

Priority Learning Target (Number Sense/Problem Solving): Anna will use more than one calculation strategy when solving both mental and written problems while developing a “have a go” attitude.



Dicey Addition (<https://nrich.maths.org/11863>)

Pupils play with a partner and a 0-9 dice or spinner. Each pupil draws an addition grid like this:

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} + \begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} = \square$$

They take turns to throw the dice. After each throw of the dice, they each decide which of your cells to put that number in. They throw the dice four times each until all the cells are full. Whoever has the sum closer to 100 wins. There are two possible scoring systems: A point for a win where the first person to reach 10 wins the game. Alternatively each player keeps a running total of their "penalty points", the difference between their result and 100 after each round. First to 500 loses. Teacher can vary the target to make it easier or more difficult.

Dicey Operations in Line (<https://nrich.maths.org/13261>)

Pupils play with a partner and a 1-6 dice, or preferably a 0-9 dice if possible. Alternatively spinners can be used to generate the numbers. Pupils take turns to throw the dice and decide which of their cells to fill. This can be done in two ways: either fill in each cell as you throw the dice, or collect all your numbers and then decide where to place them. Each pupil should draw an addition layout like this:

$$\begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \end{array} + \begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \end{array} + \begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \end{array} = \square$$

Pupils throw the dice nine times each until all the cells are full. Whoever has the sum closest to 1000 wins. There are two possible scoring systems: A point for a win. The first person to reach 10 wins the game. Each player keeps a running total of their "penalty points", the difference between their result and 1000 after each round. First to 5000 loses. You can vary the target to make it easier or more difficult. For a subtraction version of the game each pupil should draw a subtraction layout like this:

$$\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array} - \begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array} = \begin{array}{|c|c|c|c|c|} \hline & & & & \\ \hline \end{array}$$

Throw the dice eight times each until all the cells are full. Whoever has the difference closest to 1000 wins. There are two possible scoring systems: A point for a win. The first person to reach 10 wins the game. Each player keeps a running total of their "penalty points", the difference between their result and 1000 after each round. First to 5000 loses. You can vary the target to make it easier or more difficult, perhaps including negative numbers as your target.

Maze 100 [\(<https://nrich.maths.org/91>\)](https://nrich.maths.org/91)

In this maze there are numbers in each of the cells. Pupils go through the maze adding all the numbers that they pass. They may not go through any cell more than once. Teacher asks pupils *Can you find a way through in which the numbers add to exactly 100?*

What is the lowest number you can make going through the maze?

What is the highest number you can make going through the maze?



