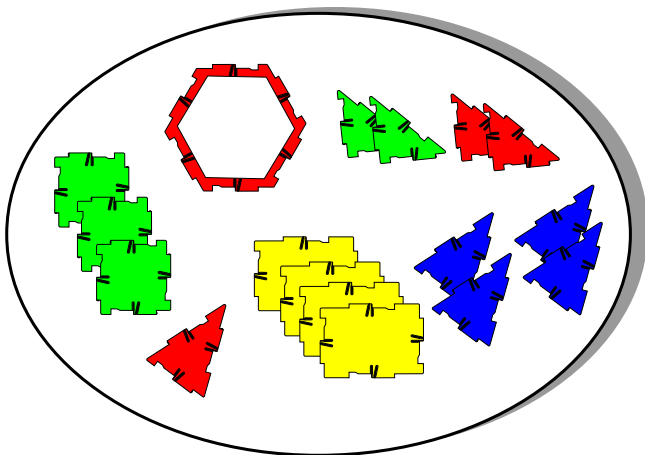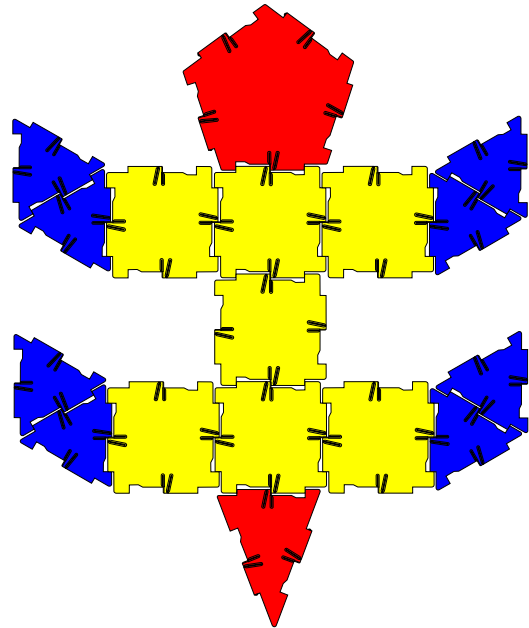# Set 2 - Symmetry bugs

❍ Make this symmetry bug.

❍ Make it longer by adding squares and rectangles.

❍ Change the shape of the legs but keep the bug symmetrical.

❍ Add two more legs.
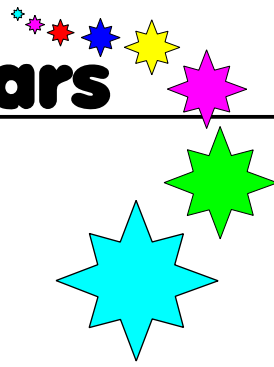
❍ Build a different symmetry bug with these pieces.

❍ Make a symmetry bug of your own.

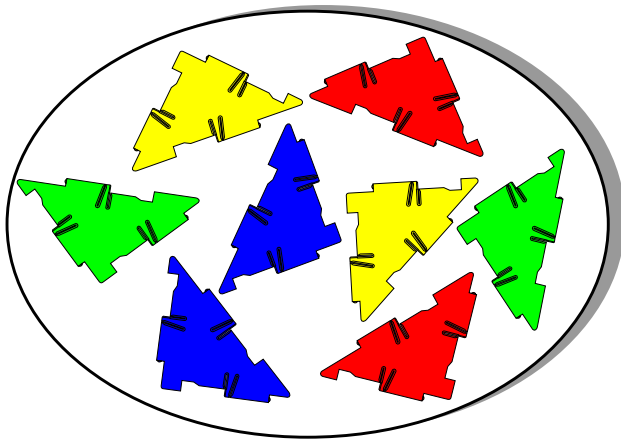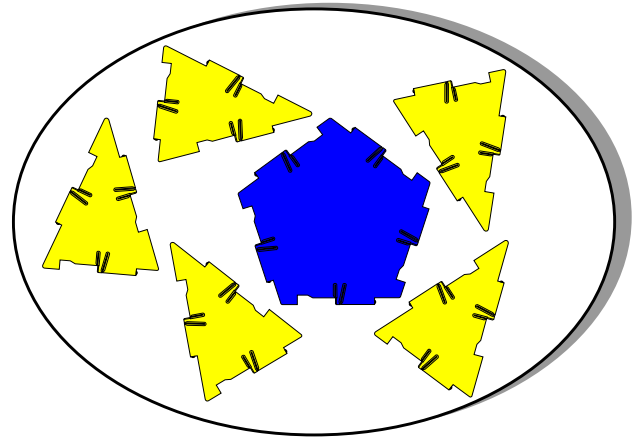❍ Make a symmetry bug with an octagon for the head.

More Ideas

❍ Make a symmetry bug with a long body made from hexagons.

❍ Make a symmetry bug with two heads.

❍ Make a symmetry bug using only right-angled triangles like those on the right.
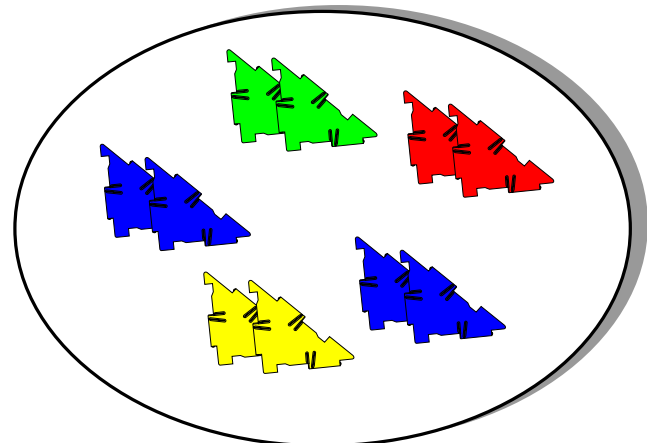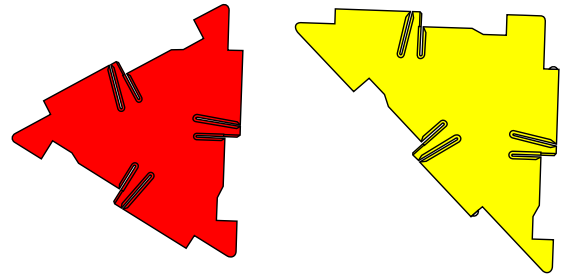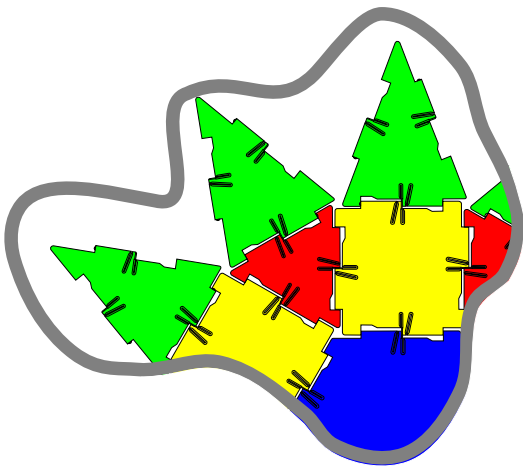
Set 2 - Stars

○ Use the shapes in each loop to make a star.

○ Make a star with with six of each triangle below.

○ Here is part of a 12 pointed star. It has a hexagon in the centre.
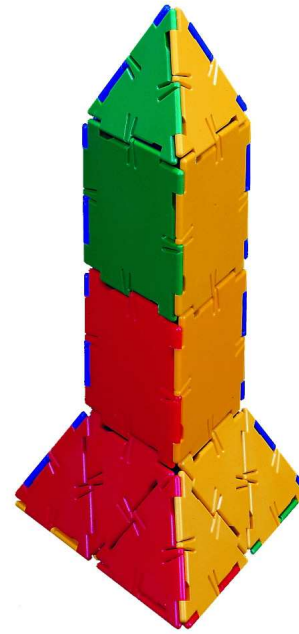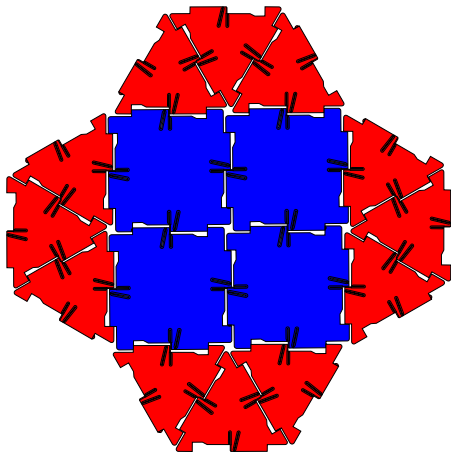
More Ideas

○ Make some 3D stars like this one.

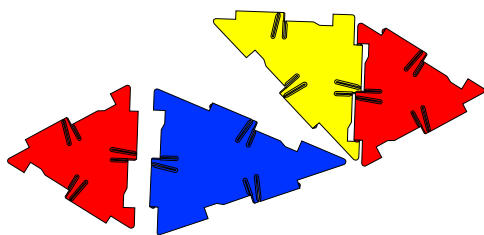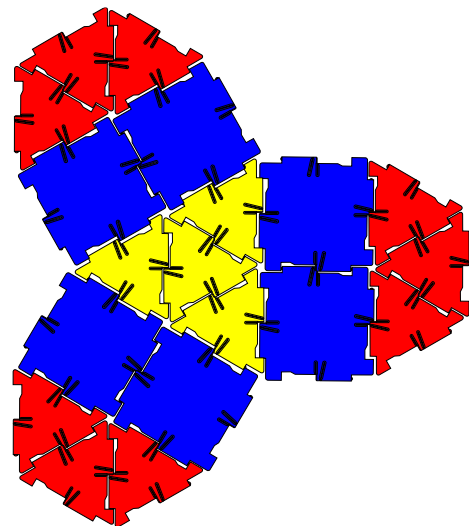○ Make a star with an octagon in the centre.

Set 2 - Rockets

○ Here is a Polydron rocket.

○ Use the net below to make the base of the rocket.

○ Make your rocket taller with a prism of rectangles.

○ Complete your rocket with a pyramid on the top.

More Ideas

○ Use the net on the right as a base for a new rocket.

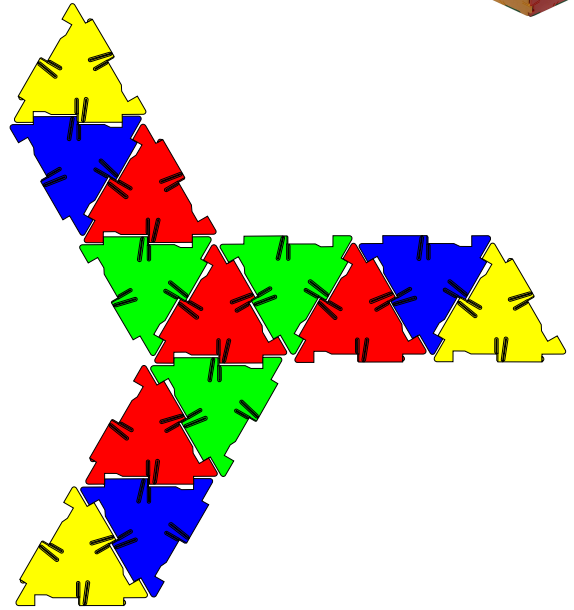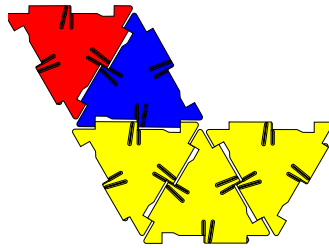○ Make your rocket longer with squares and rectangles.

○ Try adding some fins along the side of your rocket.

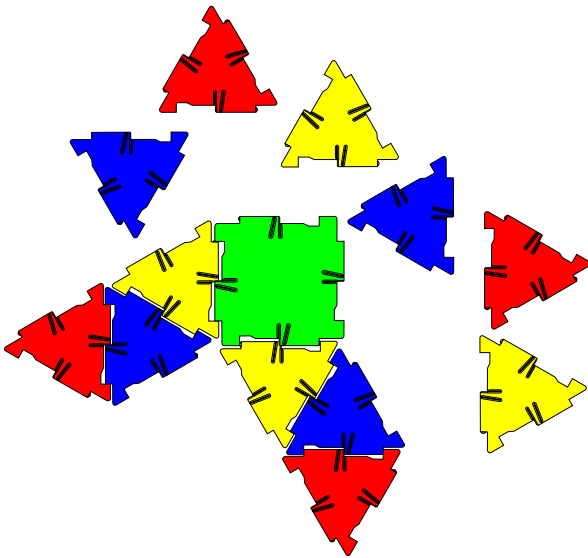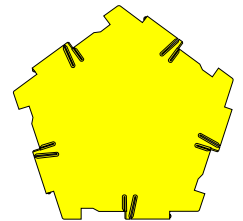○ Use different triangles to produce your own base.

Set 2 - Spidrons

○ Spidrons are Polydron spiders.

○ Make this spidron with three legs.

○ Here is a foot for a spidron. Make one of these for each leg.

○ Make a four legged spidron using these pieces. Some of it has been done for you.

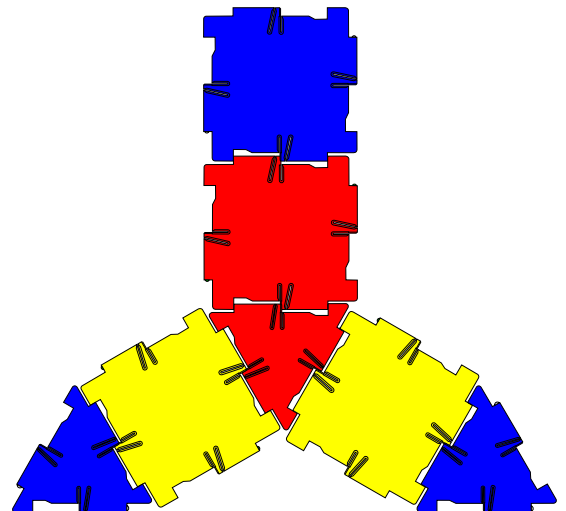○ Make a five legged spidron with a pentagon in the centre.
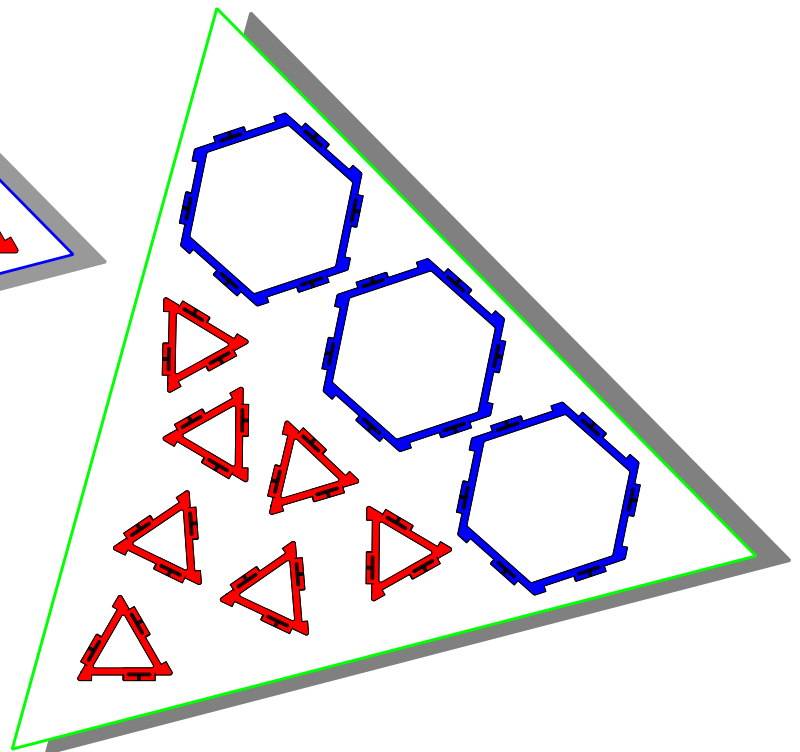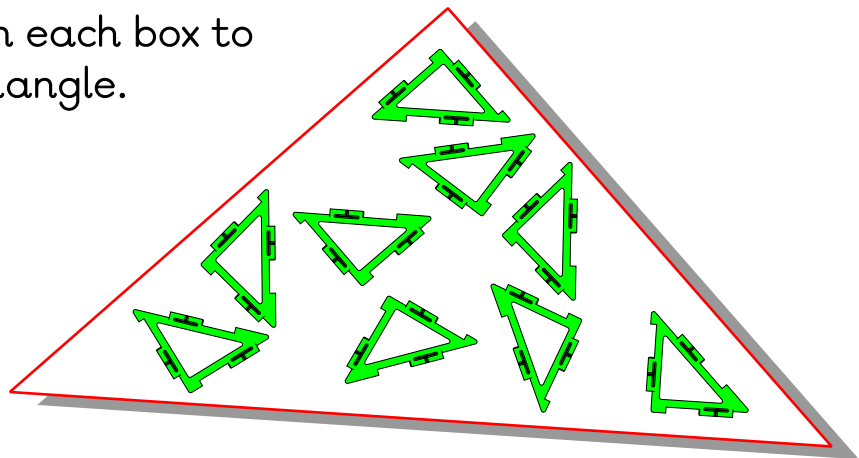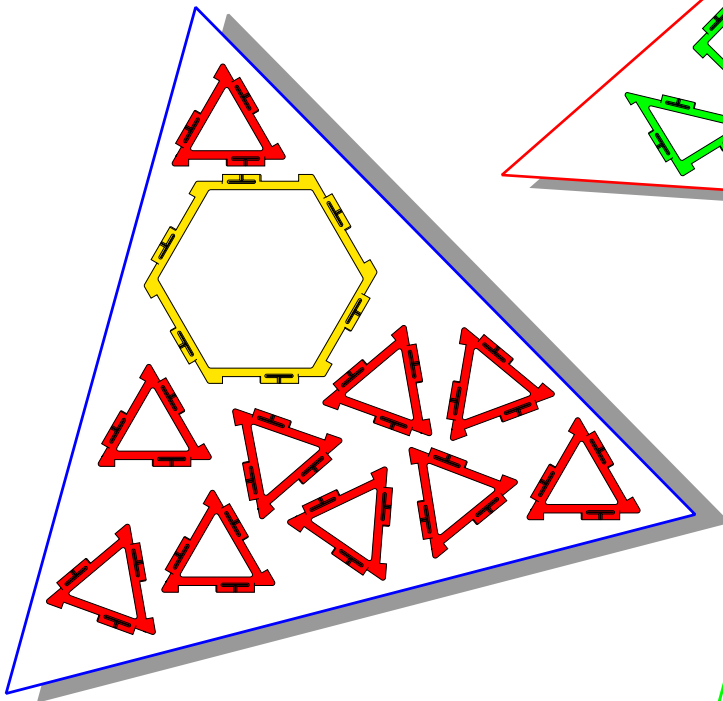
○ Try to make each leg the same.

More Ideas

○ The leg of this spidron has two feet. Use it to make a five legged spidron with ten feet.

○ Make a spidron with an octagon in the centre.
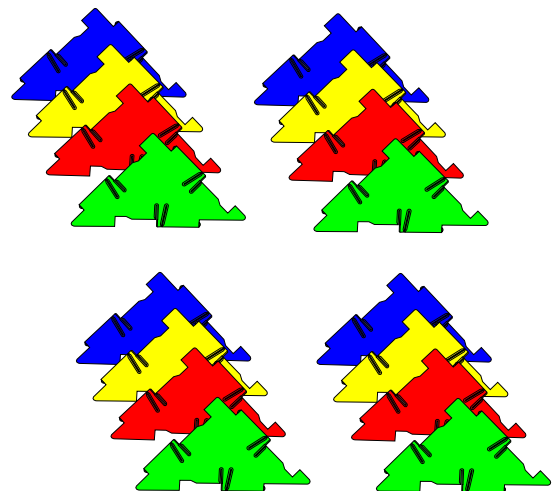
Set 2 - Triangle puzzles

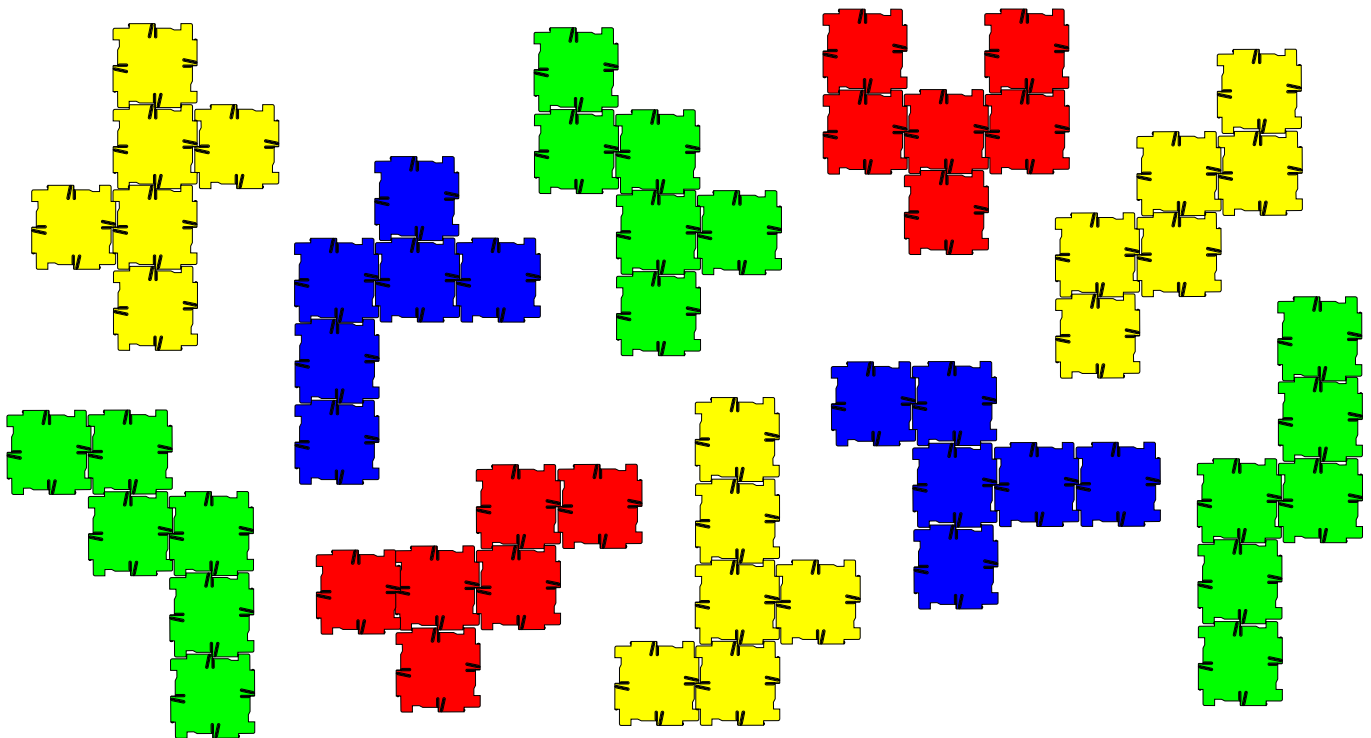○ Use the pieces in each box to make a large triangle.

More Ideas

○ Take 16 right-angled triangles and make a larger right-angled triangle.

Set 2 - Nets of a cube

○ There are eleven different nets for a cube. Here is one of them. Make it and check.

○ Find out which six of these ten shapes are nets of a cube.
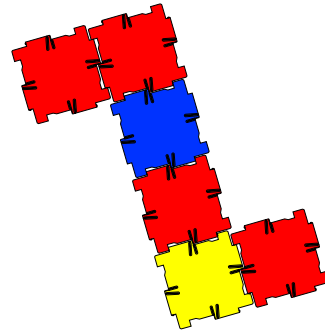
○ Two of the shapes above are the same. Can you find out which two?

○ There are four more nets of a cube to find. Make each one and check that it is different from all of those above.

More Ideas

○ Five squares can be used as the net for an open topped box. Find all the nets.

○ Can you prove that you have them all?
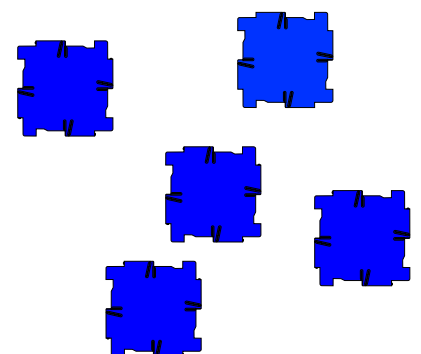
Set 2 - Pyramids

❍ Here is a pyramid. It has a square base.

❍ Make one like this and then make another one that is taller.

❍ Make one with a pentagon for the base.

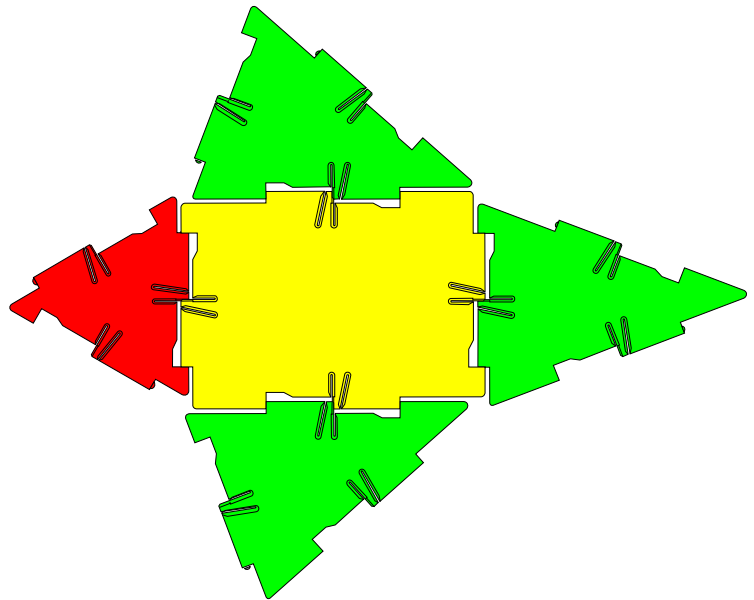❍ Here is the net for an unusual pyramid.

❍ Find another pyramid with a rectangle for the base.

More Ideas

❍ Make a pyramid with these four triangles.
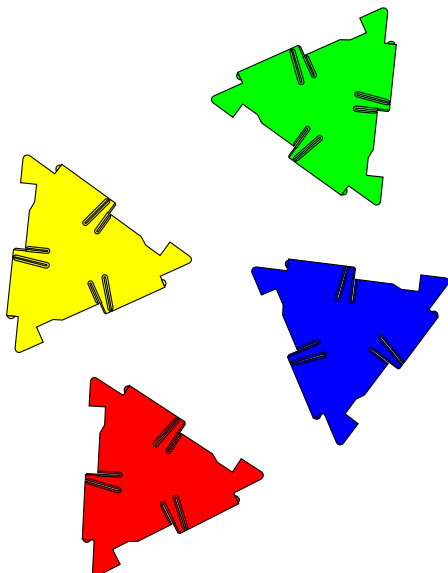
❍ A pyramid made from four triangles is called a tetrahedron.

❍ Make a different tetrahedron with four of these triangles.

❍ Make a tetrahedron with two different sorts of triangle.

POLYDRON

Set 2 - Drums
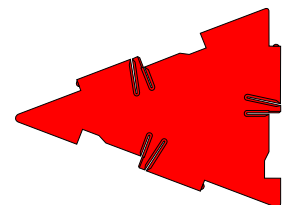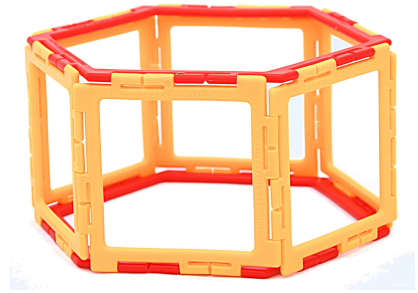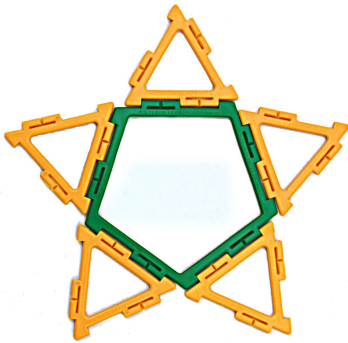
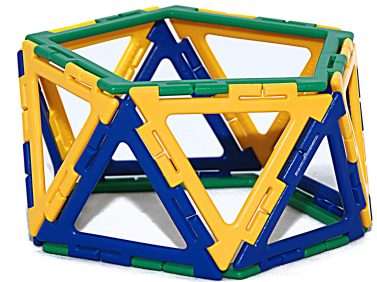○ A simple drum is made in the shape of a prism. Here is one with a hexagon for a base.

○ Make a prism drum with a pentagon for the base.

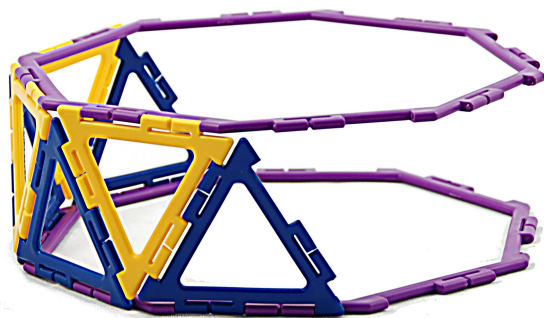○ Prisms have a belt of squares or rectangles, but drums can also have a belt of triangles.

○ Here is a star made from a pentagon and triangles. Make two of these in different colours.

○ Join each star together to make a drum like this one.

○ Make a drum with a square at each end and a belt of triangles.

More Ideas

○ Make a large drum with octagons and a belt of triangles.

○ Here is a picture of one that needs to be completed.

○ Make a drum with an equilateral triangle at each end and a belt of triangles. What do you notice about it?
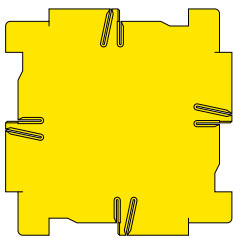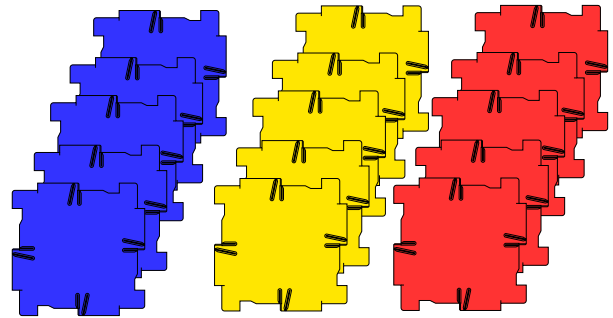
○ Make an unusual drum with two hexagons at each end.

POLYDRON

Set 2 - Logical Solids

Use each set of clues to make a solid

Make a cube.

◆ Use only three colours.

◆ One blue square touches all three red squares.

◆ Another blue square touches only two red squares.
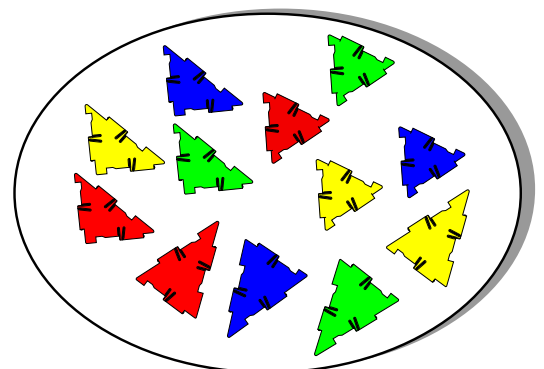
◆ A yellow square touches only one blue square.

This solid has five pieces.

◆ There is one square, which is clipped to all the other pieces.

◆ The isosceles triangles are red and green.

◆ The edges of red shapes do not touch red shapes.

◆ Only red, green and blue shapes are used.

Make at least two different solids with this set of clues.

◆ There are four pieces, all triangles.

◆ There is only one red isosceles triangle.

◆ The blue and yellow triangles are the same shape.
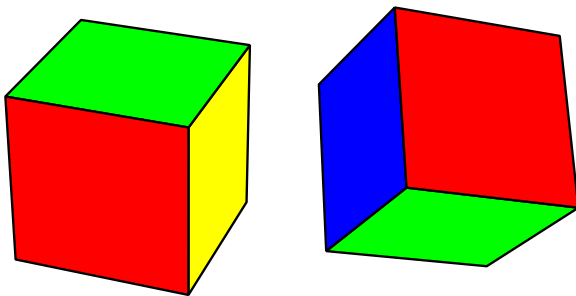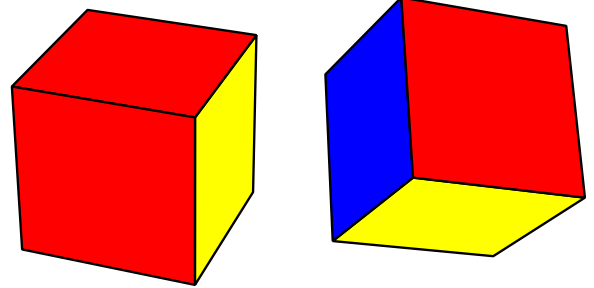
◆ The other shape is green.
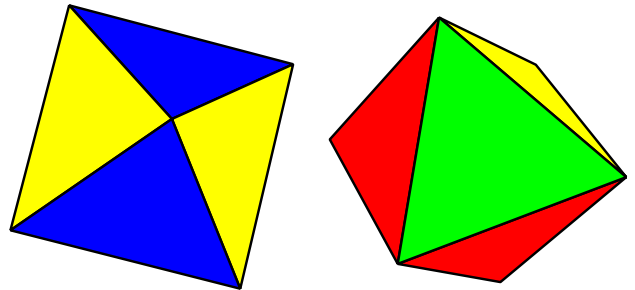
Set 2 - Two Views

- Each activity shows you two different views of the same solid. Use the clues to make each one.

- This cube is made from four red squares.

- This cube is made from two red squares, two green squares, one blue square and one yellow square.

- This octahedron is made from eight triangles.

- Two of them are blue, two are yellow, two are red and two are green.

- This solid is called a cuboctahedron. It has three red squares, three green squares, four yellow triangles and four blue triangles.