



Outdoor Maths for all the Family

Take a walk through one of the many lovely woodlands that are easily accessible in our area...Inglismaldie Woods, Denlethen Woods in Laurencekirk, Fettercairn Estate, The Blue Door walk near Edzell...

It is a good idea to have a small notebook to record your investigations in – you could make your own using a few sheets of A4 paper folded in half.

Investigations...

Number of leaves on a tree

Guesstimate the number of leaves on a deciduous tree. To work this out, children count the number of leaves on one twig, estimate the number of twigs on a branch and the number of branches, then multiply these numbers together to get a rough total. For example:

- Number of leaves on one twig: 12
- Number of twigs on a branch: 22
- Number of branches on the tree: 16
- Total number of leaves on the tree: $12 \times 22 \times 16 = 4224$

Measuring trees

Use the “Through the Legs” method for measuring your chosen tree.

1. Stand at the base of the tree and walk away from it in a straight line.
2. Stop and look through your legs back up at the tree. Can you see the top of the tree? If not, keep walking away and try again.
3. When you can see the top of the tree as you look through your legs, stop!
4. Measure the distance you have walked. This is the height of the tree.



Check by using the stick method.

1. Take a straight stick (about the size of a pencil is long enough) and move several meters away from the tree.
2. Outstretch your arm and hold the pencil so that you can measure the height of the tree on the pencil with your thumb.
3. Then turn the pencil at the base of the tree by 90 degrees – from vertical to horizontal.
4. Note where the distance measured by thumb hits the earth and measure the distance from this point to the tree. This is the height of the tree.



Minibeast Hunt

Go on a minibeast hunt – count how many of each type you find. (Count – don't collect!) Create a graph of your finds and then take turns to make up a question for the rest of the family to answer.

Angles in Nature

“There are right angles, obtuse angles and acute angles in nature.”

PROVE IT!!

Each member of the family should draw or photograph examples of each of these angles in nature. You might want to use the corner of your notebook or paper as a right-angle guide. Compare your answers...did you all manage to find examples of each kind of angle?

Symmetrical Art

Collect some interesting leaves, pine cones, small stones, twigs...and any other natural objects you can find.

Arrange them to make a work of art that is symmetrical. For the younger members of the family, this could be using just line symmetry...the same on both sides. For the older members, have a go at creating your art using rotational symmetry.

