

Dominoes

Learning objective

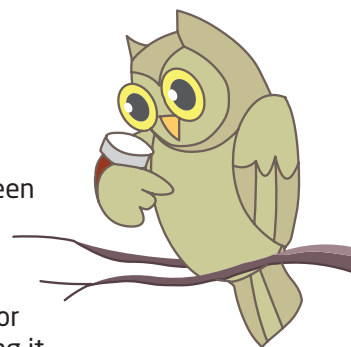
- **Using and applying:** Solve one-step and two-step problems involving numbers

Problem-solving strategy

Trial and improvement

Setting the scene

This is a group or paired activity. Eight dominoes have been used to make the pattern displayed at the top of the screen. The children must use the other eight dominoes to copy the pattern before the moon disappears. Click on a domino to select it, then either place it on the pattern or click on the 'rotate domino' button to turn it before placing it. The children should click on the 'I'm finished' button when the pattern is complete.



Solving the problem

Much of this problem will be solved by trial and improvement, with the children randomly placing dominoes in an attempt to match the patterns. Encourage them to look for patterns before placing the dominoes. There should always be some dominoes that can be placed quickly; as the children become more accustomed to pattern-making, the faster they will get. Encourage them to look for the dot patterns and to use one side of the domino as a starting point. For example, if a domino has 3 and 5 dots, players should look for dominoes with 5 dots in the shape. If it has a complementary '3 half', then it can be used to repeat the pattern in the new grid.

Key questions

Enquiring: Are there any dominoes that can be placed vertically? Which dominoes do you think will be easiest to place? Why?

Reasoning: Are you sure that you have placed the domino in the right place? How are you sure?

Communicating: Which dominoes will you need to rotate? Can you prove that you are correct? Do the patterns match?

Differentiation

Less confident: Support the children with actual sets of dominoes. Tell them to ignore the timer so that they can look for patterns without the pressure of having to complete the challenge in a set time.

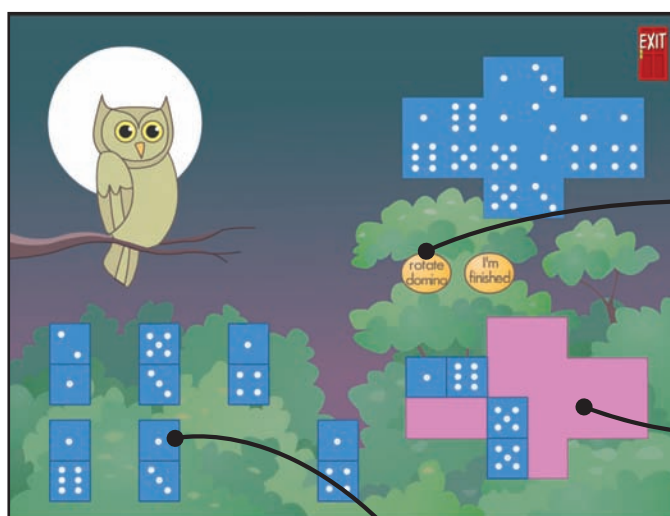
More confident: Challenge the children to complete the pattern in as short a time as possible. Encourage teams to compete against each other to see who can be the fastest!

Follow up

There are two similar puzzles on page 13. The children should cut out the dominoes and try to organise them so that they match the patterns.

Problems bank

Page 34



2. Click this button to rotate the domino if required.

3. Drop each domino into this space.

1. Click on a domino to drag or rotate it.