

Times Tables and Powers

Have you ever looked at the last digits in the sequence when you multiply a number by itself, then by itself again and by itself again and so on?

No? Well I don't find that surprising, but we can have a look now.

Let's begin with the number **2**.

Obviously **2** ends with **(2)** so that's the first number in the sequence.

Multiply **2** by **2** to get **4** and that ends with **(4)** so that's the next number in the sequence.

Multiply **4** by **2** to get **8** and that ends with **(8)** so that's the next number in the sequence.

Multiply **8** by **2** to get **16** and that ends with **(6)** so that's the next one.

Multiply **16** by **2** to get **32** and that ends with **(2)** so that's the next one.

We have the sequence:

2, 4, 8, 6, 2 ...

Continue the next few numbers in the sequence and see what you get. What is the pattern?

Now try the pattern for multiplying by **3**.

Here are the first two numbers in the sequence:

3, 9 ...

What happens next?

Now try the same thing for all the numbers up to **9** and see what patterns you can see.