In Chinese, tangram 七巧板 means 'seven boards of skill'. It is a puzzle game in which seven flat shapes, called 'tans', are put together to form much more complicated shapes. The 'tans' are simple - two small triangles, one medium triangle, and two large triangles, a square, and a parallelogram, but they can be combined to produce many different 'figures'.

The aim of the game is to create different complicated 'figures' using your seven 'tan' shapes. At first you might try to make types of triangles, diamonds, and other symbols. Download and print out our tangram template, cut out the 'tan' pieces, and try to make up some 'figures'!
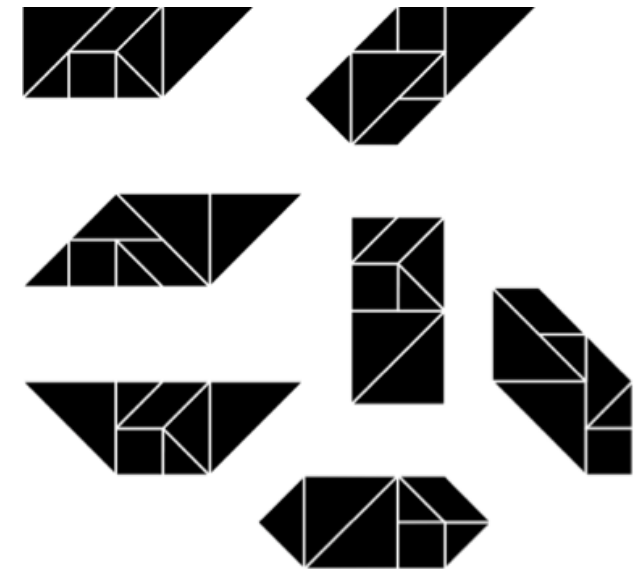
Once you have played around with your tangram set and you are comfortable with how the 'tans' can fit together in different ways, you can start producing what are called tangram paradoxes.

Tangram paradoxes happen when two or more very similar tangram 'figures' can be created using the exact same set of 'tans', but they end up looking bigger or smaller than each other. This gives the illusion that one tangram could fit inside the footprint of another, even though in fact they are the exact same size.

The best way to get your head around this idea is by trying to create some tangram paradoxes for yourself. An easy one to start off with is called the 'two monks paradox' It features two figures, one with - and one without - a foot. The monk with the foot seems bigger than his friend, but in fact they are the precisely the same.
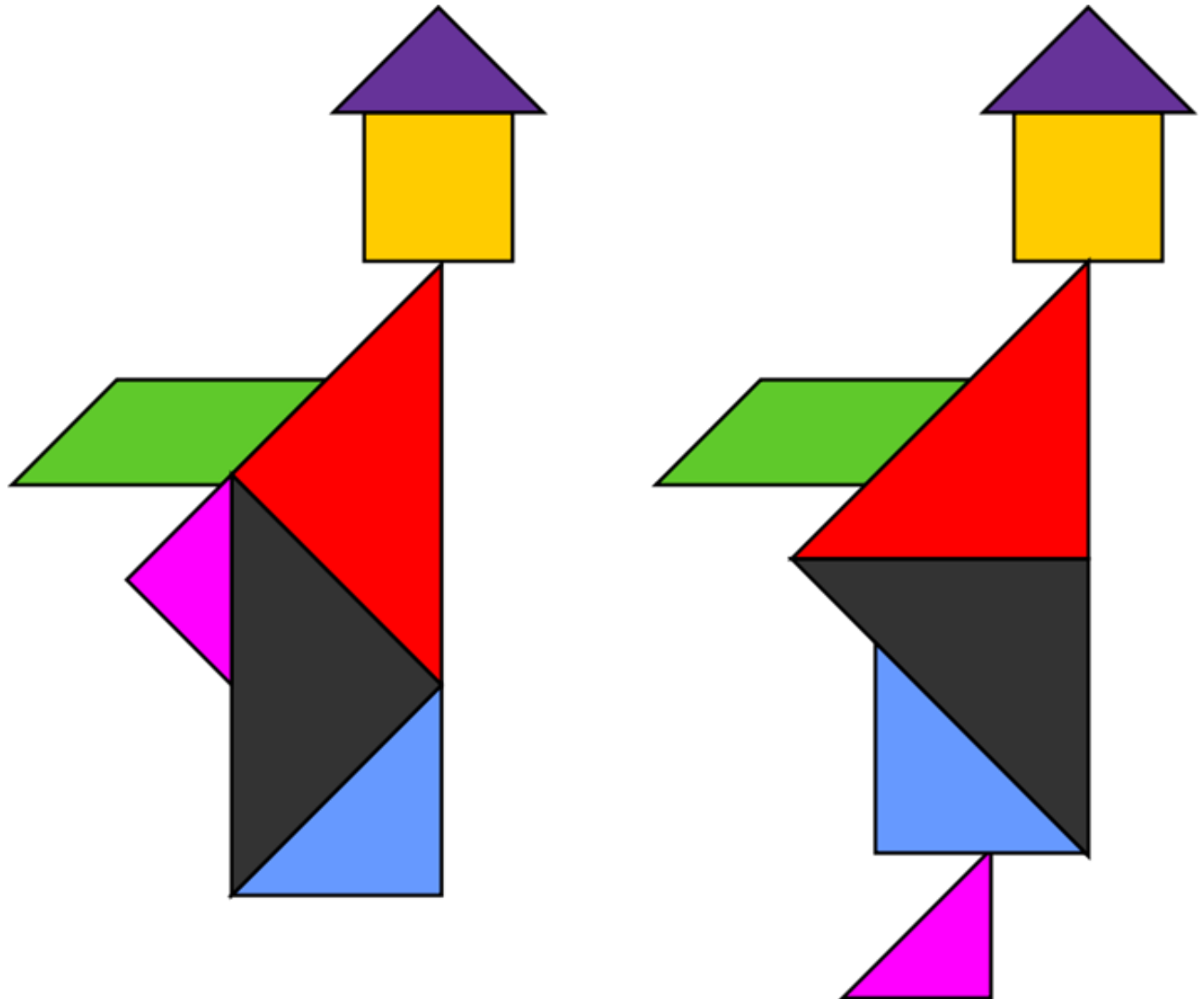
A more complicated paradox is called the 'magic dice cups paradox'. This shows three cups that all made of the same pieces and so are all exactly the same size. But one cup is full while the other two have empty spaces inside them - giving the illusion that the full cup 'figure' contains more 'tans' than the others, but really they have the exact same amount!
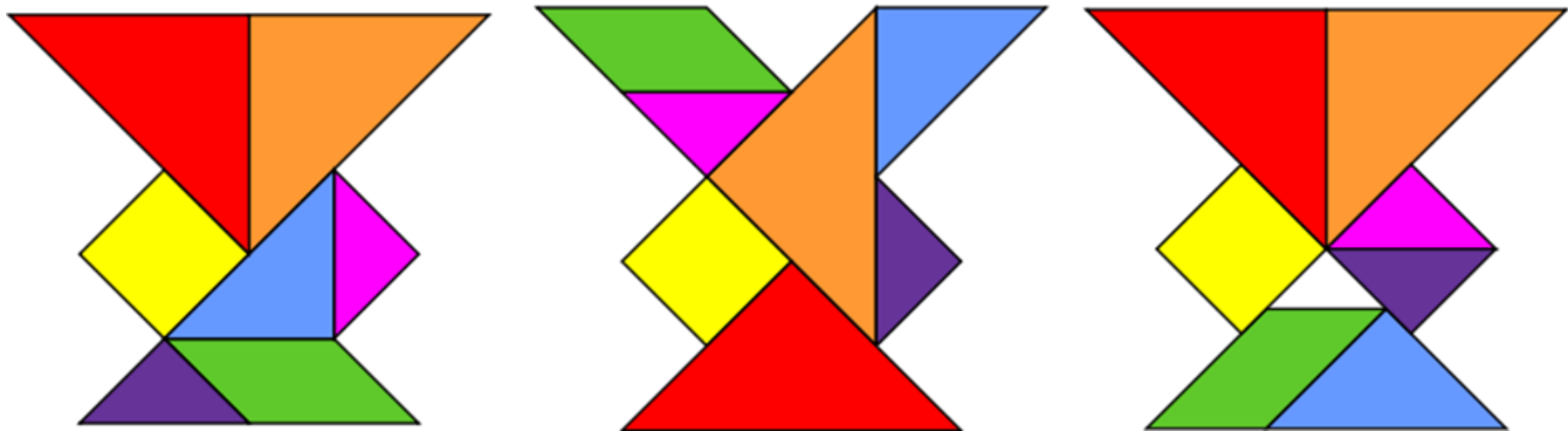
Try to create new tangram paradoxes for yourself - they can be very satisfying when you begin to understand how they work. There are hundreds of figures that can be made from the seven 'tan' shapes, and there are still paradoxes left to be discovered!