

# Create A Tree From Paper

## INSTRUCTIONS:

- You can only use 4 sheets of plain or coloured A4 paper
- NO glue, sticky tape, staples or paper clips can be used.
- You CAN use scissors.

(Top Tips on next slide!)



# CREATE-A-TREE 2020

in association with British Science Week 6 – 15 March 2020

## CONSTRUCTION TECHNIQUES & ENGINEERING TIPS



Q: How can we get strength from paper & card?

By folding or rolling, you create 'thickness' which allows the paper or card to reinforce itself and not collapse so easily. Pleating (concertina folding) is an excellent way to get strength. Also think about shapes that are used to build strong structures – such as triangles.

Q: We have no glue or tape. How do we stop paper & card from un-rolling or un-folding? How do we attach 'branches' or 'leaves' to our tree?

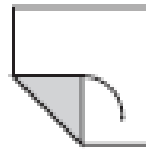
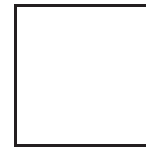
By using cutting and slotting or by using tabs which can be cut and folded inwards or outwards, or by inventing your own technique. To 'cut and slot', with two separate pieces of card/paper, cut a slit into the middle of both pieces then join the two shapes by sliding both pieces together at the cuts. To stop lengths of paper/card from unrolling you can also use a strip of card/paper like a 'belt', securing 'the belt' using the 'cut and slot' technique.

Q: What are the important considerations in creating a model tree?

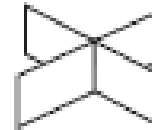
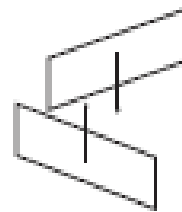
You will need a strong stable trunk – this has to support the crown, make this your first priority. The trunk also needs to be steady – so you need to be careful with any cutting. Think about real trees – tree trunks are usually wider at the bottom than at the top. Real trees of course have roots below the ground to help anchor them – a luxury we don't have with our model trees.

When adding the tree branches it's important to think about balance – develop the crown in more than one direction otherwise the tree will topple over. For the most 'life-like' trees, the overall crown shape is very important – a Norway Spruce for example has a very triangular shaped crown (have a look at tree profiles in any good tree identification guide).

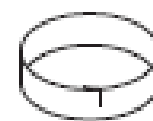
A long trunk will help add height to your tree but may give problems with stability. A wide trunk helps with stability but uses up a lot of card or paper. Triangular trunks aren't so 'life-like' as round trunks but they are certainly quite strong (why do you think in real life tree trunks are round rather than triangular?!)



cones



cut and slot



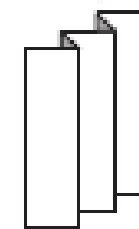
cut and slot  
'belt'



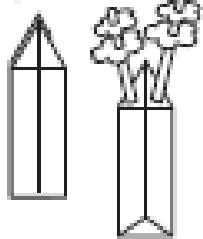
tree canopy

cut  
and  
slot

concertina pleating



triangular base



cut

tabs

