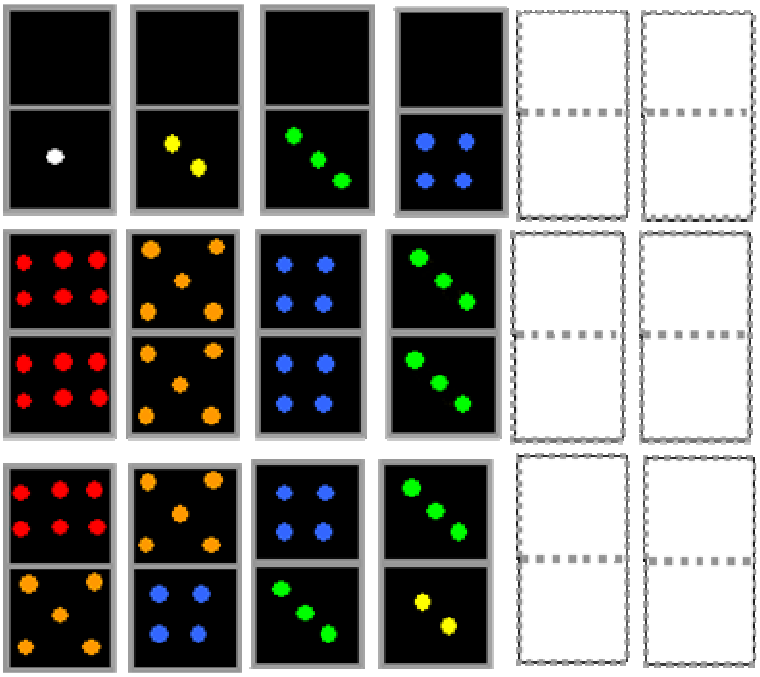
Next Domino

http://nrich.maths.org/168

Which comes next in each pattern of dominoes?



You Will Need:

- Standard pack of dominoes

Teachers' Notes

Why do this problem?

This problem is an appealing way for children to recognise, interpret, describe and extend number sequences. Developing their own patterns, as in the later part of the activity, provides an opportunity for them to justify their own thinking, and evaluate others' patterns.

Possible approach

The children should be familiar with dominoes through free-play and domino games before attempting more formal tasks such as pattern building.

It would be good to gather the group on the carpet using large floor dominoes for this activity, or alternatively use virtual dominoes on the interactive whiteboard which you can drag around the screen. Begin with single patterns as in the first example in the problem, keeping one end of the dominoes constant (as in all sixes, all blanks, all ones etc.). You may want to deliberately get the sequence wrong to challenge pupils to correct your mistake. Encourage them to explain why it is wrong and also why their correction is right.

Having two patterns running at the same time is quite a challenge for the very young, but you could pair them up and give a set of dominoes to each pair, asking them to find those which complete the sequence. Having a partner will enable them to talk about what they are doing, and will force them to justify their thinking to each other.

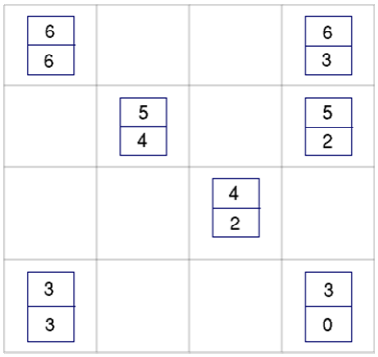
Another way to challenge the children is to locate the missing elements within the sequence, rather than just at the end. This could form the basis of a plenary activity.

Key questions

Look at the top of the dominoes. Can you say the numbers outloud? What comes next?
Can you say the numbers at the bottom of the domino? What comes next?

Possible extension

Encourage children to build and explain their own patterns. You may just be surprised by the complexity of their thinking! The examples given in the problem are clearly designed for quite young children who have basic counting skills, but more complex patterns can be devised to challenge more advanced children. For example, include addition or subtraction, odds and evens, patterns that build row-by-row, or grid patterns like this one:



Possible support

Many children will benefit from saying the numbers in the sequence out loud to reinforce the familiar counting patterns.

This activity is taken from the NRICH website and features on the Hands On Maths Roadshow: http://www.mmp.maths.org/roadshow. It also appears on the curriculum mapping document: http://nrich.maths.org/curriculum