

# All the Digits

Age 7 to 11 ★★

This represents the multiplication of a 4-figure number by 3.

$$\begin{array}{r} \phantom{X} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{X} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{X} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \hline \phantom{X} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \end{array}$$

★ ★ ★ ★          3

X                                  3

★ ★ ★ ★ ★

The whole calculation uses each of the digits 0 – 9 once and once only.

The 4-figure number contains three consecutive numbers, which are not in order. The third digit is the sum of two of the consecutive numbers.

The first, third and fifth figures of the five-digit product are three consecutive numbers, again not in order. The second and fourth digits are also consecutive numbers.

Can you replace the stars in the calculation with figures?

## Helpful hints to get started:

Use counters or scraps of paper with the digits 0 – 9 written on them.

Make a list of 3 consecutive numbers 0 – 9 remembering that 3 has already been accounted for.

What could the ones digit of the product be if the multiplication is by 3?

Which consecutive numbers could be in the four-digit number?

Which other digit could appear in the four-digit number?