Plant Detectives

Curriculum resource pack for plants

AGES 5-7

WWT is one of the UK's leading providers of outdoor learning. We welcome over 40,000 learners per year to our Wetland Centres where we provide unique opportunities for learners of all ages and abilities to interact with wetland wildlife from the UK and across the world.

We are open all year round with sessions for every season. Whether you're looking for curriculum-linked learning or simply a fun day out, there really is something for everyone. To find out more about our school visits programme please visit **learningzone.wwt.org.uk**

Why wetlands?

WWT works across the UK to save, conserve and build wetlands for wildlife and people. Wetlands are one of the most important habitats on earth – storing huge amounts of CO_2, providing a natural way of stopping flooding and serving as a home for huge numbers of different creatures. Spending time in wetlands is also proven to improve mental health and wellbeing!

Using this resource pack

This resource pack contains a session plan outlining classroom activities designed to cover key curriculum content as well as outdoor activities designed to promote nature connection and a love of the natural world. This is accompanied by supporting resources that can be printed or used on screen with your pupils. At the end of the pack you will find a short quiz that can be used to reinforce and assess pupils' learning. You may want to complete all activities or select those that most effectively meet your needs.

Curriculum links

England

KS1: Science

- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
- Identify and describe the basic structure of a variety of common flowering plants, including trees
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Wales

Foundation Phase: Knowledge and understanding of the world

- Learn the names and uses of the main external parts of the human body and plants
- Identify some animals and plants that live in the outdoor environment

Foundation Phase: ESDGC

- Living things depend on each other

Northern Ireland

KS1: The world around us

- How plants and animals rely on each other within the natural world
- How place influences plant and animal life
- Ways in which living things depend on and adapt to their environment

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Curriculum links (continued)

Scotland

First: Sciences

- I can help to design experiments to find out what plants need in order to grow and develop. I can observe and record my findings and from what I have learned I can grow healthy plants in school

You will need:

- **Plants Visual (one per group, see final pages of this document)**
- **Plant ID sheet (one per group, see final pages of this document)**
- **Celery with leaves still attached or white carnation flower on stem (one if teacher demonstration, one per group if completed in small groups)**
- **Food colouring – Red or dark blue work best**
- **Vase, jar or glass (one if teacher demonstration, one per group if completed in small groups)**
- **4 small plants of the same type and approximately the same size and condition (in their pots) – Single set if teacher demonstration; multiple sets required if pupils to work in small groups**
- **2L plastic bottle (one if teacher demonstration, one per group if completed in small groups)**
- **Sellotape**
- **Cardboard box (one if teacher demonstration, one per group if completed in small groups)**

Other relevant resources

Activities:

- Make an 'eggy-cress' animal

School visits:

We run a wide range of sessions focusing on plants.. Visit our Learning Zone to find out more
learningzone.wwt.org.uk

Note: Where you see a Q this indicates a question to ask your pupils

Indoor activities (60 minutes)

(Can be broken into four manageable activities)

Activity 1: Plant parts

- Give out plant visuals to each pupil or small group (suggest groups of 2-3). This shows two plants; a water lily and a dandelion.
- Get each pupil or group to cut out the labels and use them to label the following parts of each plant: **Roots**; **stem**; **leaves**; **flowers**. If they place them in the middle, between the two pictures, they can draw lines from each label to the correct part of both plants. Help them with any they are unsure of.
- They can then stick these in place if they haven't already done so.

You can then discuss with the class what each part of the plant does:

Roots:

- Anchor the plant to the ground so it doesn't blow away. Also soak up water from the soil.

Stem:

- Carries water from the roots of the rest of the plant.

Leaves:

- Produce food for the plant.

Flower:

- Makes seeds to produce new plants.

Activity 2: Water transportation in plants

This activity can either be done as a teacher demonstration or by pupils in small groups depending on the resources available.

- Fill a vase or other container with water and food colouring (add several drops of food colouring - the more you can spare the better - red or dark blue work best).
- Cut a couple of centimetres off the bottom of the stalk of a stick of celery (with the leaves still on) or stem of a white carnation.
- Place the celery or carnation into the container with the coloured water.
- Keep observing over the next couple of days. You should see the celery leaves or carnation flower start to turn the same colour as the food colouring. This shows how the roots and stem soak up and transport water to the different parts of the plant. The colouring has been transported up through the roots and stem to the leaves / flower.

Activity 3: What do plants need to stay healthy?

Q What do you think plants need to grow and stay healthy?

- Pupils to discuss their answers to this question in small groups and then report back to the class.
- Make a list of all the answers your class comes up with. Add water and light to the list if they haven't come up with these.
- Explain that they are now going to carry out an experiment to test whether plants need water and light to survive.

Plant 1:
Will have light, water and air.

Plant 2:
Will receive no water.

Plant 3:
Will receive no light.

Each group should prepare and look after each plant as follows:

All plants:

- It is best if each plant is in its own plastic pot and has a saucer underneath to collect any water. Place them in a location such as a windowsill where they will get plenty of light.

Plant 1:

- Water each day.

Plant 2:

- Don't water at all.

Plant 3:

- Place a cardboard box over it and seal up any gaps where light might get in.
- Remove the box to water the plant each day.

- They should keep an eye on their plants over the next week or so. They should see plant 1 surviving well but the other plants wilting and eventually dying.
- Once the changes have started to take effect, get groups to look at each others' plants.

Q What has happened? Why?

- The plants without water and without light have started to die. This hows that plants need both water and light to survive.

Activity 4: The importance of plants

Q Why do animals need plants?

Discuss with your class how animals need plants to:

- Provide food. Without them there would be no life on earth!

- Provide shelter. Many animals live in and on trees and other plants. Many animals nest in them.

Take it outside:

(15 minutes)

Plant hunt

- Carry out a plant hunt in small groups. See how many of the common plants on our Plant ID Sheet each group can find.

Q Which is your favourite plant? Why?

- Explain that without plants animals wouldn't survive and there would be no life on earth.

Q How does this make you feel about plants? Aren't they amazing?

Plant parts

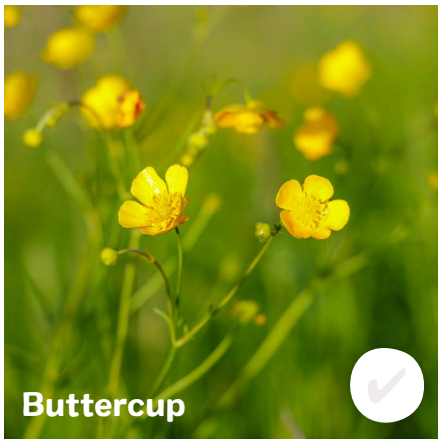
- Find a weed that can be uprooted. Uproot it and lie it on the ground. Get pupils to point to each of the parts (**roots**; **stem**; **leaves**; **flowers**) and tell you what each does.

Plants visual

Plants visual cut outs

Stem	**Roots**	Anchor the plant to the ground and soak up water and nutrients from the soil.	Makes seeds to produce new plants.
Flowers	**Leaves**	Carries water and nutrients from the roots of the rest of the plant.	Produce food for the plant.

Plant ID sheet

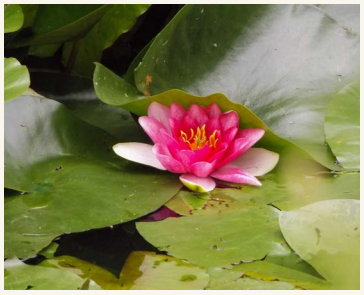


Quiz: Plant Detectives

For children aged 5–7 years

Round 1: Picture round

Q Can you name these common plants?



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Round 2: Plant Parts

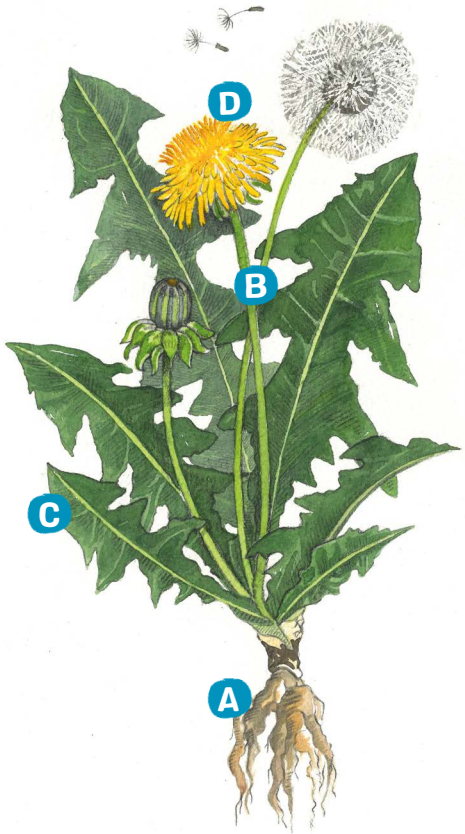
Q Can you label each part of the plant?

A .....

B .....

C .....

D .....



Q Which of these parts soaks up water from the soil?

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Round 3: What do plants need and why do animals need plants?

Q Can you CIRCLE the two things you think plants need to stay healthy?

Exercise	Fruit juice	Water	Light	Sleep

Q Can you tell us two reasons that animals need plants?

. . . . . .

. . . . . .

Q Can you name an animal that lives in or on a plant?

. . . . . .

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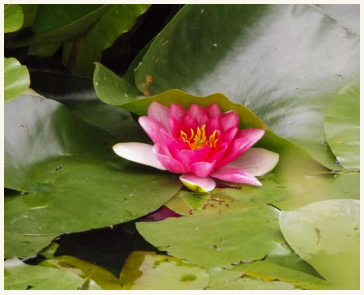
Have fun and do share your score to our social media accounts –
We'd love to find out how you got on!

Quiz: Plant Detectives – Answers

For children aged 5–7 years

Round 1: Picture round

Q Can you name these common plants?



Water lily

Dandelion

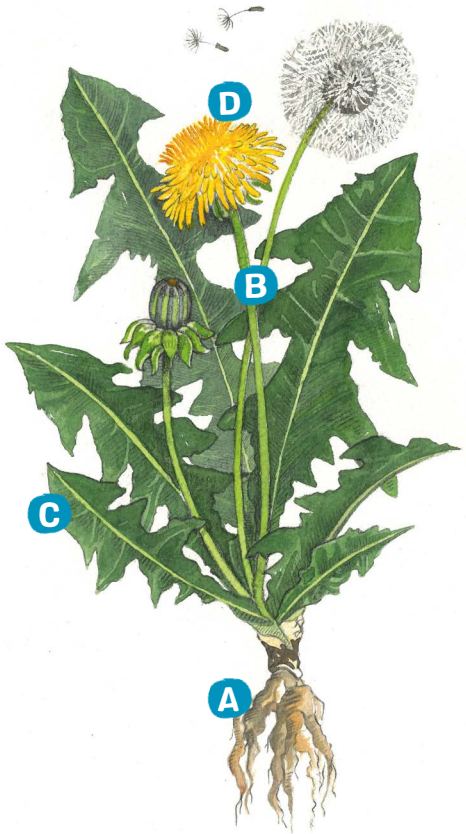
Daisy

Stinging nettle

Poppy

Round 2: Plant Parts

Q Can you label each part of the plant?



A Roots

B Stem

C Leaves

D Flower

Q Which of these parts soaks up water from the soil?

A – Roots

Round 3: What do plants need and why do animals need plants?

Q Can you CIRCLE the two things you think plants need to stay healthy?

Exercise	Fruit juice	Water	Light	Sleep

Q Can you tell us two reasons that animals need plants?

For food

For shelter

Q Can you name an animal that lives in or on a plant?

Allow any reasonable answer. Remember trees are also plants

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