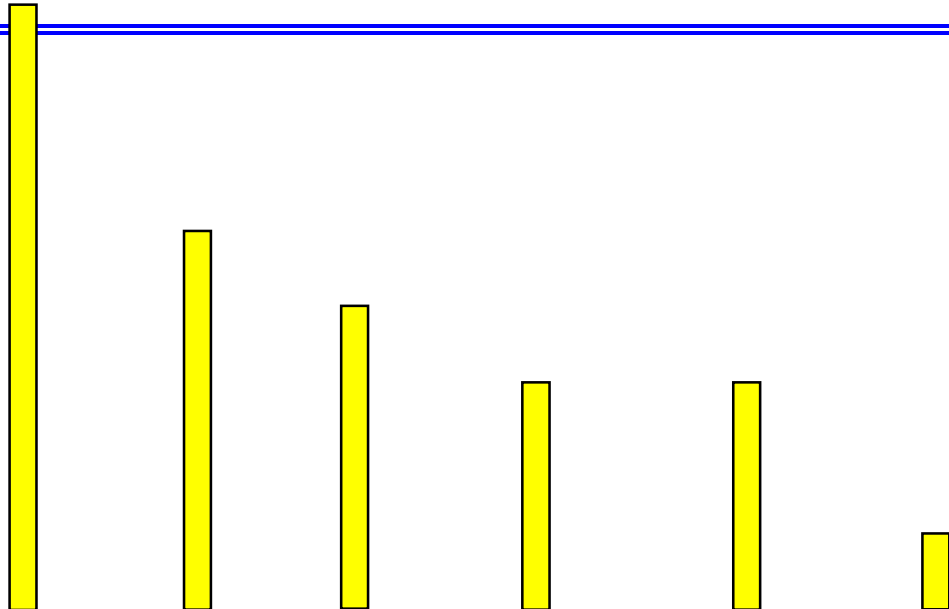




INVESTIGATION



Straw shapes



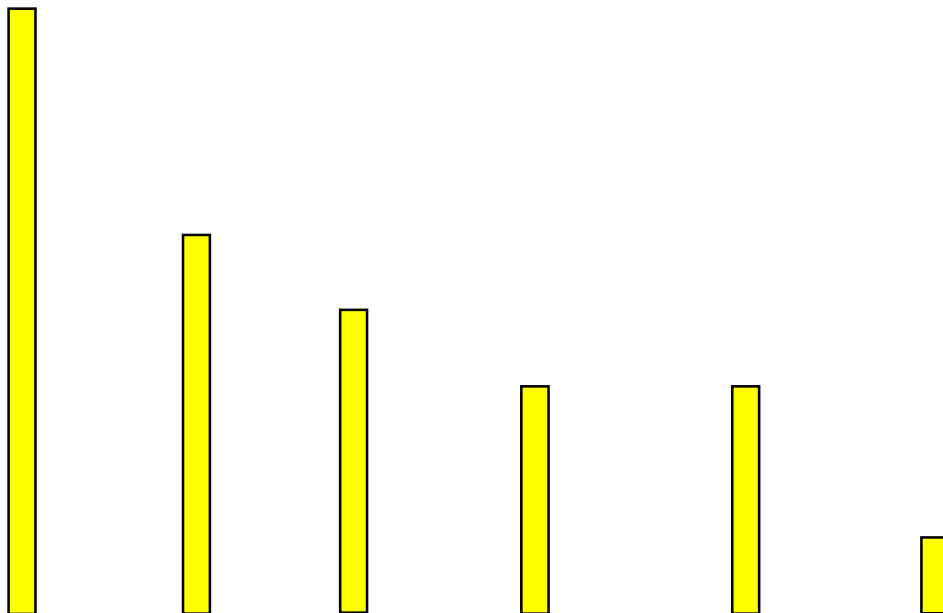
MathSphere

Straw Shapes Investigation

Starter

First of all cut out 6 straws these lengths.

8 cm 5 cm 4 cm 3 cm 3cm 1 cm



Now try to make a rectangle using all of them.

**Draw your rectangle on paper.
(one cm squared paper would be really useful)**

Can you make another rectangle with all the straws?

Some Ideas

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

Think about how to set out your results clearly.

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

Have you checked that you have used all the straws for each rectangle?

The total length of the straws is 24 cm. Is this important?

Why?

What would happen if you tried to make other shapes, such as triangles, or hexagons?

What would happen if you changed the number of straws you had?

What would happen if you changed the lengths of the straws?

Answer Guide

This investigation can be carried out by quite young children, but older children (years 3-4) will benefit from work on many sided shapes, including naming them etc.

It might be very useful to have a number of straws ready cut to the correct sizes for this investigation.

The total length of the straws is 24 cm, which makes it easy to make two rectangles: 8 x 4 and 3 x 9.

Encourage the children to describe the properties of their shapes and how they made them.

When making triangles children will soon see that the base needs to be less than half of the total length of straws. A number of different triangles can be made, including an equilateral triangle and isosceles triangles.

Many children will work in a more random way, fitting the straws together to make a number of irregular shapes. This is a good point to discuss that all 5 sided shapes are called pentagons, all six sided shapes are called hexagons etc etc - they do not need to be regular (all sides equal).

