Off Site Visit

1C My Box Tree Survey

Project Box Resources

- ✓ Beginning with Box Powerpoint slides 15-17
- ✓ Box Detective worksheets x10
- ✓ Leaf ID dial x10
- ✓ 1m tape measures x10
- ✓ Chilterns trees list
- ✓ *My Box Tree Survey* worksheet
- ✓ Tree slices x6

Additional resources

- ✓ Blindfolds
- ✓ Chalk
- ✓ Wax crayons
- ✓ Plant and animal ID sheets
- ✓ Plastic freezer bags for specimen collections

Activities (½ - 1 day)

Classroom preparation for the visit: Review the pre-visit preparation from **card 1B.** Play power point slides 15-17.

Blindfold tree hugging: This activity encourages the pupils to use their senses to investigate trees. Divide the groups into pairs one pupil is blindfolded whilst their partner leads them by the arm / shoulder while giving directions to a tree. They should hug the tree to assess the breadth then feel the shape of the branches and leaves. After exploring the tree through touch they are directed back to the starting point where they remove the blindfold and try to guess their tree.

Investigating the age of the trees: Remind the pupils how we determine the age of trees. Divide into groups of 3 and measure the circumference of the tree 1.5m up the tree trunk (or before the first fork if this is lower). Give the pupils the approximate rate of growth (from Teachers' Notes). Calculate the age using the estimated growth rates.

My tree survey: In 3's fill in the 'My Box Tree Survey' worksheet. Include the estimated age of the tree, a sketch of the leaf, flowers and seeds; take a wax rubbing of the bark; note any plants growing on the tree and any animals found near or on the tree.

Averages and leaf length: Measure 10 leaves from a chosen tree and calculate the average length of leaves from that tree. Note the average length on the 'My Box Tree Survey' worksheet.

Creative writing: Make a list of adjectives used to describe your Box tree and its surroundings, then write a descriptive piece about what the tree can see and hear when everyone has gone from the woodland, or what has the tree seen in its lifetime from this location.

Collecting samples during your off-site visit: Each group collects a small specimen from your tree. Ensure clear guidance is given about collecting specimens. Each group collects a specimen in a large plastic bag with a label noting location and collectors. If it is not being used immediately put in a fridge. Guidance on collecting can be found in the Teacher's guidance.

Extension / follow-up activities

- Repeat the activities for other species of tree and compare with the Box tree.
- Find the diameter of the tree either through calculations or by putting two sticks either side of the tree trunk and measuring the gap between them.
- Measure the height of your tree using the methods from the linked web-site in the Teachers' Notes.

Off Site Visit

1C Teachers' Notes

Learning Outcomes

- Develop mathematics skills to be able to determine the age of tree.
- To identify Box and other trees from the Chilterns using ID sheets and keys
- To develop an ID sheet on a particular tree
- Develop piece of creative writing on the life of a tree

Curriculum Connections

Science: Plants (yr 3); Classifying living things (yr 4); Classification (yr 6)
History: Local history study
Mathematics: Averages; Measuring and calculating using metric measures; Estimating
English: Develop vocabulary and write imaginatively about the Box tree.

Preparation / Key Notes (Activities ½ - 1 day)

This activity card builds on the skills developed in activity cards 1A and 1B and includes an off-site visit to an area with Box trees. It can be carried out on the same visit as activity card 1B. Collecting samples of the plants will be necessary for Activity Card 1D.

Background Knowledge

Dendrochronology is the study of tree dating and annual ring growth. Broadleaved trees in a woodland such as beech, oak and sycamore grow 1.5 -2 cm around the circumference (girth) every year. Box is slow growing and grows 1.5cm per annum and even slower in wooded environment. You should always measure the circumference (girth) 1.5m from the ground (or below the first branch if this is lower) although measuring trees is not always reliable due to where the plant is located in a woodland or in isolation.

In Tring museum a Box tree has a diameter of 15cm. In the Chilterns, we are seeing trees which are clearly older than their main stems this is because ancient Box often layers / spreads outwards from a older root system. Combined assessment of girth, features (e.g. cavities), ancient woodland site and longevity of layering / size of absent central core is a better estimate of age. The woodland near Wendover due the steep slopes has not been cleared. The Box trees crowd the path and have grown large and twisted. This is an example of an ancient Box wood.

Web-site links and further resources

Measuring the height of a tree:
www.saps.org.uk/attachments/article/141/SAPS_How_to_find_the_height_of_a_tree.pdf

heritage lottery fund
LOTTERY FUNDED
The Chilterns Conservation Board
Chilterns Box Woodland Project

My Box Tree Survey

Leaf sketch or wax rubbing

Age of my tree

Measure the circumference of your tree

Leaf length and width

Sketch the tree shape or any key features (e.g. flowers or seeds)

Animals or plants found on or near my tree.