Discussion Problems
Step 5: Multiply 4 Digits by 2 Digits

National Curriculum Objectives:

Mathematics Year 5: (5C6a) Multiply and divide numbers mentally drawing upon known facts
Mathematics Year 5: (5C7a) Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

About this resource:

This resource has been designed for pupils who understand the concepts within this step. It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.
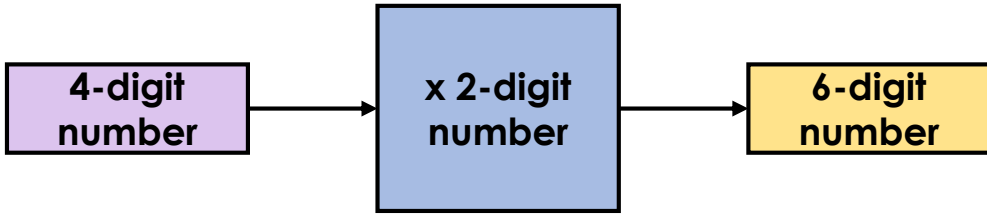
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More Year 5 Multiplication and Division resources.

Did you like this resource? Don't forget to review it on our website.

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Multiply 4 Digits by 2 Digits

1. Look at the function machine below.

| 4-digit number | → | x 2-digit number | → | 6-digit number |

Sahiba says,

> I know that 10 x 1,000 equals a 5-digit number but I also know that multiplying a 4-digit number by a 2-digit number can create an answer with 6 digits.

Explore the lowest possible answers that can be achieved where the function machine is correct.

DP

2. Use the digit cards below to create and solve multiplication calculations with your partner. You can choose any digit for the blank card.
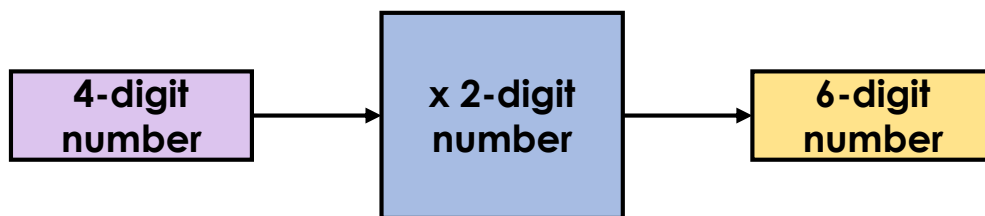
| 2 | 3 | 5 | 7 | 8 | |

How can you ensure your answer is always odd?

How does your method change to ensure your answer is always even?

DP

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Various answers, for example: 5,000 x 20 = 100,000; 9,091 x 11 = 100,001

DP

2. Use the digit cards below to create and solve multiplication calculations with your partner. You can choose any digit for the blank card.

2	3	5	7	8	

$$\begin{array}{c} \square\square\square\square \\ \times \quad \square\square \\ \hline \end{array}$$

How can you ensure your answer is always odd?

The answer will be odd if both numbers in the calculation are odd (2,357 x 81 = 190,917).

How does your method change to ensure your answer is always even?

The answer will be even if both numbers in the calculation are even (2,358 x 70 = 165,060), or if one number is odd and one is even (2,357 x 80 = 188,560).

DP