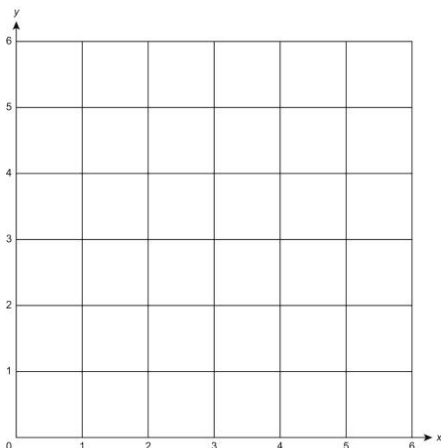# Position and direction

## HERE'S THE MATHS

Coordinates are a pair of numbers that give the exact position of the intersection (the point where lines cross) of two lines in a grid of squares. The mnemonic 'along the corridor and up the stairs' helps remember the correct order of coordinates.

## ACTIVITY



**You will need:**
- 1–6 dice
- pencil, paper and rubber

**What to do**
- Roll the dice twice to give a set of coordinates, e.g. rolling 3 and 4 gives (3, 4).
- Plot the point. Repeat twice to give the coordinates of a triangle.
- Score 20 points for an isosceles triangle, 10 points for a right-angled triangle and 5 points for a scalene triangle. A right-angled isosceles triangle scores 30. Rub out the triangle to reuse the grid.
- Take turns and play for 10 minutes. The winner has the higher score.
- Discuss whether it is possible to draw an equilateral triangle on a square grid.

**Variation**
- Plot 4 points and make up scores for different quadrilaterals.

## QUESTIONS TO ASK

Describe the line that joins the points (0, 0), (1, 1), (2, 2).

How can you remember the correct order to read and write coordinates?

If you move (2, 2) three squares right and two squares up, what are the new coordinates?

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# Addition and subtraction (money)

Your child is learning to understand decimals to two places, tenths and hundredths. Money is often expressed in this way, where the decimal part of the number represents the pence. We write £3·45 (not £3·45p) but we read it as 'three pounds forty-five pence' (not as a true decimal number which would be 'three point four five'). Money is always written to two decimal places, so 50p is written as £0·50 not £0·5.

## ACTIVITY

£ ☐ . ☐ ☐
+ £ ☐ . ☐ ☐
_____

**You will need:**
- 0–6 dice
- pencil and paper

**What to do**
- Draw a blank money calculation as above.
- The target is to get an answer as close as possible to £5·00.
- Your child should roll the dice six times, decide where to write each digit and then work out the calculation.
- Now it's your turn to do this. Whoever's answer is closest to £5·00 scores a point.
- Play for 10 minutes. The person with the higher score is the winner.

**Variations**
- Change the target amount.
- Subtract the amounts instead of adding them.

## QUESTIONS TO ASK

Explain the rule for rounding decimals with one decimal place.

What is 0·7 in hundredths?

Add one hundredth to 0·99.

What is $\frac{6}{10}$ as a decimal?

What is $\frac{63}{100}$ as a decimal?

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# Decimals

Your child is learning to recognise the decimal equivalents of simple fractions, including tenths and hundredths. They need to know that $\frac{1}{2}$ is 0·5, $\frac{1}{4}$ is 0·25, $\frac{3}{4}$ is 0·75, $\frac{1}{10}$ is 0·1 and 0·01 is $\frac{1}{100}$. Fluency with these facts leads to confidence with handling decimals.

## ACTIVITY

| 1 | ½ l | 0. 5☐ l | 0.4☐ l | 0. 5☐ l |
|---|---|---|---|---|
| 2 | ¼ l | 0.2 l | 0.2☐ l | 0.2☐ l |
| 3 | 1l | 1.1☐ l | 1.1☐ l | 1.1 l |
| 4 | ¾ l | 0.7☐ l | 0.7☐ l | 0.7☐ l |
| 5 | 0.4l | 0.4☐ l | 0.3☐ l | 0.3☐ l |
| 6 | 590ml | 0.6☐ l | 0.5☐ l | 0.6 l |

**What to do**
- Take turns to complete the gaps in the first line by rolling the dice.
- Order the decimals.
- Continue with the next line.
- Rub out the grid so that you can reuse it.

**You will need:**
- 1–6 dice
- pencil and rubber

**Variation**
- Use 1–9 cards to give a bigger range of decimals.

## QUESTIONS TO ASK

How is $\frac{1}{4}$, ( $\frac{1}{2}$, $\frac{3}{4}$, etc.) expressed as a decimal fraction?

What is $\frac{87}{100}$ as a decimal?

How many hundredths in 0·28?