|  |
| --- |
| **Outdoor Education Plan** |
| **Lesson Focus – Knowledge of how record a trees dimensions**  |
| **Year Group - Year 4 & 5** | **Term - One** | **Date – Week 29.9.15** |
|  | **Outline** | **Curriculum Links/****Learning Objectives** | **Health and Safety considerations** | **Equipment** |
| **Session Procedures** | **Before** - Check for rubbish, glass, hazards. Check weather forecast**During –** Watch that children do not try to cut corners around the school grounds **After** – clear everything away and return any natural objects to their original place**Clean hands.**  | **I can measure the height and trunk circumference accurately.**Science* Identify and describe the functions of roots, stem/trunk, leaves and flowers

Maths * Measure accurately using mm, cm and m
* Understand angles in triangles
* Estimate size and age
* Practical problem solving
 | Wash hands after touching outside objectsRemind children to be careful not to let the sticks fly out of their hands and go in someone else’s eye.Wear High viz jackets in park.Remind children not to touch any pets in the park.Remind children to be within sight of the teacher | ParkInclinometer Measuring tape |
| **Introduction and Activity Opportunities** | **Problem Solving Activity – Tree Hugging.** Working in pairs, one child is blindfolded and the other one turns them in a circle and leads them to a tree. The blindfolded child hugs and touches the tree in an attempt to remember what is feels like. The leader takes them back to the start and takes off the blindfold. The child has to hug all the trees to find their one.**Main Activity –** Record the main measurements and features of the chosen tree.* **Recap** – Park safety
* What is the role of the tree in our world? What are trees used for? How long do trees live? How do we know they are old? What happens when we get old? What happens to trees when they get old? What is the function of the trunk? How can we measure the height of the tree?
* What information do we need to classify a tree? – What information did Charles Darwin take from plants on his expeditions?
* Measure the height of a tree. Keep walking away from the tree until you think you are as far away as it is high. Look at the tree through the tube on the inclinometer, whilst the partner checks that the plumb line is at 45 degrees. Adjust your position backwards or forwards until the tube lines up accurately with the highest point of the tree. You and your partner now measure the distance from where you are standing to the tree with the tape measure. Lastly, add the distance of the inclinometer when it is held up to your eye from the ground.
* Measure the girth of the trunk.
* Record the shape and size of the leaves
* Record the seed dispersal
* Record the shape of the tree

**Extension - Age of the Tree*** First, find the circumference of the tree by measuring around the trunk about 1.3m off the ground. Now you can estimate the tree's age. Divide the circumference of the tree by the average growth rate for that species. According to the Royal Forestry Society, broadleaved trees such as oak, ash, beech and sycamore grow around 1.5-2cm in girth annually. But in open conditions, this growth rate is nearer 2.5cm.
 | **Vocabulary** |
| TreeTrunkTransportStemHeightCircumferenceNutrientsWaterInclinometer |
| **Plenary** | **Plenary – is your tree young, mature or old, is it healthy? How does it compare with other trees of the same species. Some olive trees in the middle east are know to date back to the time of Christ. Urban trees are lucky to live to 75 years – what causes this?** | **Evaluation** |