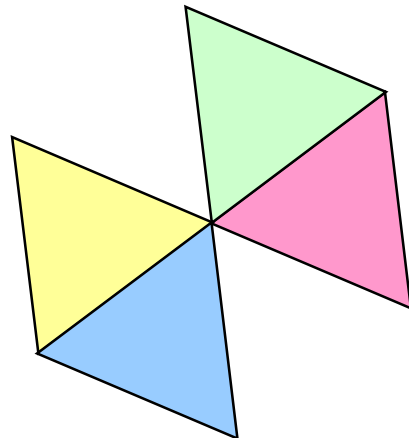
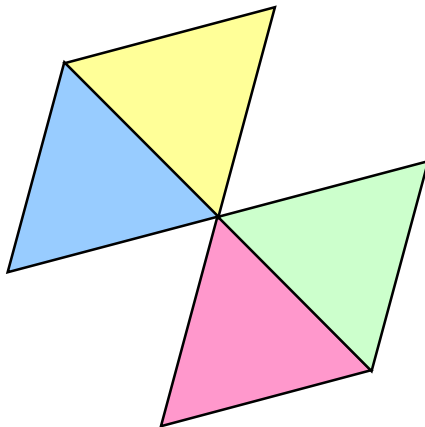




# INVESTIGATION



## Tricky triangles



# MathSphere

## **Tricky Triangles Investigation**

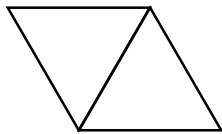
### **Starter**

**You need 4 equilateral triangles for this investigation.**

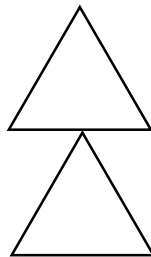
**Cut out the 4 triangles.**

**How many different shapes can you make by joining the triangles?**

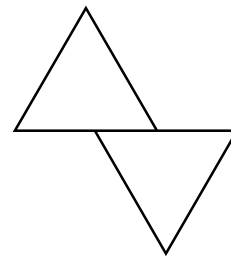
**The triangles must be joined by the length of one side.**



correct



incorrect



incorrect

**Draw the shape that you have made on paper.**  
**You may find triangular paper useful.**

**Can you make any other shapes with the four triangles?**

**Do the shapes you have made tessellate?**

## **Some Ideas**

**Work in a methodical way, recording your results carefully as you go.**

**Try to find all the different shapes that you can make with 4 triangles.**

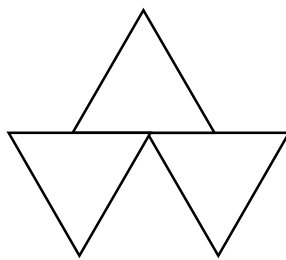
**Think about how to set your results clearly.**

**Try to find as many rules and patterns as you can.**

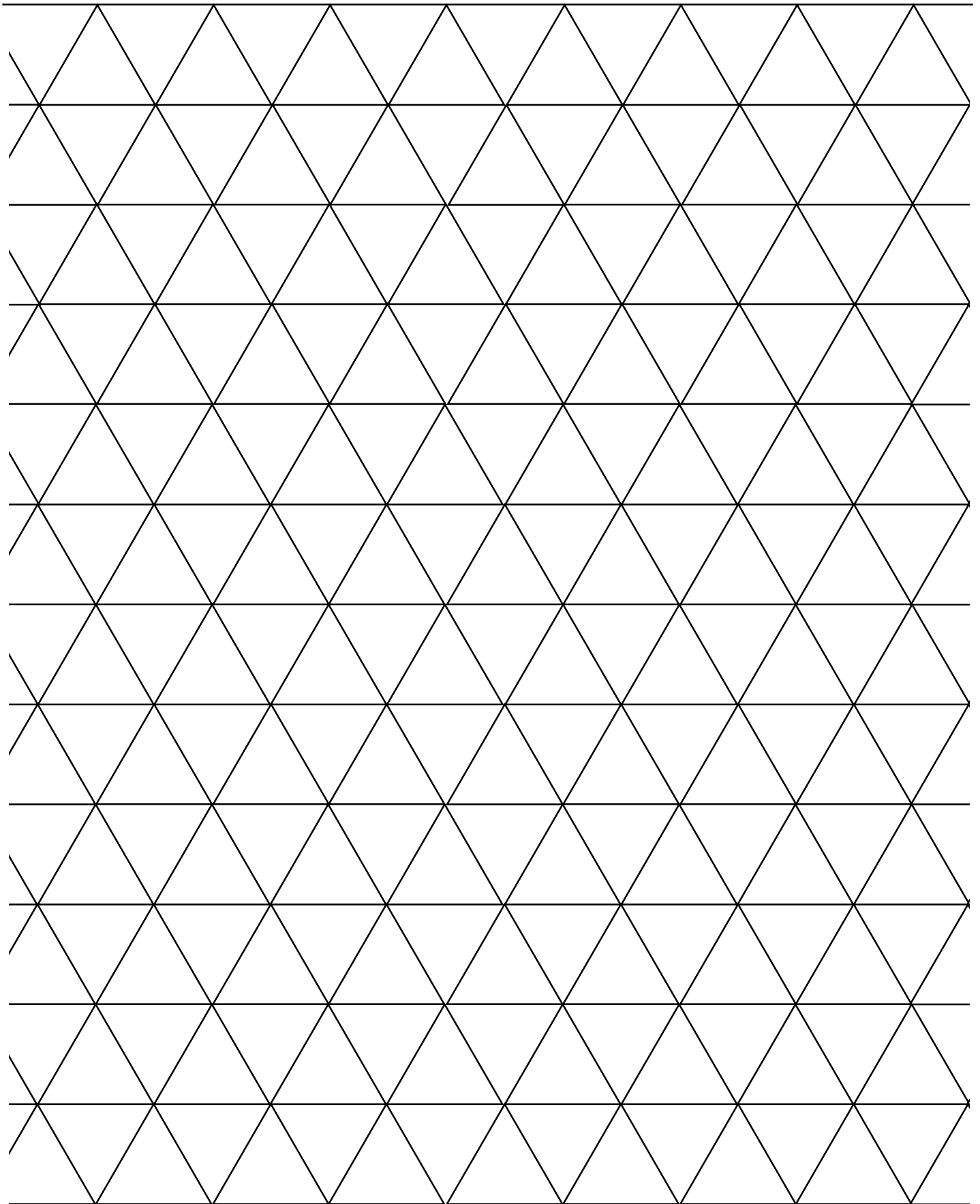
**How many of your shapes tessellate?**

**What would happen if you used 6 triangles?**

**What would happen if you are allowed to join like this?**



**Can you make interesting shapes that look like faces or objects?**



## **Answer Guide**

The initial task of joining four triangles is a good starter for younger children to make shapes, but they find recording more difficult.

It is a good idea to have a large selection of equilateral triangles ready that they can draw round, or use triangular paper.

Encourage children to talk about how they are working: how they are putting the triangles together to make different shapes: what counts as a different shape: are the shapes symmetrical etc.

Moving on to 5 or 6 triangles gives a much larger selection of shapes.

Extension activities include

1. looking for tessellating shapes.
2. counting the sides of the shapes they have made.
3. naming the shapes they have made.