

Discussion Problems

Step 4: Multiply 2 Digits by 1 Digit 2

National Curriculum Objectives:

Mathematics Year 3: (3C6) [Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables](#)

Mathematics Year 3: (3C7) [Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods](#)

Mathematics Year 3: (3C8) [Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which \$n\$ objects are connected to \$m\$ objects](#)

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 3 Multiplication and Division](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Multiply 2 Digits by 1 Digit 2

1. The children's books have been stored away in boxes in the shed. None of the children can remember their boxes. Not all the boxes contain the children's books.

Investigate the different combinations of boxes that could belong to each child.



I stored the fewest boxes but had the greatest number of books.



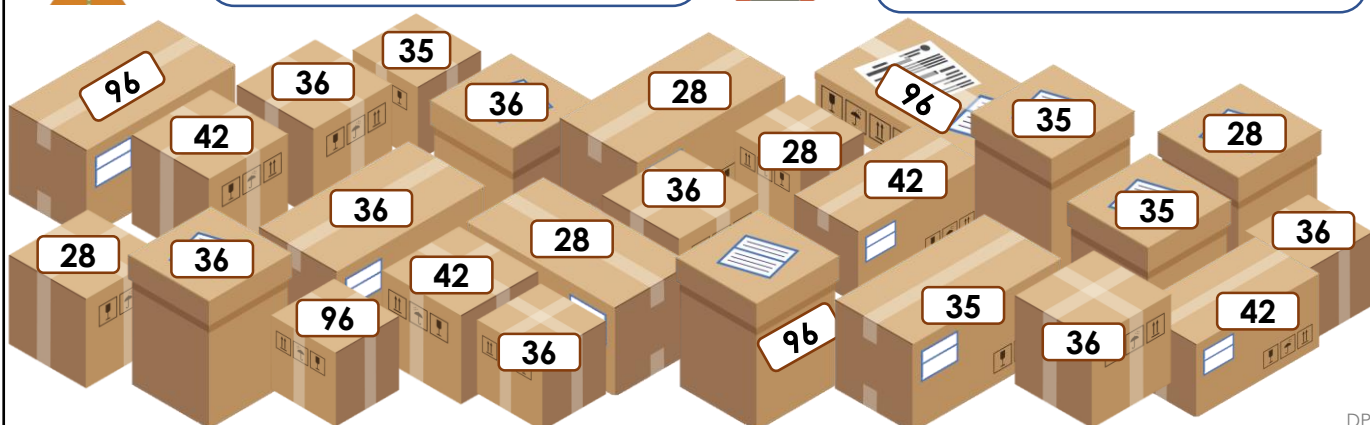
The digit sum of my total number of books was between 15 and 18.



My total number of books was an even number between 140 and 280 books.



I had 140 books altogether.



2. Work your way through the game, using a dice, to collect bamboo sticks, acorns and pine cones. Use the clues to turn these into 2 digits by 1 digit multiplication calculations.

Play the game as many times as you need until you collect enough parts to make at least four calculations.

START

 roll again				
			 roll again	

FINISH

RULES:

- = single-digit number
- = tens
- = ones

Combine pine cones and acorns to make your two-digit number.

Multiply 2 Digits by 1 Digit 2

1. The children's books have been stored away in boxes in the shed. None of the children can remember their boxes. Not all the boxes contain the children's books. Investigate the different combinations of boxes that could belong to each child.

Various answers, for example:



3 boxes of 96 books = 288



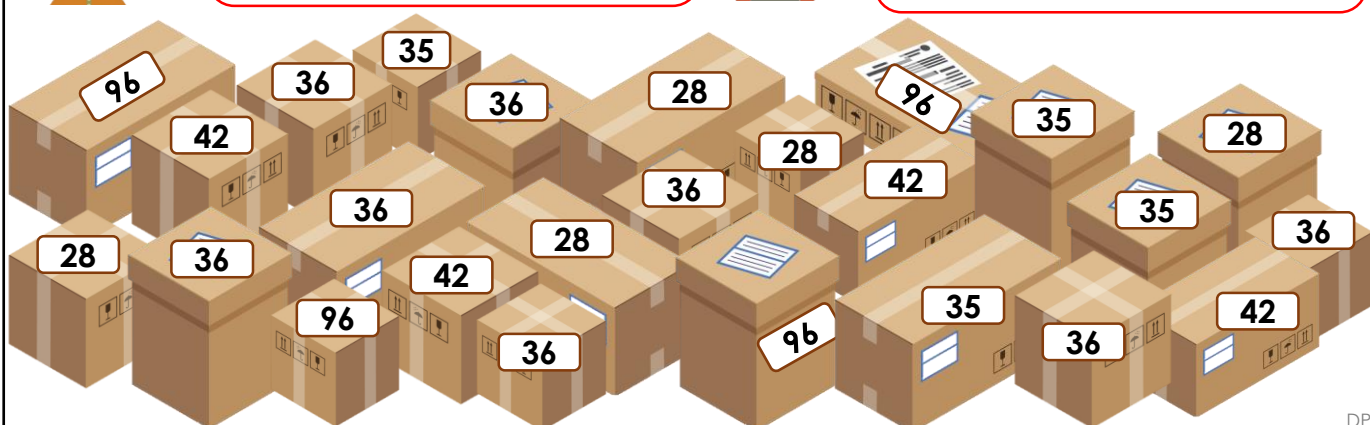
8 boxes of 36 books = 288



4 boxes of 42 books = 168



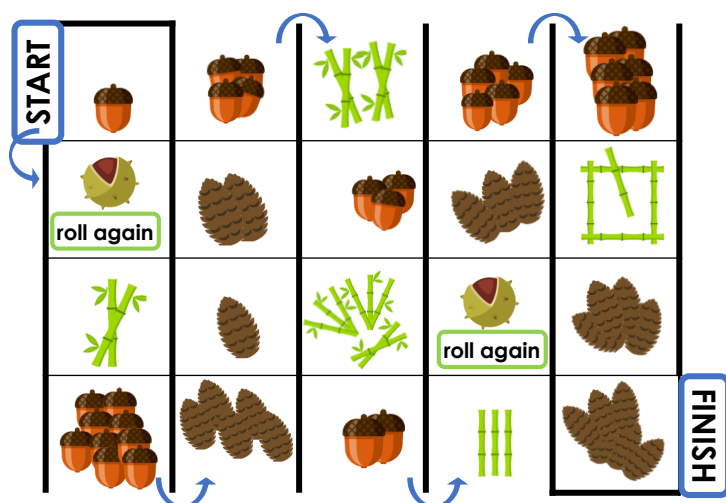
5 boxes of 28 books = 140



DP

2. Work your way through the game, using a dice, to collect bamboo sticks, acorns and pine cones. Use the clues to turn these into 2 digits by 1 digit multiplication calculations.

Play the game as many times as you need until you collect enough parts to make at least four calculations.



RULES:

 = single-digit number

 = tens

 = ones

Combine pine cones and acorns to make your two-digit number.

There are over 200 possible calculations that could be generated during this game, all of which will be 2 digits by 1 digit calculations. For example: If I roll a 5, a 3 and a 3, I will generate 5 tens, 4 ones and 8 as the single-digit number: 54×8 as my first calculation.

DP