

# Darwin's Lookouts



**The Great Plant Hunt**

[www.greatplanthunt.org](http://www.greatplanthunt.org)

**wellcome**trust

**Kew**

PLANTS PEOPLE  
POSSIBILITIES



DARWIN200

# Curriculum links

## English curriculum (Year 1)

- That there are different plants in the local environment
- To treat growing plants with care
- To make careful observations of one or two plants and where they grow and to communicate these observations
- That plants have leaves, stems, roots and flowers
- That plants grow
- That plants need water

## Northern Irish curriculum (P2)

### Foundation stage: The world around us

- **Strand 1:** Interdependence: What else is living? (Activities 1 and 2)
- **Strand 1:** Interdependence: How do living things survive? (Activity 3)
- **Strand 3:** Place: What is in my world? (Activities 1 and 2)

### Progression:

- show curiosity about the living things, places, objects and materials in the environment;
- identify similarities and differences between living things, places, objects and materials;
- be aware of the local natural and built environment and their place in it

## Scottish curriculum (P2)

### Living things and the processes of life:

#### Level A

- **Strand:** Variety and characteristic features (sort living things into broad groups according to easily observable characteristics)
- **Strand:** The processes of life (to give the conditions needed by plants in order to remain healthy)

- **Strand:** Interaction of living things with their environment (to recognise and name some common plants found in the local environment; to give examples of how to care for living things and the environment)

### Skills in science – Investigating: Level A

- **Strand:** Preparing for tasks (understanding, planning, designing tests and predicting)
- **Strand:** Carrying out tasks (observing, measuring and recording findings)
- **Strand:** Reviewing and reporting on tasks (presenting, evaluating and understanding the significance of findings)

## Welsh curriculum (Year 1)

### Scientific enquiry: Key Stage 1

- **Strand:** The nature of science (to ask questions about their ideas in science; to consider information obtained from their own work and other simple sources)
- **Strand:** Communication in science (to present scientific information in a number of ways, through diagrams, drawings, tables and charts)
- **Strand:** Investigative skills (to decide what is to be observed or measured)

### Life processes and living things:

#### Key stage 1

- **Strand:** Green plants as organisms (that plants need light and water to grow; to recognise and name the leaf, flower, stem and root of flowering plants)
- **Strand:** Living things in their environment (to find out about the different kinds of plants in the local environment; that plants can be grouped according to observable similarities and differences)

# Welcome to The Great Plant Hunt



## Learning outcomes

- Can identify and name some common UK plants.
- Can describe by drawing or simple language what plants are like and where they grow.
- Know the names of parts of a plant.
- Recognise that plants are living organisms and need to be cared for.
- Use the results of their investigation to show that plants need water to survive.

## Concepts

Plants are made up of a number of parts. Most flowering plants we see around us have roots, stems and leaves. During the year many produce flowers and later fruits containing seeds. The seeds are distributed to form new plants. Each type of plant or animal is called a species and is different from any other, but even within the same species there is lots of variation. This provides the wonderful variety of living things around us.

As a good scientist Darwin spent much of his time searching out and looking closely at plants and other living things. He made careful records of the items he found in his notebooks. He also made many collections. Darwin noted that no two specimens of the same plant or animal were ever exactly the same.

In these activities, children are asked to be 'Lookouts' – looking out for a number of plants in their local environment and then examining them carefully to see if they can recognise the plant parts, see for themselves the variety within plants and develop their abilities to look closely and notice things which are the same and different.

Observation is one of the key processes that Darwin used in his scientific work – so the children will be well on their way to becoming a 'good scientist'.

## Meet the Plant Hunters

- Read aloud Chapter 2 called 'Darwin the Lookout' from the *Following in Darwin's footsteps* storybook to introduce ideas around how Darwin worked and set the context for the childrens' work.
- Introduce Fiona the Plant Hunter by reading out her postcard and download the video from Fiona from The Great Plant Hunt website at [www.greatplanthunt.org](http://www.greatplanthunt.org).
- Watch Fiona, a real life Plant Hunter, working in the field doing just the kind of observing and recording the children will be doing.
- These resources can be used for an assembly about the project, or to present in class to introduce the project.



Greetings from...

**The Great Plant Hunt**

[www.greatplanthunt.org](http://www.greatplanthunt.org)



# Dear Darwin's Lookouts

Hi there,

My name is Fiona and I am working at Kew's Millennium Seed Bank in the UK. The UK has about 1400 different types of flowering plants, which we want to collect from all the different areas in which they grow. It is quite windy and wet here, but perhaps this is why the plants are growing well as all plants like to have water!

I have been looking out for plants and seeds that I want to find and send back to the Millennium Seed Bank in England where we are saving the world's seeds so that we will always be able to grow these plants.

I need to look out for the leaves, stems and flowers of these special plants. Luckily I know what they look like, so I can find them quickly. When I find them I write down where I have found each plant.

I shall call you the Lookouts and you could help me by looking out for some of your local plants. Perhaps you could draw and write about their leaves, flowers and stems like I do.

Good luck,

**Fiona**



## Activity 1: Thinking Walk

Activity 1 should be spread over three lessons.

### 1) Make a Darwin Doodle Book

- Use the Darwin Doodle Book page from the binder.
- This will be the project notebook for Darwin's Lookouts.

### 2) Plant parts

- Review the parts of a plant with the children, using the 'Plant parts' page overleaf.

### 3) Plan the Thinking Walk

- Ask the children to think about how they should behave on a Thinking Walk. Talk about respecting the plants and other living things that they will observe on the walk.
- Ask the children to think about what equipment they will need – like macs or sunhats, pictures of plants to help with identification, Darwin Doodle Books, pencils, magnifiers, and bags to collect flowers and plants.



*Darwin had a sand-covered path in his garden at Down House in Kent. It winds through shady woodland and along nearby fields. Darwin spent time walking his 'Thinking Path' every day.*

### 4) Go on a Thinking Walk

- Spend about thirty minutes walking in the school grounds, local park, churchyard or anywhere in the neighbourhood.
- Try to avoid formal garden planted areas and look for wild native plants (weeds!)
- The children should be looking out for different types of plants at this point.

#### On the walk:

- **Discover:** How many different types of plants can the children find during their walk?
- **Observe:** Look closely at some of the plants. What differences can the children see and record?
- **Record:** Using a camera or by drawing in the Doodle Books record some of the different plants that have been found on the walk. Ask the children to think about how the plants are different.
- **Collect:** Ask the children to collect a few appropriate living plants to take back to the classroom (with the owners' permission). Try and find a range of types, especially different leaf types.



### 5) Back in class

- Ask the children for descriptive words about the plants they saw on their walk and have collected - for example: green, gorgeous, big, spiky, hairy, stem, flower.

### 6) Use the description words in a creative project

- Ask the children to write the words onto an outline of a leaf. They can make the outlines by drawing round leaves picked up on the walk or using the 'Leaf templates' page.

### 7) Show and tell

- Decorate the leaves and use them to make a descriptive display about plants or a poem, to show to others in the class or the rest of school in a Darwin assembly.

### Helpful Hints

- Take care when picking wild flowers. Please pick only the species from The Great Plant Hunt Identikit. The species in the Identikit are common.
- Emphasise that in general, wild flowers should not be picked and the children are only doing this as part of a special project where it has been allowed.
- Permission should be sought to dig up plants if they are not on school land.
- Put any picked plants into water as soon as possible.
- If using plastic bags for collecting plants, make sure children are aware of the dangers. Follow appropriate procedures after handling plant material. Health and safety information can be found in the main handbook binder.
- Images from The Great Plant Hunt Identikit and in the image bank species folders at [www.greatplanthunt.org](http://www.greatplanthunt.org) can be used to help children spot different kinds of plants. These can be useful for a preparatory activity and to jog childrens' memories after the walk. If your walk is delayed by the weather they may also come in handy.

## Resources

### What else is in this booklet?

- ✿ Plant parts
- ✿ Leaf template

### What else is in the binder?

- ✿ Darwin Doodle Book
- ✿ Health and safety information

### What's in the Treasure Chest?

- ✿ The Great Plant Hunt Identikit
- ✿ Magnifiers

### Things you need to collect

- ✿ Make sure the children have project notebooks

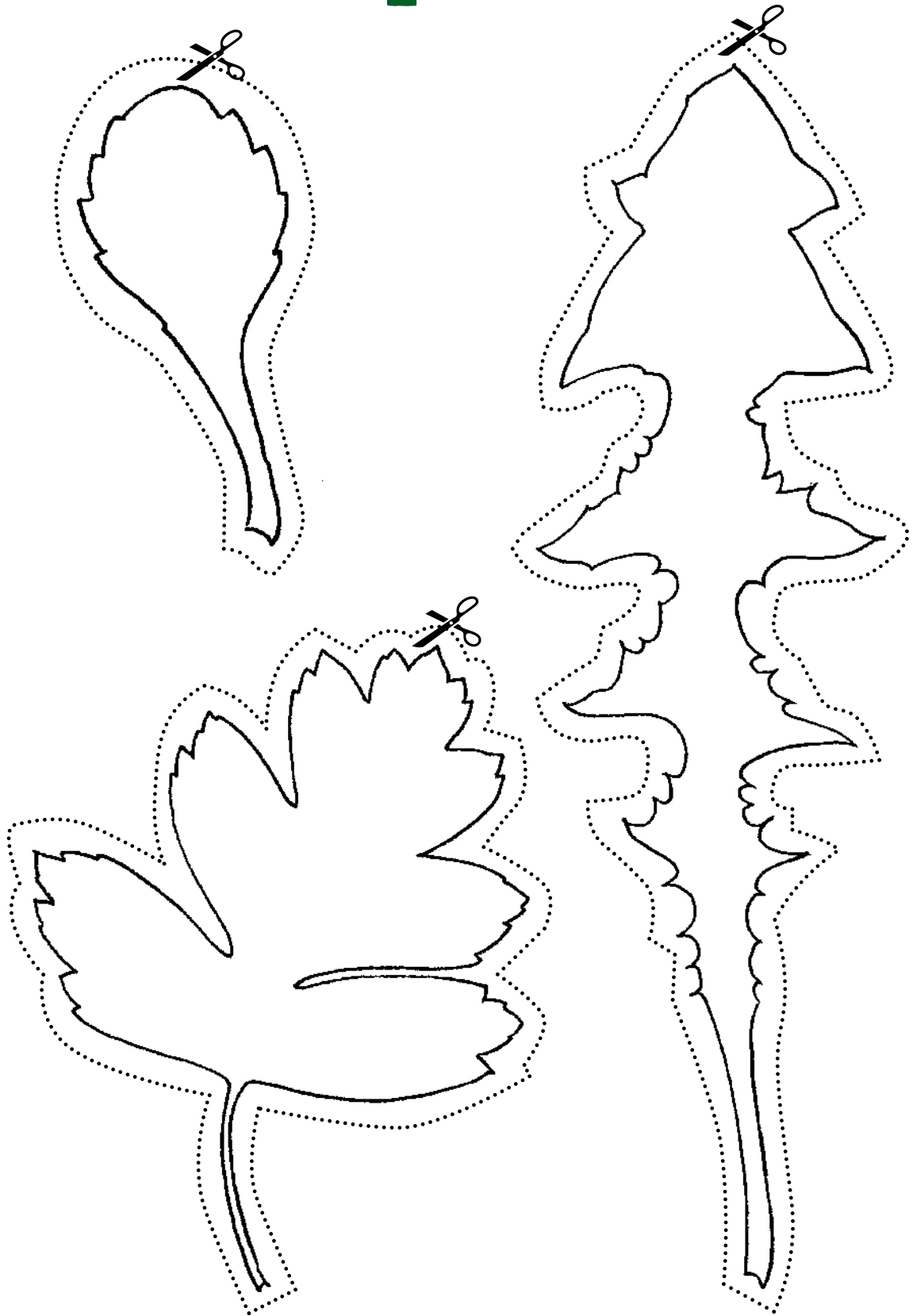
- ✿ Paper bags for collecting. You can use plastic bags and inflate the bag and close it once you have collected the plants. This helps keep them 'fresher' for examination back in class. Health and safety measures may need to be taken if using plastic bags with small children.

- ✿ A small trowel or spoon to dig up plants.

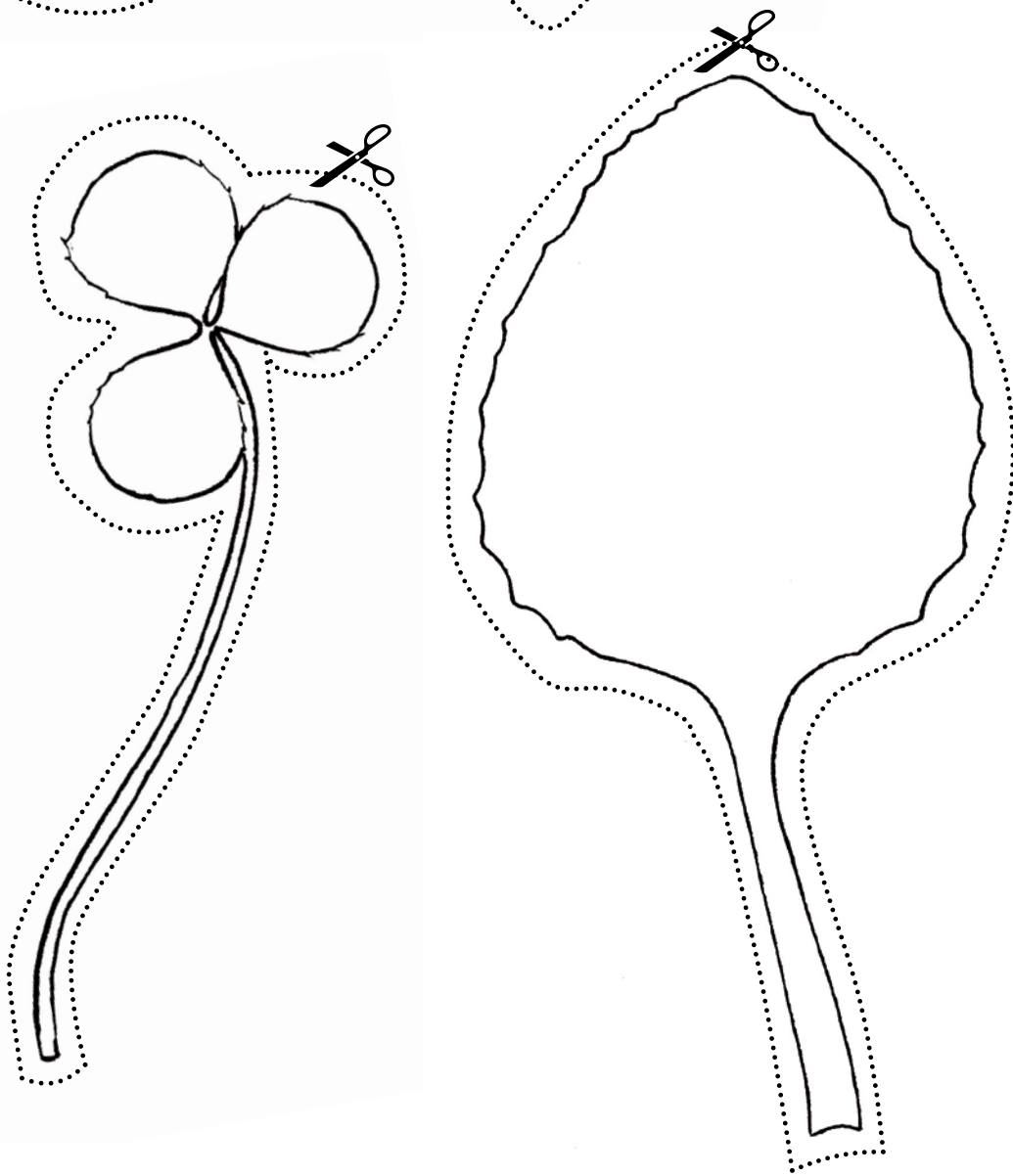
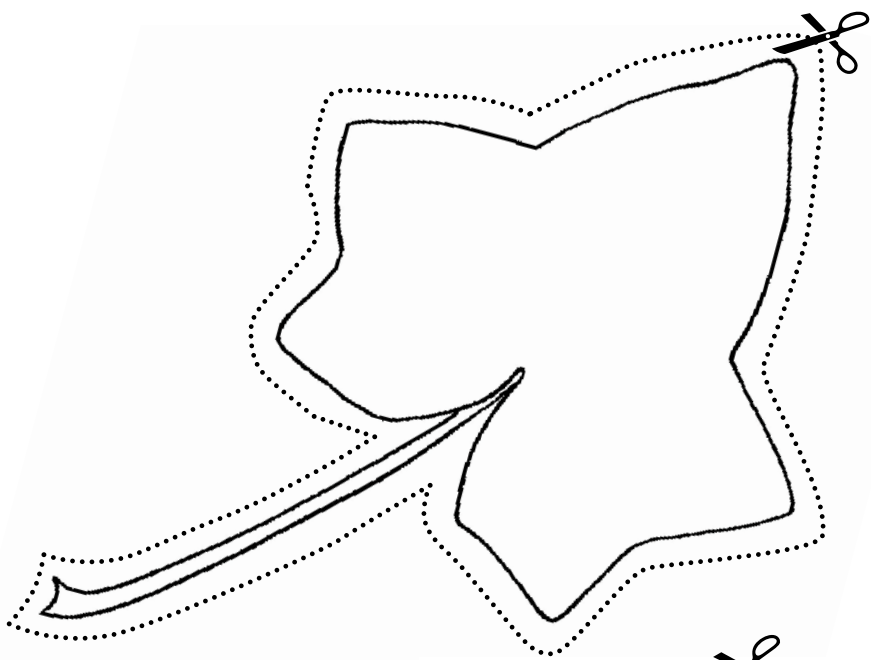
### The fun stuff

- ✿ Check The Great Plant Hunt website at [www.greatplanthunt.org](http://www.greatplanthunt.org) for useful images, videos and interactive games around plant parts.

# Leaf templates



Leaf templates



## Activity 2:

# Spot the plant

Activity 2 should be spread over two lessons.

### 1) A second Thinking Walk

- Take the children on a second walk, this time to discover some specific plants.
- In this activity the children will be using their observation skills to help them match or compare living plants with an image.

#### On the walk:

- **Discover:** Look for plants in the chosen environment.
- **Observe:** Challenge the children to find a selection of the listed plants by matching them to The Great Plant Hunt Identikit provided. This could be just one or two plants depending on timing and the ability of the children.
- **Record:** The children should record any details about where they found the plants by drawing in their Darwin Doodle Books or taking photographs.
- **Collect:** Choose one plant and collect several of them to look at how different they are. For example, some daisies have pink tips on the petal-like structures while others are all white.

### 2) Back in class

- Look at the collection the children have made and see how many things you can see that are the same and how many that are different in one species.
- The collected plants could be made into a display.

#### Helpful hints

- Take a small trowel or an old spoon on the walk to dig up one or two plants to see the roots. These should be weeds and the children should understand that they should not normally dig up plants.
- If you are collecting on someone else's land, please get permission.

## Resources

### What else is in the handbook?

- ☀ Health and safety information
- ☀ How to press plants and make a herbarium specimen

### What's in the Treasure Chest?

- ☀ The Great Plant Hunt Identikit
- ☀ Plant press to press collected plants (optional)
- ☀ Magnifiers

### Things you need to collect

- ☀ Make sure the children have project notebooks
- ☀ Paper bags and a trowel as per Activity 1
- ☀ Material to create the class picture

## Activity 3: Help!

Activity 3 should take 1 lesson.

### 1) What's wrong with the plant?

- Show children an actual plant that has wilted.  
(If not available, use the images below, images from The Great Plant Hunt website at [www.greatplanthunt.org](http://www.greatplanthunt.org) or the wilted plant cartoon overleaf).
- Ask the children what they think is wrong with the plant. Get them to make suggestions about how to revive the plant.



### 2) Picture sequence

- Ask the children to cut out the 'Plants need water' cartoon sequence overleaf and rearrange it into the correct order to explain what is happening to the plant.
- Ask the children to explain the thinking behind their choices.

## Resources

### What else is in this booklet?

- ✿ Childrens worksheet:
- Plants need water cartoon sequence

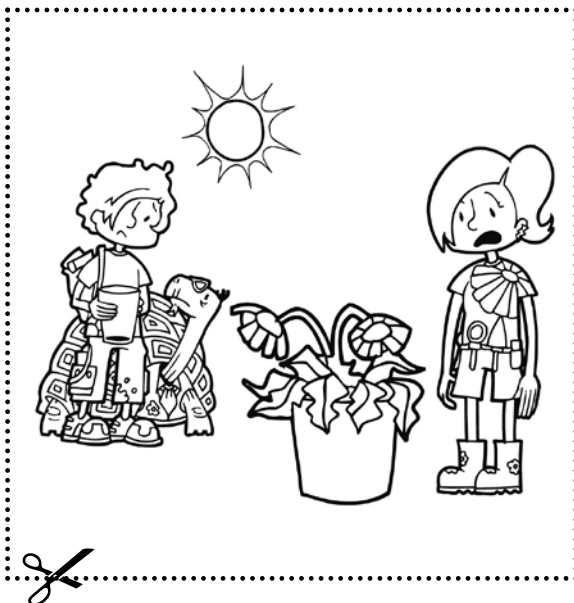
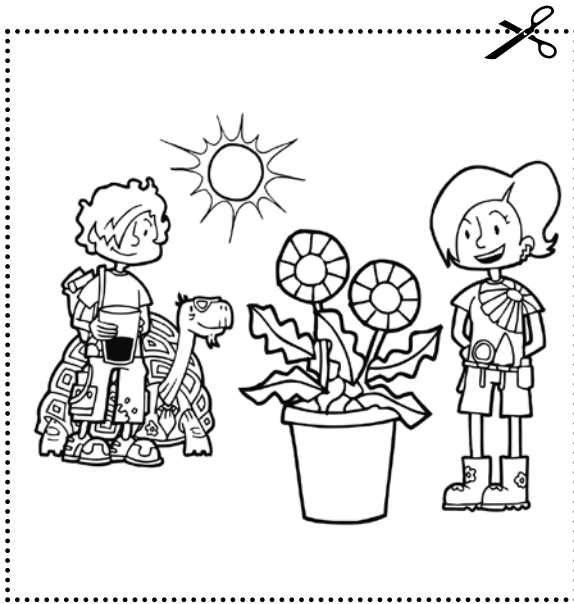
### The fun stuff

- ✿ Pictures of a wilted and watered plant at [www.greatplanthunt.org](http://www.greatplanthunt.org)
- ✿ An interactive game about plant health at [www.greatplanthunt.org](http://www.greatplanthunt.org)

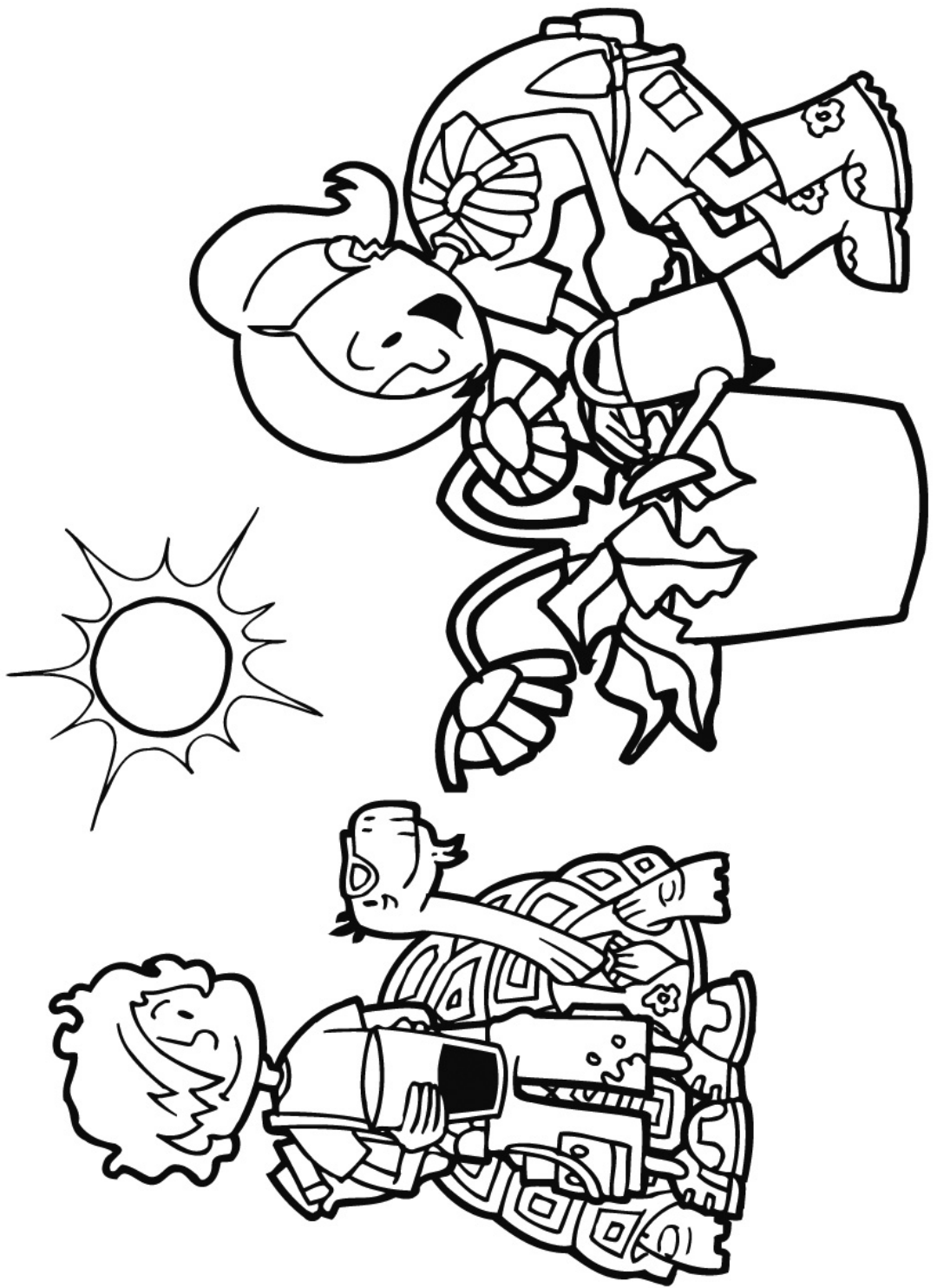
# Lookouts worksheet

What's happening here?

Can you cut out the cartoon pieces and arrange them into the right order?

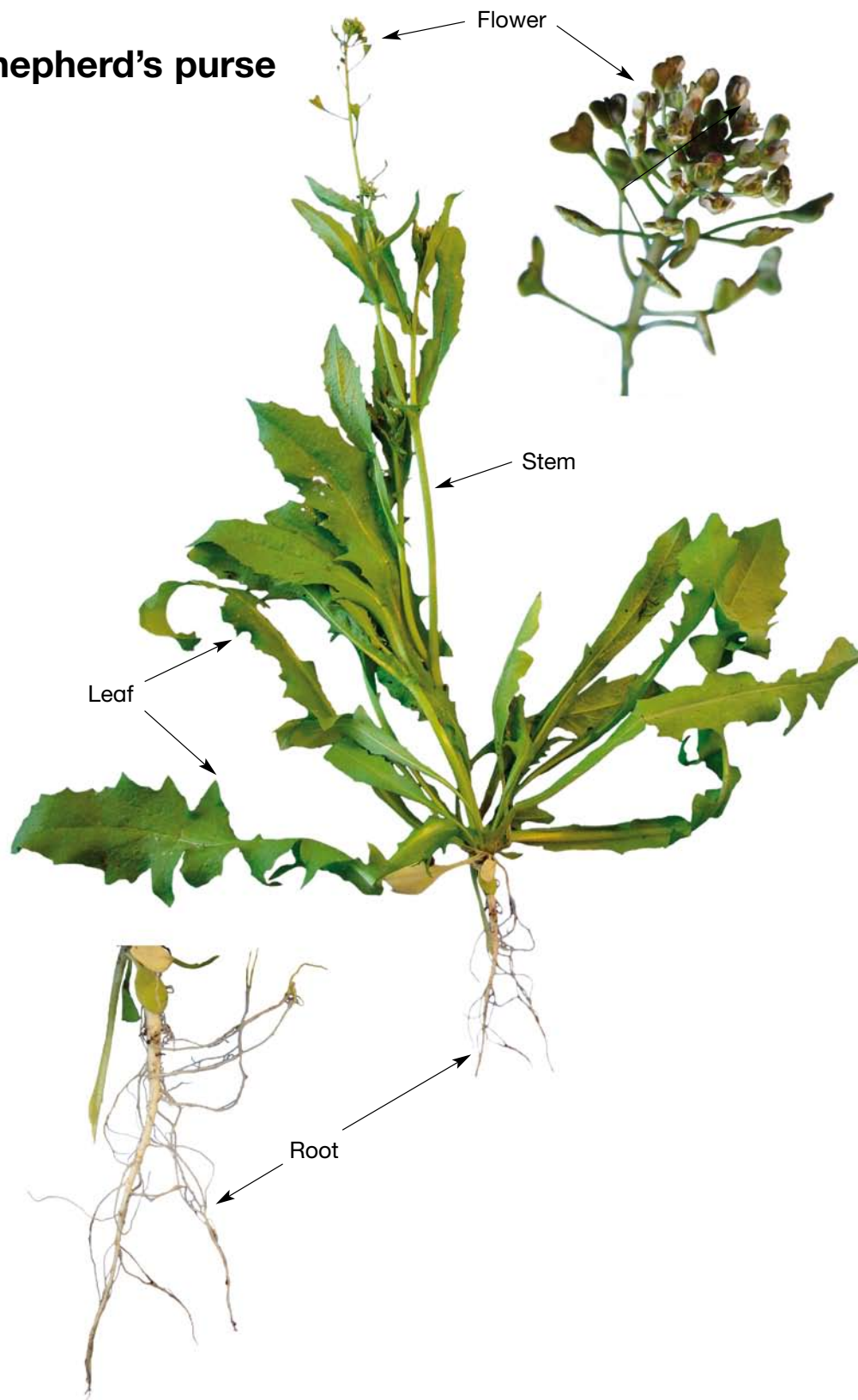


# Lily, Ash and Joseph!



# Plant parts

Shepherd's purse



Find these images in the image bank at [www.greatplanthunt.org](http://www.greatplanthunt.org)