

BUILD A TREE GAME!

KS1 & KS2

Aim: For children to gain understanding of how a tree works. This game should help them work together as a group and burn off some of their energy

Key Messages: The game should be fun! Get the teachers involved.

Preparation: Find a suitable open space and scan the area for any unwanted items!

Equipment: Use Narration notes.

Restrictions: Avoid wet/muddy areas. Adapt game if weather is bad. Think about the number of children available before building the tree, they can always be added later!

Teacher Notes: Each child will help to build the various parts of a tree: the taproot, lateral roots, heartwood, sapwood, phloem/cambium, and bark. The game uses drama to act out the roles played by each part of the tree. Listed below is how you build the tree and in italics the statement you can make:

Narration notes:

Heartwood

Choose two or three tall strong people and ask them to stand with their backs together. *You are called the **Heartwood**. You are the inner core of the tree. You are what gives it its strength and your role is to keep the trunk upright so that the leaves can get energy from the sun. You have been around along time, you are the most preserved part of the tree but you are dead. You used to be alive but as you grew your tubes blocked up with resin and pith.*

Tell the heartwood to stand tall & strong. Ask them to repeat this statement back to you.

Taproot

Choose several people to be the taproots. They should sit facing outwards with their backs to the heartwood.

*You are very long roots and are called **Taproots!** Your role is to get water from deep into the ground, you can be about 90m deep! You act as an anchor to the tree. You are one of many Taproots on this tree but you are not on all trees eg.redwoods*

Lateral Roots

Choose people with long hair and ask them if they wouldn't mind lying on the ground. They should lie with their feet against the trunk but leave enough space for the Sapwood and Cambium.

There are hundreds of you. You grow outward like branches all around the tree but underground. You help to keep the tree upright. Each root has tiny hairs (ask the roots to spread out their hair). You have thousands of these hairs to absorb water and nutrients. You will grow in the direction of sources of water.

Tell the Lateral roots and Taproots to try slurping. Ask them to say 'slurp'!

Sapwood

Choose enough people to form a complete circle around the Heartwood. They should circle the Heartwood holding hands and facing inwards! Ask them to be careful of the roots.

You are called the Sapwood or Xylem. You draw water up to the highest branches and you are the most efficient pump in the world. You can soak up about 1400 litres of water a day!

Tell the Sapwood to practice drawing the water up. Ask them to go 'Wheeee!' and to lift their arms up. Ask the roots to slurp again and then the Sapwood to bring the water up.

Cambium/Phloem

Choose enough people to create a complete circle around the Sapwood. They should circle the Sapwood holding hands and facing outwards!

You are the Cambium and the Phloem. The Cambium is the growing part of the tree, you add new layers to the Sapwood and Phloem each year (Tree rings). Explain that trees do not grow like human hair. Trees grew outwards where as hair grows from the scalp and not from the ends.

Ask them to practice saying 'we grow outwards'.

Near the outside of the tree you are the Phloem. Your role is to carry the food manufactured by the leaves and roots and to distribute it around the tree.

Ask the people to stretch out their hands and to flutter their hands to create branches and their leaves. Ask some to say 'our leaves make food' and others to say 'we bring the food down and around'.

Bark

Using the last remaining people create the bark. Create a circle around all the layers.

You are the bark. Your role is to stop the tree from drying out and to protect the flow of food in the Phloem. You also protect the tree from insects, fungi and pests. Humans can damage you if they pull you away from the tree. As you get older you crack and stretch.

Ask the bark to practice saying 'we protect'. The Phloem should put their arms through the bark to show branches and leaves.

Recap

Ask the people in turns to give their sound and/or action when you say their name.

i.e.:

1. Ask the heartwood to say 'stand tall & strong'.
2. Ask the Lateral roots and Taproots to say 'slurp'!
3. Ask the Sapwood to go 'Wheeee!' and to lift their arms up.
4. Ask the Cambium to say 'we grow outwards'.
5. Ask the Phloem to stretch out their hands and to flutter their hands to create branches and their leaves. Ask some to say 'are leaves make food' and others to say 'we bring the food down and around'.
6. Ask the bark to say 'we protect'.

Repeat but only give the commands and not the names of the tree parts. When you finish ask everybody to give each other a round of applause and to help the roots off the ground.

Further/Alternative study:

- Ask the children to draw a picture of tree layers.
- Look at the Tree Discovery worksheet
- Do Bark rubbings and look at tree rings