ACTIVITY

Snowflake Science

What will you do?

In this activity you will create beautiful, unique snowflakes that you can use to decorate your home.

What will you need?

- Paper
- Scissors





Ensure you have permission from an adult and their supervision before starting.

Watch the Snowflake Science video on #GSCAtHome Facebook or YouTube page

How to do this activity

If you have ever caught a snowflake on your glove and had a close look at it, you may notice that it is symmetrical and has six sides: it's shaped like a hexagon. You might think that a snowflake is just frozen water, but it looks a little different from an ice cube, wouldn't you agree? That's because an ice cube is frozen water, our snowflake is frozen water vapour.

Snowflakes start life as a tiny speck of dust or pollen that catches water vapour out of the air. When it is really cold, the water vapour will freeze and form an ice crystal. This is the beginning of our snowflake. But why is it a hexagon shape? When water gets cold enough its molecules arrange themselves in the most efficient way, which just so happens to be a hexagon. (Molecules are the small building blocks that something is made of. If we add more and more water molecules, we can make a puddle, or even an ocean).

Every snowflake has a unique pattern because it follows its own path to the ground; it gets blown about in the wind and bumps into different water molecules in the air. Changes in temperature and humidity will also change its design. Let's make our own paper snowflakes as wonderfully unique as the real ones.

Step 1. If you're starting with a rectangular piece of paper, like a sheet of A4 paper, you need to turn it into a square. To do this fold down one corner to form a triangle, lining up your edges, and cut off the excess.

Step 2. Take your square piece of paper and fold it in half diagonally to make a triangle.

Step 3. Fold the triangle in half so the pointed corners meet.

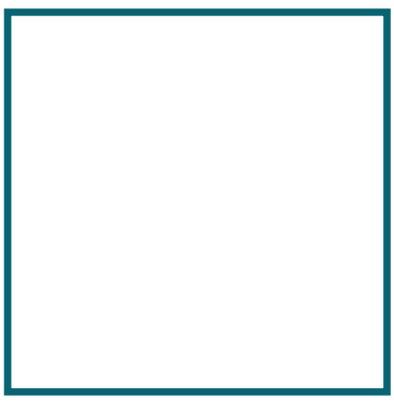
Step 4. Fold the paper triangle in thirds, first overlap the left-hand pointed corner over the triangle.

Step 5. Overlap the right-hand pointed corner over the triangle. Top tip: you need your edges to line up so don't crease the paper until the folds are just right.

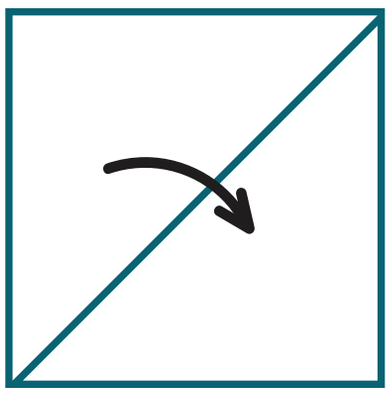
Step 6. Trim off the pointed ends so your triangle looks like the picture.

Step 7. Time to get creative. Cut shapes out of your triangle to create your amazing snowflake design.
Top tip: Straight lines are a little easier to cut than curvy lines.

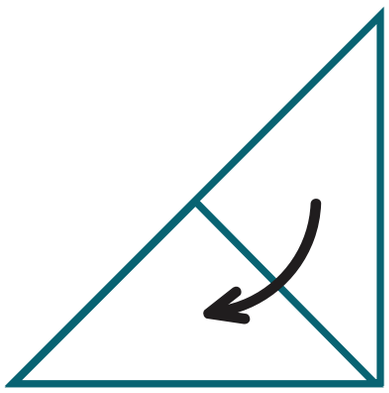
Step 8. Gently unfold your snowflake to see your unique pattern. Use your beautiful snowflakes to decorate your windows or even a Christmas tree.



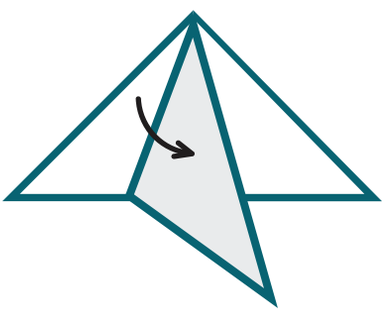
Step 1



Step 2



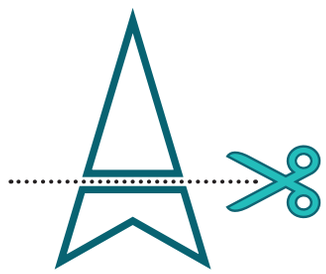
Step 3



Step 4



Step 5



Step 6

More to try

Can you think of other hexagon patterns in nature? Clues: Buzzzzz or a reptile with a hard shell?

Can you find any hexagon patterns in your house? Clues: Take a peek at your colouring supplies or head to the garden and find something that's fun to kick.

Take your grown up on a walk and see if you can spot any other patterns hidden in nature. Clues: Keep your eyes peeled for flowers, trees and animals. Why not try and draw what you find?

Fun facts

Snow isn't actually white, it's translucent! Snowflakes reflect all wavelengths of visible light, which makes them appear white.

Snow makes different noises depending on how cold it is. When you step on snow, it causes grains of snow to rub against each other and cause friction. When it's colder there's more friction between the grains of snow, which makes a crunching sound.

Snow can actually keep you warm. We get cold because air carries our heat energy away from us, but in snow the air is packed so tightly that it can barely move. Some humans build igloos out of snow to stay warm and animals, like polar bears and Arctic foxes, build burrows or caves in the snow to stay warm.

Share pictures of your snowflakes with us on social media using #GSCAtHome