

Tremendous Trees

Suitable for Key Stages 1 and 2 adapted to suit the age of the children and the requirements of each individual group.

This programme focuses on the life processes of trees and other plants and on the importance to people and animals. The environmental role of trees, particularly in relation to climate change is considered at a level appropriate for the pupils. Activities are chosen according to each school's learning objectives and to seasonal factors within the forest e.g. leaf fall and seed dispersal in the autumn.

Key Concepts

There are four basic requirements for tree and plant growth. A number of different factors affect plant growth. Forests provide essential habitats for plants and animals, have a beneficial effect on the environment and have a role to play in mitigating the effects of climate change. Trees, plants and animals are affected by changes in climate.

Learning Outcomes

By the end of the programme pupils should

- know that trees and all plants require soil, air, sunlight and water to grow.
- know that trees draw water from the earth, make sugars in their leaves and that nutrients and sugars are carried to all parts of the tree in sap.
- know that forests provide habitats for a great variety of animals and plants and that the lives of plants and animals are interdependent.
- know that there are many different tree species, each with different characteristics
- understand that trees provide many important resources from timber to foods.
- know that trees produce oxygen.
- understand that climate change affects trees, plants and animals and that trees have an important role to play in moderating temperature and reducing the rate of climate change.
- know that forests are exciting places to visit
- Have a greater respect for the natural world and forests in particular.

Introduction

Learning objective – to prepare pupils for activities in the forest and ensure that safety rules are understood by adults and children

1. Welcome to Alice Holt - lovely woods; lots of different trees and open spaces; a place for animals; a place for people; a place to produce timber; looked after by the Forestry Commission
2. Discuss requirements for plant growth with the children and consider what we can learn from looking at tree growth rings.
3. Safety, including foxgloves, fungi, slips and trips. Please keep together as a class unless asked to do otherwise. Please don't hold hands in the woods and don't overtake the leader. No need to regroup with your assigned adult when moving a short distance within the woods.

Learning Objectives	Activity
<p>Morning (Beechwood) To reinforce understanding of basic needs of a plant and to gain some understanding of the interdependency of plants and animals. To take part in physical activity conducive to the development of co-ordination and general fitness.</p>	<p>The Seed Game – children take on the role of seeds and run to collect basic necessities of soil, air, sunlight and water. The game is replayed with seed eating animals 'collecting' seeds i.e. running and tagging seed children. If a suitable balance of seeds and seed eaters has been chosen there will be sufficient trees left growing well and producing seeds for the future.</p>
<p>To encourage closer observation of surroundings and to observe signs of animals not present at the moment</p>	<p>123 walk – children link arms in groups of 2-4, take 3 steps, stop, close eyes, open eyes, call out first thing observed and point to it with knee, foot, nose (not finger).</p>
<p>To have fun getting from the pond to the woods, improve concentration, take small risks conducive to improvement of balance by going over uneven ground, become more aware of tree roots extending beyond the base of the trees and other ground features.</p>	<p>Play follow my leader into the woods</p>
<p>To discover similarities and differences in trees using touch. To encourage concentration and trust. Learn about adaptations and variation in nature. Have fun.</p>	<p>Meet a tree – in pairs one child leads another blindfolded child to a tree. Blindfolded child feels tree and is then led back to starting point, removes blindfold and tries to find tree. Discussion about discoveries and how trees grow to suit the space and soils they are in.</p>
<p>To observe evidence of tree processes to enable damaged tree to survive. To learn that trees have value</p>	<p>Story of damaged tree – children listen to story beside tree damaged by deer, beetles, woodpecker, fungus</p>

as sources of food and habitats even when damaged.	
To observe variations in tree growth patterns and consider the effects of climate change on tree growth	Tree Rings in thinned area of wood. Children observe good and bad years and differential growth resulting from competition for nutrients with other nearby trees.
To understand that vegetation rots, returning nutrients to the soil, enriching the soil and enabling new plant growth.	Leaf litter and rotting wood Discuss what eventually happens to autumn leaves, logs and tree stumps. Consider importance of this in life cycle of the forest. Show this year's leaves, last year's leaves etc. then soil.
<u>Afternoon</u> (Blue Trail)	
To teach children about the dangers of litter and the many uses of trees and tree	Tree Products Trail –children collect items of litter (placed along the path for the purpose), discuss the disadvantages and dangers of litter briefly, then consider the items collected in more detail. Each item has a link with trees and with a product used by people.
To demonstrate variety in nature, the link between plant diversity and range of animal life. Point out that animal life is dependent on the trees.	Count number of different tree species by looking at different leaves and bark and look at examples of insect attack on different leaves. Relate this variety to the variety of wildlife in the forest
To encourage children to look closely, consider the role of colour in nature and observe different characteristics of trees and plants.	Palettes – collecting as wide a range of natural colours as possible –small pieces stuck onto card. Emphasise that the green (chlorophyll) in leaves is essential for the plants to make the energy they need to live.
To reinforce learning about requirements for trees and plants to survive and the importance of management for optimal growth.	In clearing look at the tall trees . How old do you think they are?(about 60)This plantation has been thinned, removing some trees and allowing the others to grow better. These Scots Pine are good at 'planting themselves'. They produce thousands of seeds and there are enough for new trees even though the seeds get eaten by squirrels and birds.
To teach children about the processes at work within a tree	Working tree . Children take on the roles of different parts of a tree and create with their bodies a 'working

	<p>tree' which draws water and nutrients through the roots, creates food in the leaves and spread energy throughout the whole tree. Sounds accompany actions.</p>
<p>To encourage concentration and teach that we can know about the presence of wildlife without seeing it. That trees provide habitats for a wide range of wildlife. To develop language. To develop/introduce understanding of sounds, pitch, musical composition.</p>	<p>Listen to the sounds of the forest and discuss what is heard. Can involve call and response and reproduction of rhythms clapped by leader. Encourage use of descriptive words e.g. the wind 'whistling', a bird 'chirping'. Children either count sounds on their fingers, record them on small cards or listen to the sounds around them as they move silently through the forest. This can be extended to more sound collection and creation as a follow up activity in school.</p>
<p>To indicate the relationships between plants and animals and the importance of caring for the environment</p>	<p>Webbing Game Children create a food web by answering questions about relationships between plants and animals e.g. one child represents an oak tree, another says that caterpillars eat oak leaves, the first child holds the end of the string and throws the ball to the second. This continues until a web has formed and all children hold onto the string. One child is 'killed' or 'chopped down', then crouches down. Every child that feels the pull of the string also crouches.</p>
<p>To assess students' learning, inform adjustments to the programme and sum up the day</p>	<p>Ask questions throughout the session e.g. "Can anyone tell me something they didn't know before they came to the forest?" "What happens to all the leaves when they fall off the trees?" "What 4 things are essential for plant growth?" "Why do you / I think forests are important?" and/ or Play a running game in a suitably flat space in the wood e.g. If you think what I say is true, run this way and if you think it isn't, run that way. Observe children and listen to their comments to each other and the adults in the group</p>

Other possible activities

These can be included in the programme in place of some of the above to ensure that the content suits the age and ability of the group members and meets the learning objectives of the school. **Ad hoc discussions and activities** often take place in response to children's observations and questions so programmes are adapted 'in the moment' while continuing to work towards achieving desired learning outcomes.

Observation of the pond and consideration of plant growth there and the wildlife it supports.

Owl and Mouse – predator/prey game in which owl wears a blindfold and mouse carries a bell. Understanding of feeding relationships within a forest environment which supports the animal life there.

Mini nature trails – investigation of life (plant and animal) on the forest floor. Can link to story telling and language development.

Minibeast hunt – to link roles of trees as habitat providers and role of minibeasts in returning nutrients to the soil.

Bark and other surface rubbings – variety of plant life in the forest; bark as a defence against disease and animal damage.

Links with habitat and wildlife studies

Trees and plants are inextricably linked with wildlife and to combine these aspects works very well, particularly for school groups studying habitats. Activities specifically concerned with habitats and animal life can be included in a Tremendous Trees programme.

National Curriculum links

KS1 and KS2

Science, English, Maths, PSHE, Art and Design, PE