you know that in the time between getting up and going to school you use many plants without even knowing it?

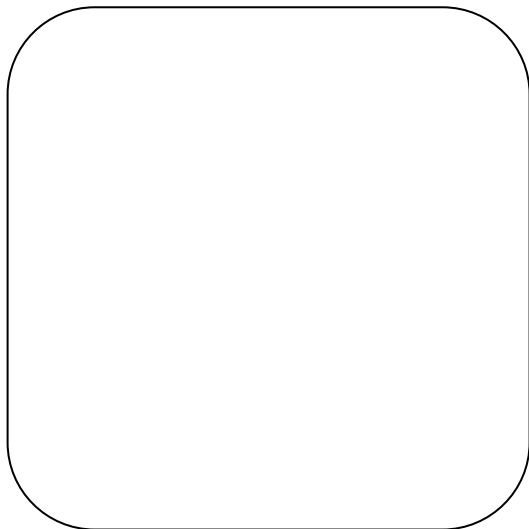
Explore the glasshouses to find and draw these useful plants. Read the information on the white labels and look out for these symbols:



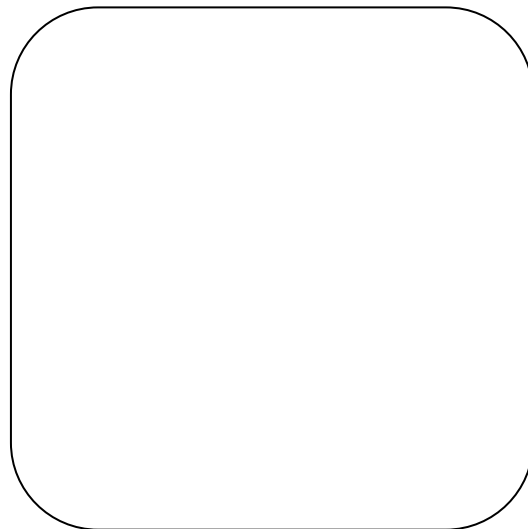
A plant we use in  
the bathroom



A plant we eat  
for breakfast



A plant we drink  
for breakfast



A plant we wear  
to school

# Starting the Day the Botanical Way

## SUGGESTED ANSWERS

### Toiletries:

Soap Citrus fruit oils (Mediterranean House)  
Shampoo Olive oil (Mediterranean House)  
Shower/bath gel *Aloe vera* (Arid House)

Toothpaste Peppermint (Herb Garden)  
Cinnamon (Sub-Tropical House)

### Breakfast:

Spreads Olive oil (Mediterranean House)  
Yellow colour using dye from annatto (Tropical House)

Marmalade Orange, lemon and lime (Mediterranean House)

Grapefruit Grapefruit (Mediterranean House)

Drinks Citrus juice, e.g. orange (Mediterranean House)  
Tropical juice, e.g. pineapple (Sub-Tropical House)  
Coffee (Tropical House)  
Tea (Sub-Tropical House)

Coco-pops Rice (Sub-Tropical House)  
Cocoa (Tropical House)  
Sugar from sugar cane (Sub-Tropical House)

### Getting dressed:

Shirt or blouse Fabric from cotton (Sub-Tropical House)  
Starch from taro or cassava (Tropical House)

# Leaf Measurements

Can you find a leaf as small  
as your thumb nail?



Name the plant:

Can you find a leaf as big  
as your hand?



Name the plant:

Can you find a leaf as tall  
as you?



Name the plant:

Can you find a leaf as long  
as your arm?



Name the plant: