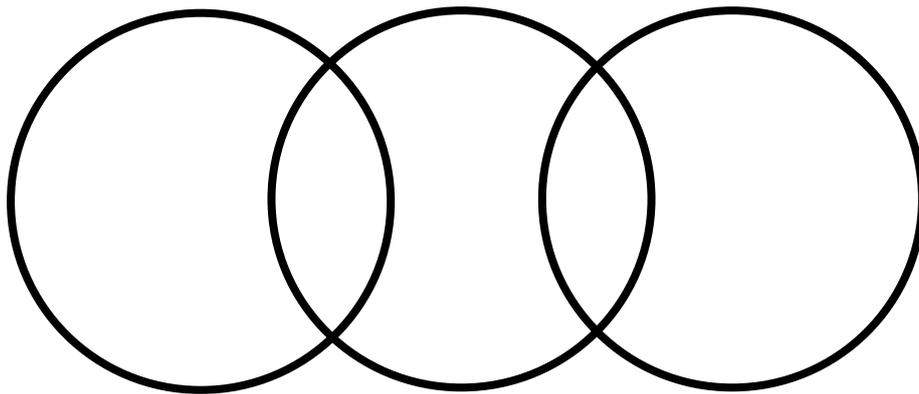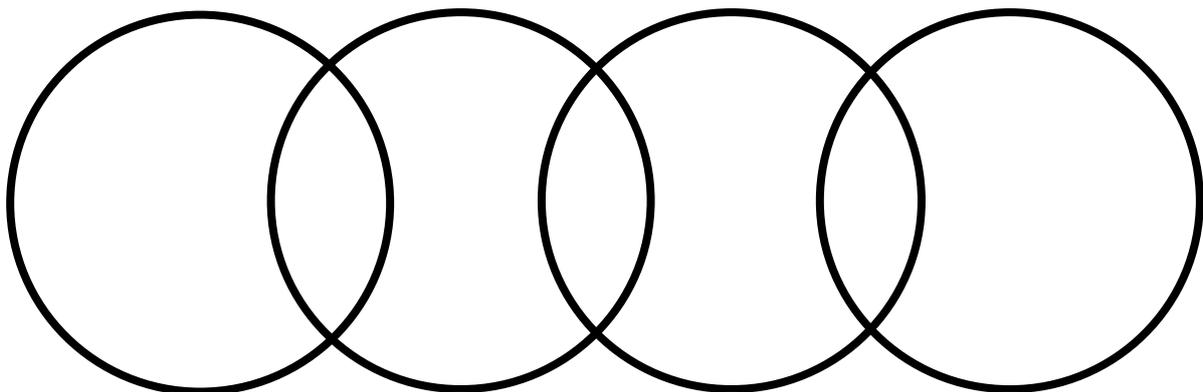# KS1 Problem

Joining Circles

Using the digits 1 to 5 once only, can you place them in the three circles so that the total in each circle is the same? Is there more than one solution?

1 2 3 4 5

Now use the digits 1 to 7 once only, can you place them in the four circles so that the total in each circle is the same? Is there more than one solution?

1 2 3 4 5 6 7

Challenge

What about if you had the digits 1 to 9 and five interlocking circles?

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KS1 Problem

Support for Parents and Carers

If you can, provide your child with the interlocking circles drawn out on a piece of paper and the numbers on additional pieces of paper so that they can move them around to try and find a solution.
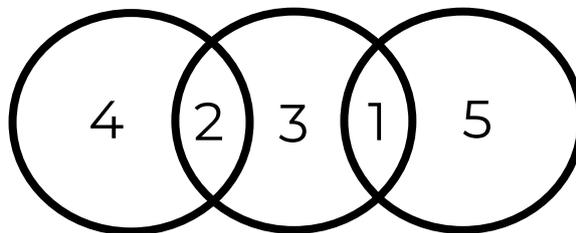
Encourage your child to use what we call a trial and improvement method to solve this problem. That means that if their first guess at placing the numbers isn't correct, they don't remove them all, they think about what needs to be changed and how, rather than starting from scratch each time. For example, if they have a 4 and a 1 in one circle and a 5 and a 2 in another circle, how could they change these so they have the same total? They might then adapt it to have a 5 and a 1 in one circle and a 4 and a 2 in the other circle. When your child has solved the problem, ask them how they did it.

Make sure your child uses all of the numbers once to solve the problem.
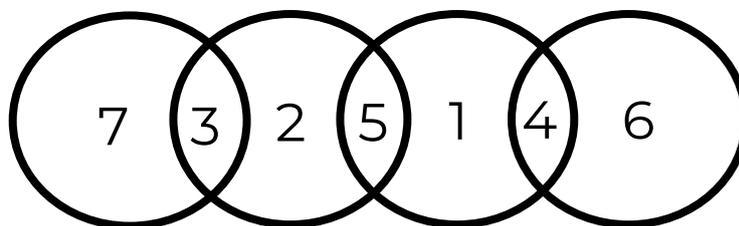
If they are struggling and need a clue, the total for each circle should be 6 in the three rings problem, 10 in the four rings problem and 11 in the five rings problem. This may help them work towards a target, but don't give the clue too early, struggle is a really important part of developing perseverance!

Solution

Three interlocking circles:

Four interlocking circles:

Four interlocking circles:

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