



ENGLISH HERITAGE
EDUCATION

KS1-2

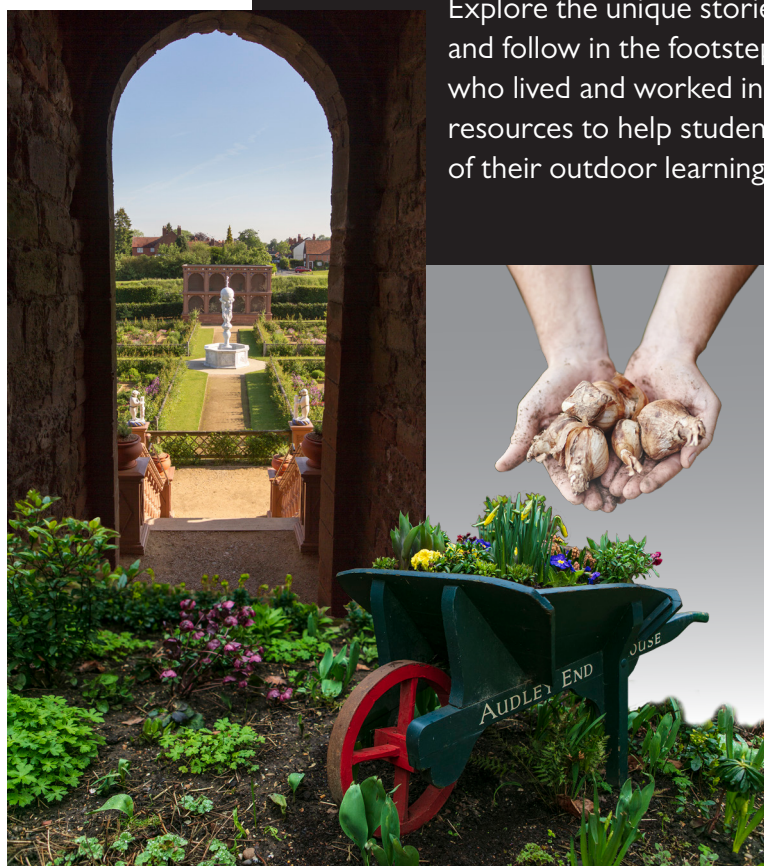
KS3

OUTDOOR LEARNING KIT

Garden Stories and Activities

This kit supports cross-curricular teaching whether at an English Heritage garden near you, in the green spaces at your school, or in your own back garden.

Explore the unique stories of our gardens and follow in the footsteps of the people who lived and worked in them. Use these resources to help students get the most out of their outdoor learning.



GET IN TOUCH WITH OUR EDUCATION
BOOKINGS TEAM:

☎ 0370 333 0606

✉ bookeducation@english-heritage.org.uk

🌐 bookings.english-heritage.org.uk/education

Share your visit with us on Twitter @EHEducation

Step into England's story

WELCOME

This Outdoor Learning Kit has been designed for teachers and educators to support garden-based learning, whether at an English Heritage garden, at home or at school. It includes a variety of materials suited to teaching a wide range of subjects and key stages, with fascinating stories about some of our best gardens, plus activities to do outdoors and ideas to support follow-up learning.

We know that each class and study group is different, so we have collated our resources into one pack, allowing you to decide which materials are best suited to your needs. Please use the contents page, which has been colour-coded to help you easily locate what you need and view individual sections. All of our activities have clear guidance on the intended use for study so you can adapt them for your desired learning outcomes.

We hope you find this Outdoor Learning Kit useful. If you would like to bring your group to do these activities at one of our sites, please don't hesitate to get in touch with a member of our team either via: bookeducation@english-heritage.org.uk or on 0370 333 0606.

English Heritage Learning Team

ICON KEY

The icons below will help you quickly identify the types of activities and information presented.



HANDS ON



SCIENCE



WRITE



READ



CHALLENGE



DID YOU
KNOW?



QUOTE



EXAMINE



ART



INDIVIDUAL
ACTIVITY



GROUP
ACTIVITY

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KS1-2

KS3

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TEN GREAT GARDEN STORIES

A collection of fascinating stories, from the healing potions made by monks at Mount Grace Priory, to the vegetable-growing competitions between Queen Victoria's children at Osborne.

TEN GREAT GARDEN STORIES

STEP INTO THE STORY OF
THESE AMAZING GARDENS

Below is a brief introduction to some of the gardens we look after. Get to know the people who lived, worked and played in our gardens, then use the activities to follow in their footsteps.

GARDENING MONKS AT MOUNT GRACE PRIORY

Being a medieval monk was a big commitment. All monks took vows to live in poverty, to follow strict rules and routines, and not to marry or have children. A lesser known fact is how much time they spent in their gardens: sometimes up to five hours a day!

There were three main types (or orders) of monks in medieval England: Carthusians, Benedictines and Cistercians. They all lived and worshipped in different ways and, as such, did different things with their sites and gardens. The Carthusian Order at Mount Grace Priory lived in complete isolation, in individual cells, and had their own private gardens, whereas the Benedictine monks at Castle Acre lived together and had a larger, shared garden.

Excavations at Mount Grace Priory in 1994 showed that the layout and use of each cell garden varied according to each monk's preferences. They were laid out in strong geometric patterns, with clearly defined sections for different types of plants. The monks chose plants based on their healing properties and their spiritual qualities, i.e. plants linked to Bible stories or thought to lift the spirit. Most of the monks' food came from much larger kitchen gardens, plots and farms elsewhere and was delivered to each cell via a hatch.

To learn about plants that were popular with medieval monks, search on our website for the blog post written by Dr Michael Klemperer: '7 "Magic Potions" Grown by Medieval Monks'.



A reconstruction by Claire Thorne of a monk's cell and garden as they may have looked in the 1400s.

A GARDEN FIT FOR A QUEEN AT KENILWORTH CASTLE

Queen Elizabeth I (r.1558–1603) visited her favourite courtier, Robert Dudley, at Kenilworth Castle four times during her reign. Her final visit, in 1575, lasted for 19 days: her longest-ever stay with a courtier. In honour of her visit, Dudley upgraded the castle's buildings and rooms and created a magnificent privy (private) garden.

It is rumoured that, during Elizabeth's visit, Dudley made his last attempts to secure her hand in marriage but was unsuccessful.

The garden was designed to be closed to all but the queen's closest companions but one day, while the queen was out hunting, Robert Langham – one of the queen's entourage – sneaked inside. He wrote an extremely detailed letter describing what he saw.

To read Robert Langham's letter in full, search our website for: 'Langham's Letter Extracts'.



An aerial photo of the Elizabethan privy garden, originally created by Robert Dudley for Queen Elizabeth I's visit in 1575. It was re-created by English Heritage in 2009.

CHARLES II'S TREETOP HIDEOUT AT BOSCOBEL HOUSE

In 1651, the future king Charles II was running away from Parliamentary forces, who disagreed with the idea of the monarchy – one person, born into power, ruling the country.

While on the run, Charles was welcomed to Boscobel, in Shropshire, by the Penderel family. He was tired and dirty, having walked for miles on very little sleep. He was given some food and his shoes were dried. With Parliamentary forces hunting for him in the area, Charles and Major William Careless, a soldier from his army, hid for 14 hours in a nearby oak tree and saw enemy soldiers searching the wood below. In the evening, Charles returned to the house and hid in the priest hole in the attic. The next day, he rested in the garden until it got dark and was then escorted to Moseley Old Hall, near Wolverhampton, for the next stage of his journey. Disguised as a servant, Charles eventually made a 200-mile journey to the Sussex coast, where he was taken by boat to France. Nine years after this dramatic escape, Charles was restored to the throne.

To find out more, search our website for the Boscobel House history article: 'Charles II and the Royal Oak'.



The Royal Oak, pictured here, is a descendant of the oak tree where Charles hid. Boscobel House was once surrounded by dense woodland, so would've looked very different to the open landscape we see today.

WOMEN AND GARDEN DESIGN IN THE 1700s AND 1800s

Henrietta Howard overcame a difficult childhood and an abusive first marriage to become a remarkable figure in Georgian society. She spent 20 years in the royal household as a servant to Princess Caroline (later Queen Caroline) and mistress to George, Prince of Wales (later George II). Marble Hill, in London, was built for Henrietta Howard in the 1720s as a retreat from court life.

Henrietta contributed to the initial plans for the gardens, met with garden designers on-site and had discussions with other female designers about the skills and knowledge required for grotto decorating: a fashionable pastime for women in the 1700s. The full extent of Henrietta's involvement at Marble Hill isn't clear but she was the sole owner and was fashionable and well-connected, so it's likely she took the lead with many of her own ideas.



The gardens at Walmer Castle, in Kent, were originally created c.1802–6 by Prime Minister William Pitt ('the Younger') and his enterprising niece, Lady Hester Stanhope. Hester came to Walmer in August 1803 after travelling in Europe for a year. Before that, she had lived with her grandmother who died while Hester was abroad. When she arrived back in England, to avoid having to move back in with her father (who mistreated all his children), she was invited to stay with her uncle, William Pitt, at Walmer.

Between August 1803 and October 1805, Hester improved 'a frightful barren bit of land behind the castle'. She and her uncle decided what plants to put

in the chalk pit (now known as the glen) and filled it up 'with a variety of creepers, furze, broom, or about anything that will grow, & make it look less barren'.

To find out more, search on our website for the Women in History article: 'Women and Garden Design'.

THE KITCHEN GARDEN AT WALMER CASTLE

The earliest known garden at Walmer Castle is 'The Governor's Garden', found on a 1725 plan.

The kitchen garden was first created to feed the people living in the castle. It still supplies the English Heritage café with fresh ingredients today. It has trained fruit trees, rich vegetable plots and flowers for cutting. Three of the four beds are dedicated to vegetables, which are grown all year round, i.e. potatoes in the winter and tomatoes in the summer.

Vegetables are grown on a three-year rotation, with a new design each year.

To find out more, watch our YouTube video (3 min 47 sec): 'Walmer Castle Kitchen Garden: From Plot to Plate'.



The kitchen garden at Walmer Castle in summer, with fruit trees in the foreground and, behind those, different-coloured salad leaves pushing up through the ground.

CHARLES DARWIN'S EXPERIMENTS AT DOWN HOUSE

At Down House, in Kent, Charles Darwin developed his theory of evolution and wrote his most famous work *On the Origin of Species* (1859). In his garden, Darwin observed the natural world and conducted many experiments.

For his 'lawn plot' experiment, Darwin allowed a patch of lawn to grow long. He wrote down all of the plant species he could see. In year one he counted 20 different plants and, by year three, only 11 had survived. A small change to the lawn plot had let some plants take over.

The glasshouse at Down House still houses the same plants that Darwin was fascinated by, e.g. the sundew and the wild cucumber. Darwin added a hothouse to the greenhouse, so he could grow exotic plants.

With his youngest son, Horace, Darwin built the 'Wormstone' experiment under the chestnut tree. They discovered that soil was being moved (displaced) by earthworms wiggling around underground. Using a measuring device they invented, Charles and Horace discovered that the stone sank 2mm each year, due to displacement.

To see one of Darwin's experiments in action, search our website for: 'Recreating Darwin's Experiments at Down House'.



A portrait of Charles Darwin working in his study at Down House, c.1850.

A MICROCLIMATE IN A QUARRY AT BELSAY HALL



A path through the Quarry Garden at Belsay.

The vast gardens at Belsay Hall, in Northumberland, surround a medieval castle built by the Middleton family and a neoclassical hall built by Sir Charles Monck in the early 1800s.

At school, Charles took great interest in the Classics, especially Greek. When he married, he and his wife went on a two-year honeymoon to Greece. Once back in England, inspired by his travels, Sir Charles

built an impressive new hall in the Greek Revival style, one of the first of its kind in England.

Sir Charles also created a unique garden in the quarry where stone had been cut for the hall. Its deep pits and sheer rock faces mean the garden has its own microclimate, with milder temperatures than the rest of the garden. Many exotic plants, which would not normally cope in the cold northern climate, do very well in the Quarry Garden.

For more information, watch our YouTube video (3 min 29 sec): 'Behind the Scenes in the Gardens at Belsay Hall and Castle'.

A PRETTY PARTERRE AND FASHIONABLE FERNS AT BRODSWORTH HALL

A parterre is a formal garden, laid out on a flat area and made up of neatly defined flower beds, separated by gravel paths. Parterres became popular in England in the 1600s and came back into fashion in the 1800s. They were designed to be admired from above, usually from the upstairs windows of the house.

At Brodsworth Hall, in Yorkshire, Charles Sabine Augustus Thellusson added a parterre to his new house in 1860 to show off his taste, wealth and status. It had 34 beds, arranged in a symmetrical pattern, filled with thousands of flowers and shrubs.

Another fashion statement at Brodsworth is the Fern Dell, with its collection of over 100 ferns. Ferns were very popular with the Victorians. A fern pattern can still be found on a biscuit that was invented in Victorian times – the custard cream!

To find out more about parterres around the country, search our website for the article: 'Perfect Parterres'.



An aerial view of the parterre garden at Brodsworth Hall, with its 34 colourful beds arranged in a symmetrical pattern.

PLAYING AND GROWING WITH THE ROYAL CHILDREN AT OSBORNE

Nestled in the woods at Osborne, on the Isle of Wight, is a little Alpine-style chalet called the Swiss Cottage: a make-believe world where Queen Victoria's children could play at being adults.

In the Swiss Cottage garden, each child had their own plot. They grew fruit, vegetables and flowers using miniature tools and their own wheelbarrows, with their initials on. The produce was judged by the under-gardener, Mr Warne. If it was good enough, their father, Prince Albert, would pay market rate, i.e. what it would be worth in a grocery store, to the child who had grown it.

There is also 'a little fort' in the garden and a miniature barracks complete with drawbridge, where the children played as soldiers in pretend battles.

To learn more about the royal children's life at Osborne, watch our YouTube video (4 min 7 sec): 'A Behind the Scenes Look at Swiss Cottage'.



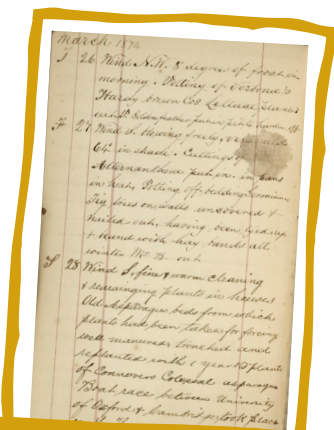
A post next to one of the royal children's vegetable plots, with the letters 'PSS ROYAL' for Princess Royal.

WILLIAM CRESSWELL'S GARDEN DIARY AT AUDLEY END

Audley End, in Essex, employed about 15 staff in the garden in the 1880s. At the top of the staff hierarchy was the head gardener. Beneath him were the under-gardeners, who had specialist training and experience, and alongside them were the 'garden labourers' or 'spademen', who carried out tasks like digging and moving soil. At the bottom of the hierarchy were a few so-called 'weeding women' and boys.

The diary written by an under-gardener, William Cresswell, in the 1870s tells us lots about daily life in the gardens. William gained valuable work experience in other gardens before arriving at Audley End. He was only 21 when he was made 'second man' in March 1874, meaning he managed the kitchen garden on behalf of the then head gardener, John Bryan. The kitchen garden at Audley End is the largest that English Heritage looks after. Every day, it fed the family who lived at Audley, plus their many guests and staff. It needed – and still needs – very specialist care.

To find out more about life in the gardens at Audley End, search our website for: 'The Gardeners Below Stairs at Audley End'.



William Cresswell's diary entry from 27 May 1874 reads: 'Wind SE beautiful day. Cleaned up Orchard house. Greenhouse and part of Stove whitewashed to afford shading to plants inside. Earthed up beans in third vinery.'



ACTIVITIES

Self-led activities to do at an English Heritage garden, at home or at school. Each activity explores some different ways a garden can be used for cross-curricular learning.

SELF-LED ACTIVITY

THE GARDEN AS A FASHION STATEMENT



KS2

KS3

Recommended for

KS2 & KS3 (History, Art and Design)

Learning objectives

- Identify the features of an Elizabethan garden, using the one at Kenilworth Castle as an example.
- Design an Elizabethan garden, using fashionable ideas from the time.

Time to complete

Approx. 60 minutes



An illustration of one of the four obelisks in the Elizabethan garden at Kenilworth Castle.



A view across the privy garden at Kenilworth Castle, with the bird cage in the background.

SUMMARY

Follow in the footsteps of Robert Dudley at Kenilworth Castle, who designed a garden that was the height of Elizabethan fashion and luxury in an attempt to impress Queen Elizabeth I during her 19-day visit in 1575. For context, read 'A Garden Fit for a Queen at Kenilworth' on page 6.

ELIZABETHAN GARDEN DESIGN

Use the activity sheets provided for the following:

- 1) Use Robert Langham's letter to investigate what the garden would have looked like in 1575.
For further study, students can find longer letter extracts on the Kenilworth Castle history pages on our website.
- 2) Label an illustration, to identify seven key features of Elizabethan garden design.
- 3) On a fresh sheet of paper, design a privy garden using the Kenilworth example as inspiration.
- 4) Evaluate the garden design (this could be done as self- or peer-assessment).

We'd love to see your finished Elizabethan garden designs. Please share them with us on Twitter @EHEducation or @EnglishHeritage.

MORE LEARNING IDEAS

Search our website for the 'Gardens Through Time' timeline to explore changing garden fashions throughout the centuries.

Consider the equivalent fashion statements people make nowadays, and how they might show off their wealth, status or taste, e.g. a tennis court, a hot tub, a swimming pool, a summer house, etc.

ELIZABETHAN GARDEN DESIGN



You're going to design a garden to impress Queen Elizabeth I. But first, you've got some swotting up to do!

Luckily, we've got a great example for you to follow. In 2009 English Heritage re-created the lost privy garden at Kenilworth Castle. It was originally created by Robert Dudley to celebrate Queen Elizabeth I's visit in 1575.

ASK THE EXPERT – JOHN WATKINS, HEAD OF GARDENS AND LANDSCAPES

Most of what we know about the garden comes from Robert Langham's detailed letter, which describes not only the garden and its plants, but also what it felt like to be in the garden in 1575. We were able to fill in the gaps in information with other contemporary sources such as the garden sketches of Vredeman de Vries and the writings of Thomas Hyll, Henry Lyte and Thomas Tusser; as well as from descriptions by later authors writing about the gardens of their childhoods: Gervase Markham and John Parkinson.



How did you know what plants to use when you reconstructed the Elizabethan garden at Kenilworth?

1 Read the letter below. **Underline** anything that tells you what was in the garden when Robert Langham, one of the queen's entourage, sneaked inside.

'A garden then so appointed, as wherein aloft upon sweet shadowed walk of terrace, in heat of summer, to feel the pleasant whisking wind above, or delectable coolness of the fountain-spring beneath, to taste of delicious strawberries, cherries, and other fruits, even from their stalks, to smell such fragrancy of sweet odours, breathing from the plants, herbs, and flowers, to hear such natural melodious music and tunes of birds, to have in eye for mirth sometime these underspringing streams, then, the woods, the waters (for both pool and chase were hard at hand in sight), the deer, the people (that out of the east arbour in the base Court, also at hand in view), the fruit-trees, the plants, the herbs, the flowers, the change in colours, the birds flittering, the fountain streaming, the fish swimming, all in such delectable variety, order, and dignity; whereby, at one moment, in one place, at hand, without travel, to have so full fruition of so many God's blessings, by entire delight unto all senses (if all can take) at once.'



This extract is from Robert Langham's letter describing 'The Magnificent Pageants presented before Queen Elizabeth at Kenilworth Castle in 1575'.

2 **Label** the illustration of the Elizabethan garden at Kenilworth Castle with these features:

- A. Flower beds (four, evenly sized, beds laid out with geometric patterns)
- B. Sand-coloured paths (to walk between the flower beds)
- C. Fountain (made from white marble)
- D. Obelisks (pyramid-like structures in the centre of each flower bed)
- E. Aviary (a two-storey bird cage with a flat roof and arched windows)
- F. Terrace (a walkway on an upper level, for viewing the garden)
- G. Arbours (two wooden structures at each end of the terrace)



3 On a fresh sheet of paper, **design** your own privy garden using fashions from the time to impress Queen Elizabeth I. Use the picture above as inspiration.

4 **Evaluate** your work. What did you do well and what could you do better to make your Elizabethan garden even more fashionable and impressive? Show your design to someone else and ask them for feedback.

SELF-LED ACTIVITY

THE GARDEN AS A HISTORICAL PLACE TO PROTECT



KS1–2

KS3

Recommended for

KS1–3 (History)

Learning objectives

- Understand that gardens, like buildings, are historical places that need to be looked after.
- Appreciate the role of historians who research and protect historical landscapes and gardens.
- Examine and identify different trees, considering how old they might be.

Time to complete

60–90 minutes



Taking cuttings from the historic Royal Oak at Boscobel House, in order to plant new trees and restore the historical landscape.



SUMMARY

Follow in the footsteps of our gardens and landscapes team, whose job it is to research and protect our historical gardens. Read this Q&A with Emily Parker, English Heritage landscape advisor, to learn what makes Henrietta Howard's garden at Marble Hill so important, and how English Heritage plans to restore it:

www.english-heritage.org.uk/visit/places/marble-hill-house/history-and-stories/henrietta-howards-garden

Find out about recent work in the gardens at Boscobel House:

www.english-heritage.org.uk/visit/places/boscobel-house-and-the-royal-oak/things-to-do/boscobel-house-garden

TREE SURVEY ACTIVITY

Work in teams of three or four, with a supervising adult. Each team will need: a measuring tape, a clipboard, a pencil and paper.

- 1) Find a green space with a variety of different trees. Use the 'Terrific Trees' spotter sheet, provided on page 16, to see if you can identify any.
- 2) Explain to students that trunks grow outwards as well as upwards, forming a new layer of growth every year. Ask each group to select a tree, then:
 - measure the circumference of the trunk (this is officially measured at chest height or 1.3 metres from the ground)
 - describe the colour and texture of the bark, taking a rubbing if possible
 - draw the shape of the leaves
 - make seasonal notes, e.g. the presence of buds, blossom or fruit.

MORE LEARNING IDEAS

Afterwards, do some online research, using students' drawings and notes, to identify which type of tree they were studying and how old it might be.

You can **look** and **sniff**, but don't lick or pick! This keeps you safe and protects the trees.

ENGLISH OAK



These native trees have grown in England for thousands of years. The tree has to be at least 40 years old to produce acorns.

HOLLY



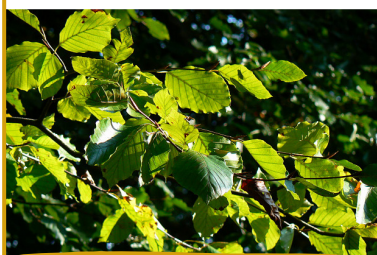
These are a symbol of Christmas. They have glossy leaves all year round and red berries in winter. Photo by Imogen Robinson.

MULBERRY



These trees produce juicy fruits that start out white in summer and turn purple by autumn, when they are ripe. Don't get them confused with blackberries!

COMMON BEECH



These deciduous trees usually grow on chalk. In autumn, they hang on to their leaves for a while after they turn brown.



ENGLISH HERITAGE
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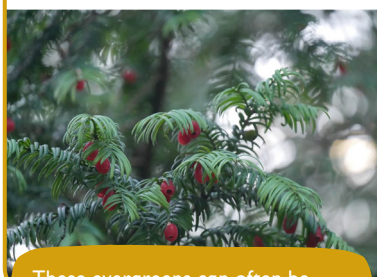
TERRIFIC TREES

SPOTTER SHEET

KS1-2

KS3

YEW



These evergreens can often be found in English woods. Photo by Imogen Robinson.

SWEET CHESTNUT



These deciduous trees can live for up to 700 years. They have yellow flowers in spring, which are pollinated by insects and develop into shiny brown fruits, wrapped in a spiky case.

COMMON LIME



These deciduous trees flower in July, providing nectar for honey bees. Their leaves turn yellow and drop in autumn.

DID YOU KNOW?

Some of these trees are deciduous, meaning they drop their leaves in autumn and regrow them in spring. Others are evergreens; they keep their leaves all year round.

SELF-LED ACTIVITY

THE GARDEN AS A BIOLOGY LAB



KS2

KS3

Recommended for

KS2 & KS3 (Science, Art)

Learning objectives

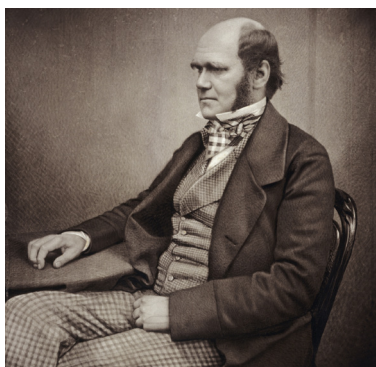
- Understand how flowers grow and reproduce.
- Identify, examine and draw different types of insectivorous plants.

Time to complete

Approx. 45 minutes



The glasshouse at Down House, where Charles Darwin conducted many botanical experiments.



A retouched photo of Charles Darwin, c.1859.

SUMMARY

1) How do plants grow?

Standing outside, ask students: Is there anything above and below us that helps plants grow? Yes. Soil stores rainwater. The roots suck up water and the leaves absorb sunlight from the sky, converting these into energy for growth (photosynthesis).

PHOTOSYNTHESIS EXPERIMENT

Enquiry question: What effect does sunlight have on the growth of plants?

Equipment: mini plant pots (2 per student), compost and fast-growing seeds (e.g. cress, beans, or hybrid tomatoes).

Method:

- 1) Fill two plant pots with compost and plant a seed in each. Water both with the same amount of water throughout.
- 2) Wait for both seeds to germinate, then place one pot in a dark cupboard and the other on a sunny windowsill.
- 3) After two weeks have passed, compare both plants.
- 4) Evaluate the result. The plant in the dark might not have grown much, or at all, due to a sunlight deficiency, or it might have become long and spindly (etiolated) in its search for light. Its leaves might appear more yellow than green. The plant on the windowsill should look healthier, and will probably have bent towards the light/window.

2) How do flowers reproduce?

Watch for bees and other pollinators visiting flowers, getting covered in yellow pollen and moving on to another flower (pollination). When pollen reaches a new flower, it travels down inside the plant where it makes seeds (fertilisation). These seeds are then dispersed by animals or the wind. Some of the seeds will grow into new plants.

3) How and why do some plants eat insects?

Use the activity sheets on pages 18 and 19 to study insectivorous plants.

STUDYING INSECTIVOROUS PLANTS



Insectivorous (or carnivorous) plants have evolved to grow naturally in environments with little nitrogen. They survive by attracting, trapping and digesting insects, as an alternative source of nutrients.

ASK THE EXPERT – ANTONY O'ROURKE, HEAD GARDENER

Darwin fed the Sundew plant all manner of items and was able to demonstrate that their tentacles responded to 'foods' containing nitrogen, e.g. boiled egg, pieces of meat and even his own urine! He also gave them sugar but this resulted in no response.

Darwin investigated whether the rapid closing of the Venus flytrap was the activity of nerves (as in animal movement). He placed a plant under a glass bell jar, with a cotton swab soaked in chloroform, and left it overnight. The next day, the plant's traps were tested and they closed as normal. This showed that something other than nerves was causing the trap to close, because chloroform would've blocked the nerve impulse. We now know that the closing of the traps is due to the rapid movement of water out of specialised cells.

These experiments were the first empirical (evidence-based) demonstration that plants could indeed be carnivorous.



What experiments did Charles Darwin do to study these plants?

1 Look at Darwin's observational drawing of the sundew plant.

SUNDEW *Drosera rotundifolia*

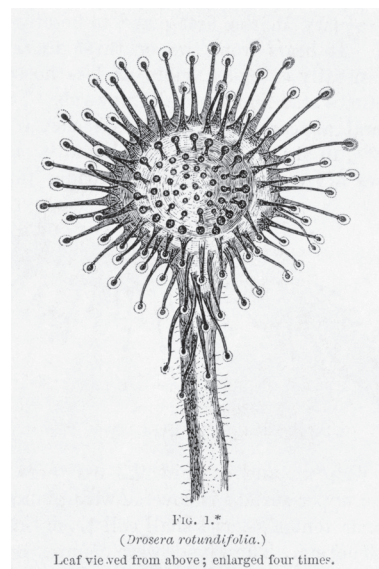
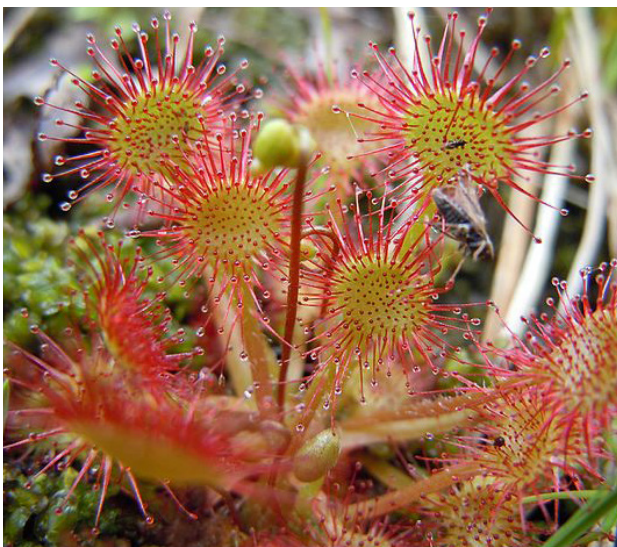


FIG. 1.*
(*Drosera rotundifolia*.)
Leaf viewed from above; enlarged four times.

- 2** Make observational drawings of these insectivorous plants. If possible, study the real thing rather than a photo.

VENUS FLYTRAP *Dionaea muscipula*



TRUMPET PITCHER *Sarracenia*



- 3** Insectivorous plants fall into different categories based on the type of trap they use, e.g. sticky trap, snap trap or pitfall trap. Use these to **categorise** the sundew, Venus flytrap and trumpet pitcher.

SELF-LED ACTIVITY

THE GARDEN AS A SOURCE OF FOOD



KSI-2

Recommended for

KSI-2 (Science)

Learning objectives

- Understand where food comes from.
- Appreciate the processes involved in sowing, growing and harvesting fruit and vegetables.

Time to complete

Approx. 60 minutes to set up, with ongoing care required



A view across the kitchen garden at Walmer Castle, in Kent.



An aerial view of the kitchen garden at Audley End House, in Essex, the largest in our care.

SUMMARY

Follow in the footsteps of gardeners past and present, taking inspiration from some of English Heritage's best kitchen gardens to learn about growing your own food. For context, read 'The Kitchen Garden at Walmer Castle' on page 8 and 'William Cresswell's Garden Diary at Audley End' on page 10.

First, facilitate a discussion about where our food comes from. Ask students what they had for dinner last night. Were there any fruit or vegetables? Where do fruit and vegetables come from? They might say the supermarket, but explain that this produce comes from the ground. It has to be grown on plots, which can be huge farmers' fields, or small patches in people's back gardens. Some of our fruit and vegetables arrive in the UK from other countries, because they're out of season in the UK or we just can't grow them here due to our climate. Supermarket packaging can tell you where things have come from. Discuss the environmental impact of importing food (e.g. carbon footprint) and the benefits of eating local produce when possible.

Next, use the advice on pages 21 and 22, to learn how to grow your own food. We've recommended starting with broad beans.

ACTIVITY AT A GLANCE

You will need: aprons, compost, plant labels, pencils, seed packet (e.g. broad beans), cling film, mini plant pots.

Follow our step-by-step guide (on page 21) to help students grow their own food.

We'd love to see how the plants are coming along. You can tweet photos of their progress to @EHEducation or @EnglishHeritage.

MORE LEARNING IDEAS

See the process of sowing, growing and harvesting in action by visiting one of our sites with kitchen gardens and orchards, e.g. Audley End House, Walmer Castle, Down House or Osborne.

THE GARDEN AS A SOURCE OF FOOD

TEACHERS' NOTES



ASK THE EXPERT

We asked Philip Oostenbrink, Head Gardener at Walmer Castle and Gardens, for his advice for beginners on growing fruit and vegetables. Here's what he said:

'Start with easier crops such as "cut and come again" lettuce, dwarf French beans and trailing cherry tomato plants and work your way up from there. Trying more difficult plants straightaway may put you off growing your own if you are not successful. It also helps not to sow all your vegetable seeds in one go. For instance, you could sow six pots of dwarf French beans at first and then another lot six weeks later; the same can be done with salad crops. This ensures you don't have a large glut of them in one go and will extend your harvest season.'

STEP-BY-STEP GUIDE

- 1) Show the seed packet to students (broad beans or a different plant of your choice). Read the relevant instructions from the back (sowing depth, best month to sow, best month to harvest, watering instructions, growing conditions, etc.). Help students to understand some of the more difficult terminology.
- 2) Hand out plant labels and pencils. Students should write on their label: their name, the name of the plant, date planted, date to be planted out/harvested.
- 3) Hand out plant pots, one per student. They should crumble the compost with their fingers so there are no large lumps. They should overfill the container with compost and tap it on the table to level it, then use the flat of the hand to remove excess compost.
- 4) Now, sow the seeds. Students should make a hole with their finger twice the depth of the seed and pop the seed into the hole; sprinkle a thin layer of compost over the top; and water carefully and cover with a layer of cling film to retain moisture and heat.
- 5) Use the instruction sheet, on page 22, to nurture the broad bean plant. If you have chosen to plant a different type of food, you should be able to find information online about the continued care that is required.

CARING FOR YOUR PLANT



Broad beans are a good plant to sow in the autumn so that you can have an early harvest of beans in May and June – delicious! You can sow the beans in pots and then move the young plants into the ground in the spring.

Follow the care instructions below to help you.

THE EARLY DAYS

- 1** During the cold winter months, keep your plant inside to protect it from frost.
- 2** Make sure your plant gets sunlight to help it grow. A sunny windowsill is ideal.
- 3** Water your plant regularly in the next couple of weeks, so the soil doesn't dry out. Make sure the water can drain easily from the soil though, because broad beans don't like getting waterlogged.
- 4** Continue to water your bean plant as it sprouts up through the soil. If your plant outgrows the pot, move it to a bigger pot.

DID YOU KNOW?



Evidence shows that broad beans were being grown over 7,000 years ago! Today they are grown all over the world but are most popular in China.



PLANTING OUT

- 1** By spring, your young plant will be big enough to 'plant out' (move to the ground). A couple of days before you are due to move it, put your plant outside in its pot so it gets used to the outdoor weather.
- 2** Prepare the ground by digging in some organic matter, such as compost.
- 3** Use wooden poles and string to stop the plants flopping over as they get taller.
- 4** Make sure your plant continues to get enough water. Flowers should appear, followed by yummy beans.

HARVESTING

- 1** You can begin picking the beans when they are about 7cm long. Both the bean and pod can be boiled and eaten at this stage.
- 2** Alternatively, you can wait until you see the shape of the beans through the pods. Pick them, shell them and discard the pods.
- 3** Look inside the pods carefully when you harvest the beans. The scar on each bean should be white or green, not brown. The beans can be eaten raw in salads or cooked.
- 4** Why not save some beans to use as seeds for next year's crop?



SELF-LED ACTIVITY

THE GARDEN AS A PLACE OF WORK



KS3

Recommended for

KS3 (History, English, Business Studies)

Learning objectives

- Explore different gardening jobs in the Victorian period and understand the hierarchy of staff in a Victorian garden team.
- Compare and contrast gardening jobs at an English Heritage site, past and present.
- Write an application to be a young garden volunteer at your local English Heritage site.

Time to complete

Approx. 60 minutes



The English Heritage gardens team planting spring bulbs at Audley End in 2016.

SUMMARY

Follow in the footsteps of William Cresswell, a Victorian under-gardener at Audley End, to find out what it was like to work in a busy garden in the 1800s. For context, read 'William Cresswell's Garden Diary at Audley End', on page 10. Hear from Louise Ellis (page 25), the current Head Gardener at Audley End, to compare the job of a gardener, past and present.

ACTIVITY AT A GLANCE

Victorian times

Explain to students that, in Victorian times, what type of gardener you were, and how much you got paid, depended on what knowledge, skills and experience you had. It was possible to start at the bottom of the career ladder and work your way up. Students can use the flowchart, on page 24, to find out what Victorian garden job they'd be best suited to, based on their skills and experience.

To find out more about servant roles in Victorian times (indoors and outdoors), read our article 'Below Stairs at Audley End': www.english-heritage.org.uk/visit/places/audley-end-house-and-gardens/history-and-stories/below-stairs-at-audley-end

Modern times

Use the student activity sheets, on pages 25 and 26 to explore the ongoing work of the gardens team at Audley End, and why it's so important to continue looking after historical gardens.

Next, use the role description provided, on page 27, to write a mock application to be a garden volunteer at an English Heritage site.

MORE LEARNING IDEAS

Students could write a diary for a week, to record changes in weather and surroundings during their journey to and from school. Students could also select one nearby park and map any seasonal changes they observe onto a year-long timeline.

GOOD GARDENER QUIZ



START HERE:

Are you willing to work long hours outside?



No Gardener

You're not cut out to be a Victorian gardener. It's tough work, the hours are long and you work 313 days a year with only Sundays off. William's diary says:
'Sat 6th June
At work till dark watering etc.'



Do you have a good knowledge of botany (plants) and geometry (mathematics about space and shapes)?



Do you have practical knowledge of gardening, through years of working in gardens?



Garden Boy

(Daily wage 6d = 2.5p today).
A role for young boys, you would stand in the gardens and frighten birds away to stop them eating plants. William's diary says:
'Wed 17th June
Boy came into garden for frightening birds from fruit.'



Do you read books about gardening in your own time?



Are you married, with lots of gardening experience?



Garden Labourer

(Daily wage 2 shillings 2d = 11p today).
You help move garden supplies and equipment, prepare the ground, and help with planting out, watering and weeding. William's diary says:
'Wed 20th May
Seed beds in kitchen garden well watered.'



Garden Apprentice

(Daily wage 8d = 3.3p today).
You're showing promise to become an under-gardener soon if you do a bit of extra homework and read up on gardening techniques. William's diary says:
'Tues 31st March
Fruit trees in Orchard House ... dusted with snuff tobacco powder etc to kill flies.'



Head Gardener

(Daily wage 4 shillings = 21p today).
You are a high-status manager of all the garden staff. William's diary says:
'Sat 7th March
Left Forest Hill for Lord Braybrooke's Audley End 2.45 train ... Looked over houses with Mr Bryan, Head Gardener.'
This was William's first day at Audley End.



Under-Gardener

(Daily wage 2 shillings 8d = 13p today).
If you keep working hard, you hope to become a head gardener. As you're unmarried you can move around to different places for work to get lots of experience. William's diary says:
'Mon 31st August
Received from Mr Bryan [Head Gardener] 3.9s 4d for month's wages, also notice to leave at end of next month.'
William left Audley End in September 1874 and got a new job at Cambridge Botanic Garden.



1 ASK THE EXPERT

Read the information below to find out what it's like to work in an English Heritage garden today.

LOUISE ELLIS, HEAD GARDENER AT AUDLEY END

How did you get into gardening?

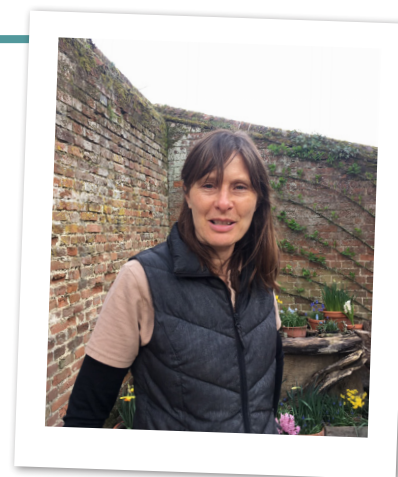
My mum is a keen gardener and I think I learnt a lot from her and her enthusiasm for plants. I didn't start working as a gardener until I was in my 30s though – I had been working in an office for a few years and was keen for a change and to work outside. By this time I had my own garden and loved plants.

What roles are there in the gardens team at Audley End?

There are 12 of us in the team. Some team members spend all their time working in the fruit and vegetable garden, some work with flowering ornamental plants and growing bedding plants, while some use machines a lot, e.g. driving a tractor, using a lawn mower or pruning trees with a chainsaw. Some of us do spend time in the office: there are orders to place, bills to pay, garden plans to write.

What's your favourite thing about being Head Gardener?

I love working outside in such a beautiful landscape and seeing the seasons change. Every day at work is different so I'm never bored. I'm really lucky to work across the whole garden with all members of the team. Even the jobs that can be repetitive (e.g. planting thousands of seedlings or edging miles of paths) are only ever done for a limited period of time before something else comes along.



2 COMPARE PAST AND PRESENT

Organise the statements (by writing the letters a–e into the table below), based on whether you think they are similar to being a gardener in Victorian times, or different.

SIMILAR	DIFFERENT



- a) Gardeners do daily jobs based on their specialist skills and knowledge.
- b) Men and women have equal access to training and education, and can become head gardeners.
- c) Victorian gardeners worked 313 days per year with no holidays and only Sundays off. Nowadays the garden team work 5 days a week and have five weeks of holiday a year.
- d) Seasonal jobs (e.g. harvesting crops, pruning shrubs, sowing seed) are done at specific times of year.
- e) The Victorians used tobacco fumes and coal ash for pest control. Today we use less harmful products and rely on predatory insects to keep insects that can be a pest (such as greenfly or mealybug) under control.

3 APPLY TO WORK IN AN ENGLISH HERITAGE GARDEN

Read the role description on page 27 and **underline** the important information, so you can refer to it in your application.

Write a statement, filling the space below, explaining why you think you should be given the role of gardening volunteer. Use key words and phrases from the role description.

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WHAT WILL I BE DOING?

- Assist the gardens team with tasks as required by the Senior Gardener. These could include weeding, pruning, planting, watering, path sweeping, grass edging and sowing.
- Develop an understanding of the history of the garden and the significance of the plants.
- Answer questions from visitors accurately and with confidence.

WHAT SKILLS, QUALITIES AND EXPERIENCE DO I NEED?

- An interest in working in the historic environment.
- An interest in caring for plants and working outdoors.
- Ability to work as part of a team and on own.
- Ability to undertake sustained physical work.
- To be flexible and enthusiastic.



WHAT WILL ENGLISH HERITAGE EXPECT FROM ME?

- To be the public face of English Heritage, wearing English Heritage volunteer uniform as required.
- Help us maintain the highest standards of presentation at our sites and properties.
- Help us protect our properties by following our security and safety procedures.
- Maintain good working relationships.
- Attend appropriate training and learn about the work of English Heritage.
- Be reliable in attendance.

WHAT CAN I EXPECT FROM ENGLISH HERITAGE?

- A welcoming and enjoyable experience.
- To be treated fairly and with respect.
- Recognition and appreciation for your contribution.
- A full induction and training programme with ongoing support.
- A volunteer pass allowing free entry to English Heritage properties is available on completion of 60 hours and four months of volunteering.
- Reimbursement of reasonable travel costs between home and volunteering location within agreed limits.
- A certificate to demonstrate work carried out for English Heritage to show future employers or further education.

