Discussion Problems
Step 7: Numbers to a Million

National Curriculum Objectives:

Mathematics Year 5: (5N2) Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
Mathematics Year 5: (5N6) Solve number problems and practical problems that involve (5N1) (5N2) (5N4) (5N5)

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.

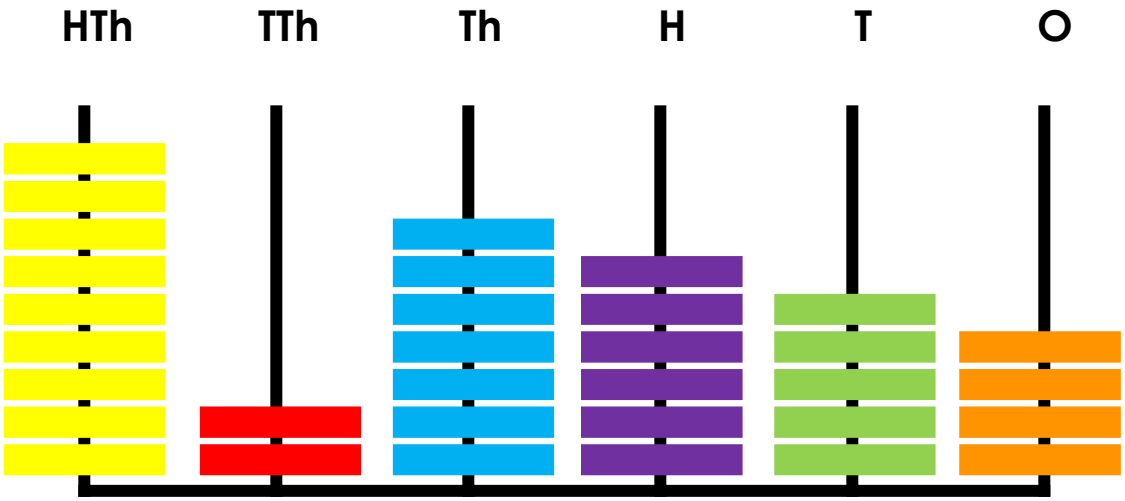
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More Year 5 Place Value resources.

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

Numbers to a Million

1. Emma has an abacus with counters representing a 6-digit number. If she can only move two counters at a time, work out which moves she could make to reach three hundred and ninety-six thousand, seven hundred and eight (396,708).



Record all the numbers she makes before reaching her target.

DP

2. Tom made three 6-digit numbers using the digit cards below, but his cat left muddy pawprints over his numbers and now he can't remember what they were!

He does know that his first number was between 300,000 and 500,000 and was a multiple of 5.

His second number was an even number that was greater than the first number but less than the third number.

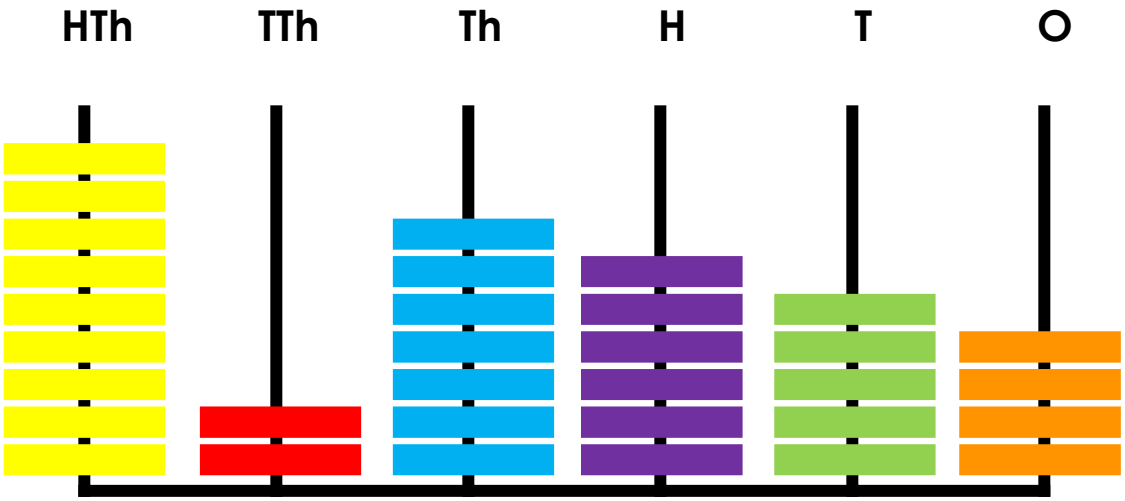
His third number was the largest number. The last two digits showed a square number.

What different combinations could there be?

DP

Numbers to a Million

1. Emma has an abacus with counters representing a 6-digit number. If she can only move two counters at a time, work out which moves she could make to reach three hundred and ninety-six thousand, seven hundred and eight (396,708).



Record all the numbers she makes before reaching her target.

Various answers, for example:
927,654; 747,654; 567,654; 387,654; 396,744; 396,726; 396,708 (6 moves)

DP

2. Tom made three 6-digit numbers using the digit cards below, but his cat left muddy pawprints over his numbers and now he can't remember what they were!

He does know that his first number was between 300,000 and 500,000 and was a multiple of 5.

His second number was an even number that was greater than the first number but less than the third number.

His third number was the largest number. The last two digits showed a square number.

What different combinations could there be?
Various answers, for example:
Number 1: 427,635
Number 2: 500,162
Number 3: 823,416

DP