

**Monday Makes: Fractal Plants & Trees**

For ages 7+ (with the help of a grown up)



Exhibition view, *If Wishes Were Thrushes, Beggars Would Eat Birds*, Stuart Whipps, DCA, 2020  
Photo by Ruth Clark

This Monday Makes is inspired our exhibition [\*If Wishes Were Thrushes, Beggars Would Eat Birds\*](#) by Stuart Whipps. If you've visited our Create Space in the last couple of months you will have seen the displays of plants and rocks, as well as our activities that tie in to the themes of the exhibition. Inspired by the plants in Whipps' film and on display in Create Space, make a plant or tree using repeating patterns and shapes (also known as fractals).

**See:** Stuart Whipps work in DCA by booking free tickets to visit our gallery: <https://bit.ly/3lOVhgp> or take a look at the above image from the exhibition. You can also visit Create Space by booking tickets online: <https://bit.ly/3ghRXd5>

**Think:** About the shape of a tree trunk, a plant stem or perhaps something more abstract! Some plants and trees have soft curves, some have sharp edges and angles.

**Make:** A paper plant or tree using "fractals" of your chosen shape. Fractals are repeating patterns and shapes at different scales e.g. in nature, a tree trunk shape is repeated as a smaller branch grows from it which in turn has another smaller branch growing from it and so on. A snowflake has the same fractal repetition.

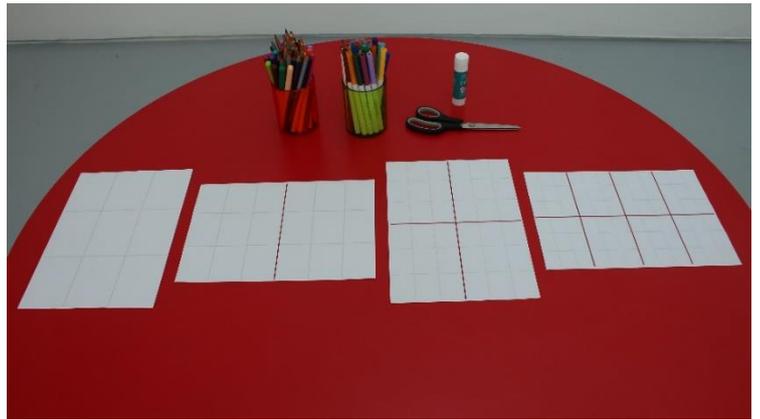
**Do:** Take a picture of your amazing artworks and share online using #DCAmakes.

## Fractal Plants & Trees

### Step-by-step

#### What you'll need:

- Print out our four A4 guide sheets: <http://bit.ly/fractalgrids> (or make your own based on the different sized grids of nine rectangles)
- Pencils / pens / paints / crayons
- Scissors
- Glue
- Card (optional)

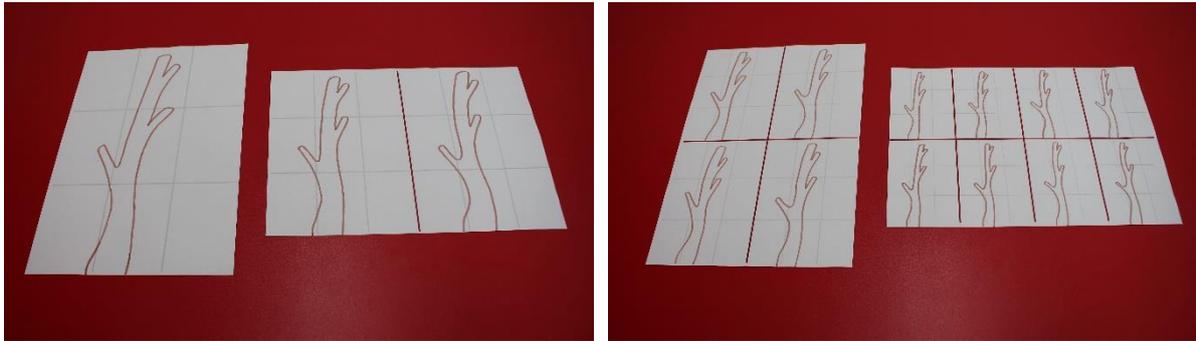


#### Step 1



Draw the shape of a plant stem or tree trunk on the largest grid (A).

Keep the shape fairly vertical to give you room to add “branches” later but you can add little details to make the shape interesting.

**Step 2**

Copy your drawing onto the two smaller grids (B) using the rectangles in the large grid (A) as a guide. The rectangles will help you to draw your smaller versions accurately but don't worry if they're not exactly the same. As long as they look similar to the original shape on grid (A) and aren't a completely different shape then you will still be making your plant or tree using fractal formation. Draw your shape on the four smaller grids (C), again using the rectangles to help. Finally, draw eight very small versions of your grid (A) shape on the final grids (D).

**Step 3**

Carefully cut out all of your shapes one large (A), two medium (B), four small (C) and eight very small (D). Ask an adult to help if your shapes are difficult to cut out.

**Step 4**

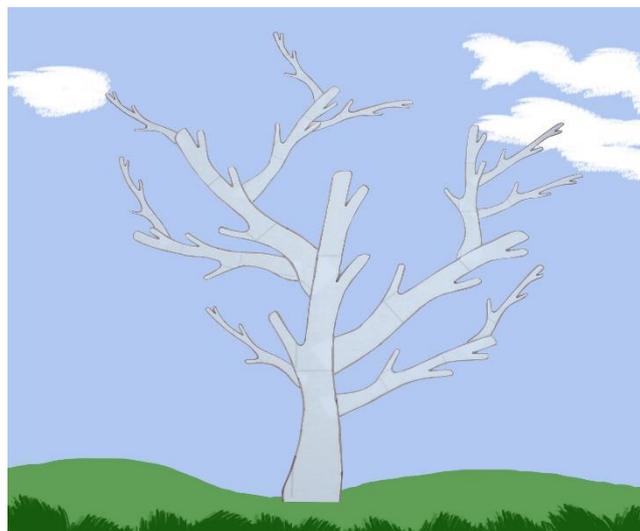
Put your (A) shape on the table and add your (B)s to make branches. Next add the four (C) branches. Put them wherever you like but they should ideally branch off of the next size up i.e. (C) branches should join onto (B)s not (A)s to be a true fractal formation but it's your creation so put it together the way you think works best.



Add the last eight branches (D) and see what you think. You can always rearrange them before you stick them together!

**Step 5**

When you're happy with your creation, glue the branches together. You could also add it to a background by cutting out a piece of card and drawing a landscape scene onto it. Then stick your fractal tree or plant on top. Make some more and create your own forest scene. Read on for ideas for different shapes to start with.



## Try Different Shapes



Remember that the shape you choose to draw in grid (A) will determine everything that happens after that all the way through to the smallest branches. The final shape of your plant or tree can be very surprising!

## Zig-zag shapes



It can be useful to experiment with the main shape of the plant / tree using just the (A) grid shape and the two (B) branches. Once you've found a shape you like, add the other branches and see what happens...



## More complicated shapes



Now that you've mastered the basics, try starting with more complicated shapes on grid (A). You can also experiment with colour to bring your creations to life.



If you're feeling adventurous, make some *really* small extra branches to add on to your (D) branches. Fractal formations go on forever, getting smaller and smaller with the same shapes and patterns repeating but there are limits to the size of fiddly paper shapes you can cut out easily! Don't forget you can give your new plant or tree a name too!

Let us see what your finished fractal plants or trees look like! Please snap a pic and share it with us on social media using **#DCAmakes**.