

Key Stage 2

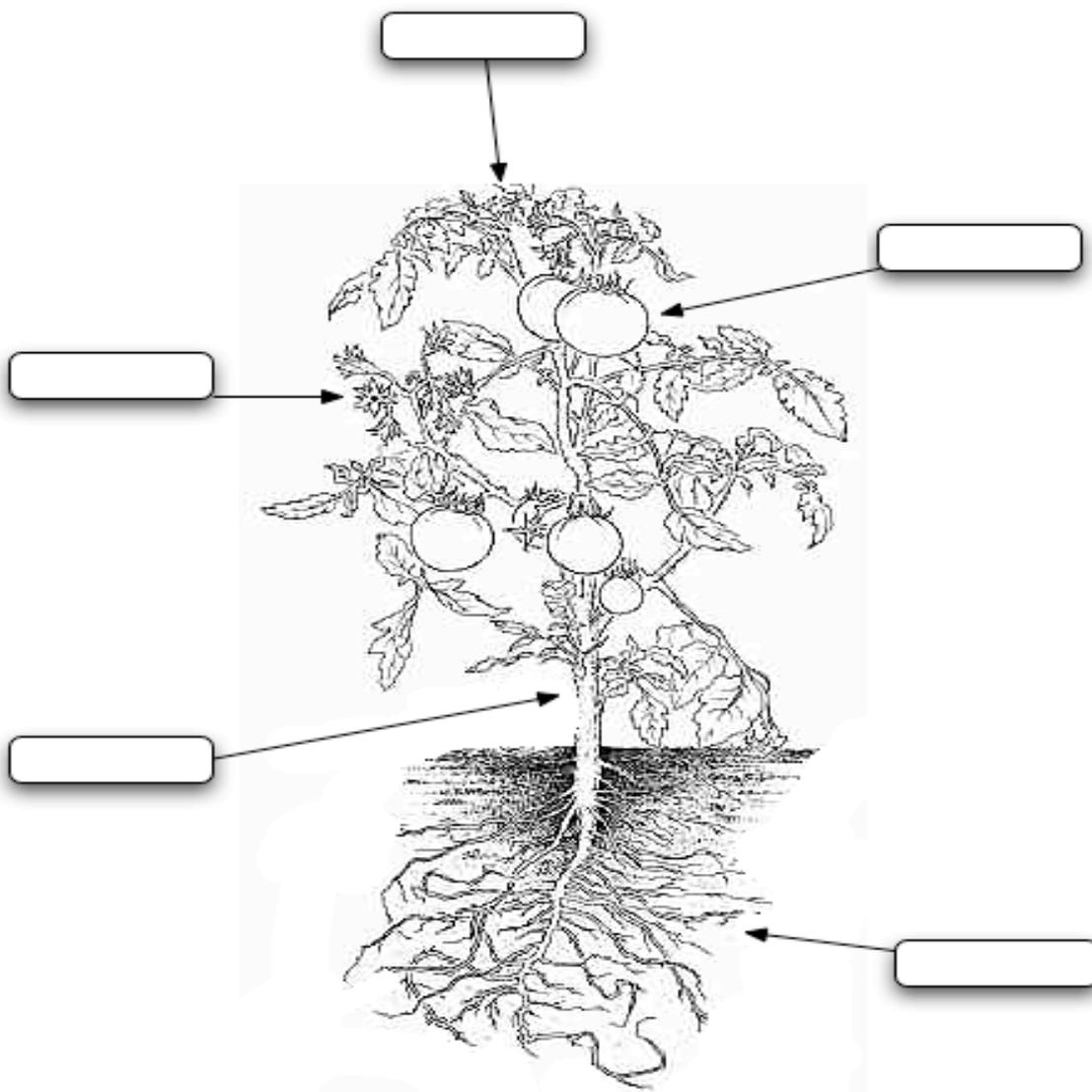
Worksheet 1a

Grow your own Tomatoes

Growing plants

Curriculum coverage: QCA Science: Unit 1B

Which parts of the plant are the **leaves**, **stem**, **fruit**, **flower** and **root**? Name their parts by writing your answers in the boxes.





Growing plants

The main parts of a tomato plant are the **leaf, stem, root and flower**. Can you identify which part of the plant fits the missing word from the sentences below?

The _____ of a plant produces seeds, which form new plants.

The _____ makes the food for the plant. They take the water and together with sunlight and carbon-dioxide make food.

The _____ moves water around the plant. It raises the leaves and flowers of the plant off the ground.

The _____ takes in water and nutrients from the soil. They anchor the plant into the ground.

The leaves of a plant are essential for growth. Take a look at a leaf from a tomato plant using a magnifying glass. What do you see? Make a drawing of your leaf in Box A and compare it with leaves from other plants. Why not draw their leaves in Boxes B, C & D. Are the leaves similar? What differences can you see?

A

B

C

D

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Worksheet 2

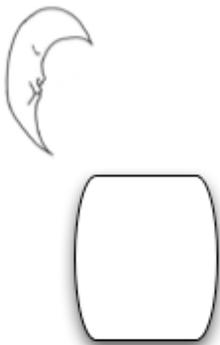
Grow your own Tomatoes

Water and light

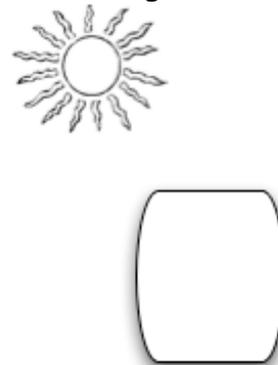
Curriculum coverage: QCA Science: Unit 1B, 3B

What do tomato seeds need to help them grow into healthy plants?
Look at the four pictures below. Can you predict which of these plant pots will produce a healthy tomato plant? Circle the plant pot that you think will produce a healthy tomato plant.

1 No light and no water



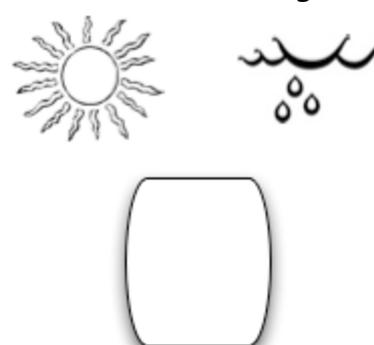
2 Light but no water

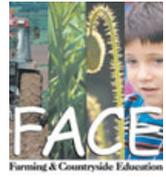


3 Water but no light



4 Water and light





Grow your own Tomatoes

Water and the tomato plant.

Curriculum coverage: QCA Science: Unit 1B, 3B, 6A

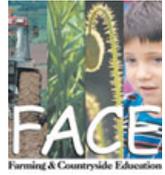


Do your tomato plants really need water to grow? Let's find out. During the next few weeks you will be looking after four tomato plants and finding out just how much water they might need to grow healthily.

Prepare four plant pots and label each one. Plant 1 will receive 100ml of water each day. Plant 2 receives 50ml, Plant 3 gets 25ml and Plant 4 will receive 10ml every day. Observe your plants and measure them each week and record their height on the chart below. You might also like to sketch or take regular photographs of your plants as they grow. For this experiment you must make sure to leave your plant pots in the same place each week.

Week	Pot 1	Pot 2	Pot 3	Pot 4
1				
2				
3				
4				
5				
6				
7				

Which plant grew the tallest? Which plant was the smallest? Do you think the amount of water made a difference to each plant? What would happen if you gave a plant too much water? Why not try adding some red dye to the water and note what happens to the plant?



Grow your own Tomatoes

Plants and light.

Curriculum coverage: QCA Science: Unit 1B, 3B, 6A

Does a plant need light to help it grow? We will be able to answer that question after you have conducted a little experiment.

You will need three tomato plants. Each plant must have grown until it is approximately 3cm high. Each plant must receive the same amount of water and type of plant food. The only factor that you are changing is the amount of light that each plant receives. Plant 1 will be placed on or close to a window, Plant 2 should be located towards the back of the classroom, while Plant 3, should be placed in a cupboard or have a large box placed over it.

What are we trying to find out?

We are investigating

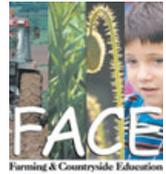
Method - how did we try to find out?

First, we

Prediction - what we think will happen.

We predict that _____

Worksheet 4 cont.



Diagrams - on the first day of our experiment the plants looked like this:

Plant 1: window sill	Plant 2: back of room	Plant 3: cupboard

On the final day of our experiment the plants looked like this:

Plant 1: window sill	Plant 2: back of room	Plant 3: cupboard



Worksheet 4 cont.

Does a plant need light to help it grow?

What did you discover from your experiment? What differences could you see between the three plants at the conclusion of the experiment? Write some of your observations below:

- 1 Which plant grew the most? _____
- 2 Was your prediction correct? _____
- 3 What did you conclude from your experiment?

(Describe what each plant looked like. Think about the physical characteristics of each plant. For example, were they tall, small, pale, yellow, green, spindly or sturdy?)

- 4 Would the same things happen to other plants if placed on a window sill, at the back of the room or in a cupboard? Why?

Grow your own Tomatoes

The life cycle of a tomato.

Curriculum coverage: QCA Science: Unit 1B, 3B, 5B

All living things have a life cycle. Can you put the pictures below into their correct 'life cycle' order? If you think the first picture is also the first stage of a tomatoes life cycle, then write '1' in the stage of life cycle box, and '2' in the second box. Continue until you have given each picture a number from 1 - 5.

Tomato life cycle	Stage of life cycle (number)
	
	
	
	
	

Worksheet 5

cont.

What happens after a tomato is harvested?

How many products can you think of that are made from tomatoes?

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8



Q: How do you repair a broken pizza?

A: Use tomato paste!



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Worksheet 6

Grow your own Tomatoes

A true or false tomato!

Curriculum coverage: QCA Science Unit 1B, 3B, 5B

Here are eight true or false statements about tomatoes. Can you decide which statements are true and which are false?

		True	False
1	A tomato plant goes to sleep when it is put in a dark place.	<input type="checkbox"/>	<input type="checkbox"/>
2	A tomato plant needs water and light to grow.	<input type="checkbox"/>	<input type="checkbox"/>
3	The fruit of a tomato plant grows under the soil.	<input type="checkbox"/>	<input type="checkbox"/>
4	A tomato leaf helps make food for the plant.	<input type="checkbox"/>	<input type="checkbox"/>
5	The stem of a tomato plant moves water around the plant.	<input type="checkbox"/>	<input type="checkbox"/>
6	The tomato flower produces seeds.	<input type="checkbox"/>	<input type="checkbox"/>
7	A tomato plant grows better without its leaves.	<input type="checkbox"/>	<input type="checkbox"/>
8	Germination is when a plant catches a cold.	<input type="checkbox"/>	<input type="checkbox"/>



Key Stage 2

Worksheet 7

Grow your own Tomatoes

Seed dispersal

Curriculum coverage: QCA Science: Unit 1B, 3B, 5B

There are 4 main methods that plants employ to disperse their seeds:

- Animal
- Wind
- Explosion
- Water

Which forms of seed dispersal do you think tomato plants use?

Animal	Wind
Explosion	Water

What forms of seed dispersal do other plants use? Write the names of some other plants in the box that best describes their form of seed dispersal.



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Worksheet 8

Grow your own Tomatoes

Tomato habitats.

Curriculum coverage: QCA Science: Unit 1B, 3B, 4B, 5B

What type of habitat do tomatoes prefer? Draw a line between the tomato and the season it usually grows in, the type of climate, location and temperature.

Spring
Autumn
Summer
Winter

Polar
Arid
Temperate
Tropical



Very hot
Cool
Very cold
Warm

Mountain
Garden
Woodland
Seashore



Teacher notes

Key Stage 2

Grow your own Tomatoes

The worksheets have been designed to enable all Key Stage 2 pupils to gain a better appreciation of growing healthy tomatoes. Each of the 8 worksheets are based upon the learning objectives and outcomes detailed in the QCA units for Science.

Below are some further ideas for each worksheet that can be used to extend the activities.

- Worksheet 1:** **Growing plants.** This worksheet could be extended to include labelling the parts of a flower eg. stamen, style, stigma, sepal, ovary, pollen, and petal.
- Worksheet 2:** **Water & light.** A discussion on the importance of temperature for growing plants would broaden the topic of water and light. For example, the discussion might include exploring reasons for growing tomatoes in greenhouses and the question of food miles for imported produce.
- Worksheet 3:** **Water and the tomato plant.** Further work could be carried out discussing the role of a plant stem. What does it do? Is it's primary to support the leaves, flowers and fruit? An additional experiment would be to use a straw and/or a flexible piece of tube to demonstrate a capillary action.
- Worksheet 4:** **Plant and light.** This worksheet can be used to develop the concept of photosynthesis. The pupils should discuss how photosynthesis works using key words that include: chlorophyll, water, sugar, carbon dioxide, food, light and leaf.
- Worksheet 5:** **The life-cycle of a tomato plant.** Is the life-cycle of a tomato similar or different to other plants (vegetables, fruit or flowers)? Ask the pupils to draw a diagram depicting the life cycle of a tomato.



- Worksheet 6:** **A true or false tomato?** How important are the roots of a plant for growing? What role do the roots perform? What roots can we eat? (root vegetables).
- Worksheet 7:** **Seed dispersal.** Following on from the worksheet, the pupils should identify as many different types of seed as possible. Can the seeds be grouped into categories? Ask the pupils to create a collage of a tomato plant made from a variety of seeds.
- Worksheet 8:** **Tomato habitats.** Ask the pupils to identify the role of a tomato in the food chain. The pupils might like to draw the tomato and its place within the food chain.