You will need: Four 1-6 dice, whiteboards and pens, counters or number lines to support calculation.

Before you start: -

Instructions:

- Take it in turns to roll the four dice.

- All children then try to use the numbers on the dice to make the answer 24.
  They can use any operation.

- Children can use some or all of the numbers.
  (for example, with 2, 3, 4, 1 you could make 24 using the 2, 3 and 4 dice only because 2 x 3 x 4 makes 24
   or you could use all dice because 2 x 3 x 4 x 1 = 24).

- After a few minutes, share the different ways you have found to make 24.

- Each child should explain how they made 24, describing each step clearly.
  For each example, ask everyone else if they agree.

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Questions

- What calculation have you thought of?
- How can you check that the answer is 24?
- What is the first step you did? What was the answer at that stage? What did you do next?
- How did you start to try to find 24? What numbers did you combine first? Why?
- What pairs of numbers multiply to give 24? How could this help? (These numbers are called factors of 24)
- If you cannot spot a way to make 24, how can you make a number close to it? Does this help?

The mathematics

This activity helps children to rehearse addition, subtraction and multiplication number facts. It also provides opportunities to explore the effect of combining operations.

In order to spot calculations with the required answer, children will need to develop insight into some of the properties of 24 and the numbers close to it, for example knowing and using the factors of 24.

Simplifications:

Set a lower target number, such as 12, 15 or 20.

Restrict the operations to addition/subtraction or to multiplication/division.

Before you play the game, talk through and jot down the factors of 24.

Challenges:

If appropriate, make the activity competitive by awarding a counter for each way that children find to make 24.

Change the target number to 27 or 32.