Magical grid patterns

You will need: counters which can be little bricks, beads, pieces of dried pasta, or shells. You can use the counters to help you do the additions.

|  |  |  |
| --- | --- | --- |
| **0** | **1** | **2** |
| **3** | **4** | **5** |
| **6** | **7** | **8** |

**What to do**

* Study the grid.
* Circle the middle number.
* Double it – this means that you add it to itself.   
  4 + 4 = ?
* Now add the two opposite corner numbers – they are red.
* Add the other two opposite corner numbers which are blue.
* What do you notice about your three answers?
* Try this second grid.

|  |  |  |
| --- | --- | --- |
| **1** | **2** | **3** |
| **4** | **5** | **6** |
| **7** | **8** | **9** |

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

* Then write numbers in the third grid, starting with any number you like and writing the numbers in order along the rows.
* Does the magic always work?

**Challenge**

Draw your own grid and have a top row of 10, 20, 30 and a middle row of 40, 50, 60 and a bottom row of 70, 80, 80

Predict what the magic number will be when you double the middle and add the opposite corners.