Discussion Problems
Step 8: Counting in Powers of 10

National Curriculum Objectives:

Mathematics Year 5: (5N1) Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000
Mathematics Year 5: (5N5) Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
Mathematics Year 5: (5N6) Solve number problems and practical problems that involve 5N1 - 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.

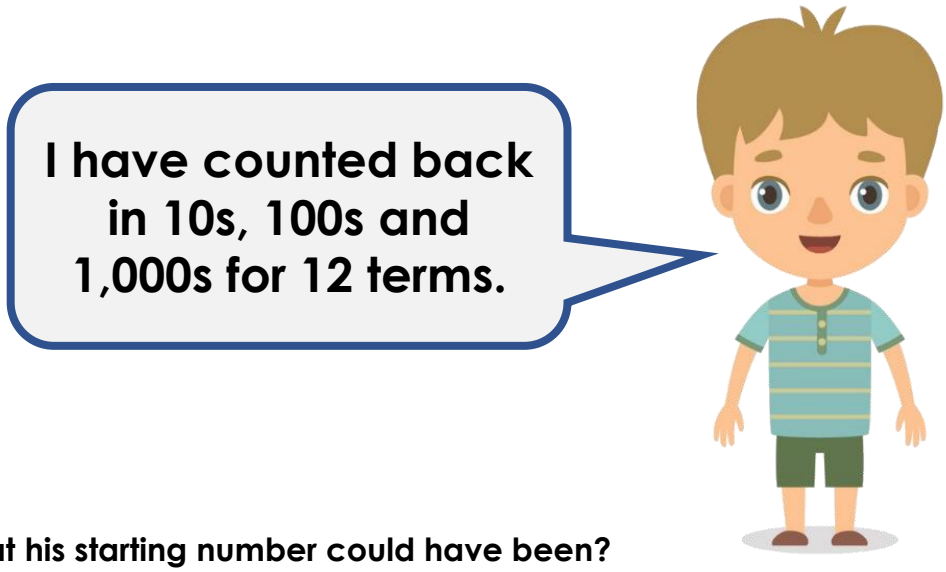
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More Year 5 Place Value resources.

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

Counting in Powers of 10

1. Billy has counted to the number 367,985.



Explore what his starting number could have been?

DP

2. Use the digit cards below to create a five-digit number.

2	4	5	6	9

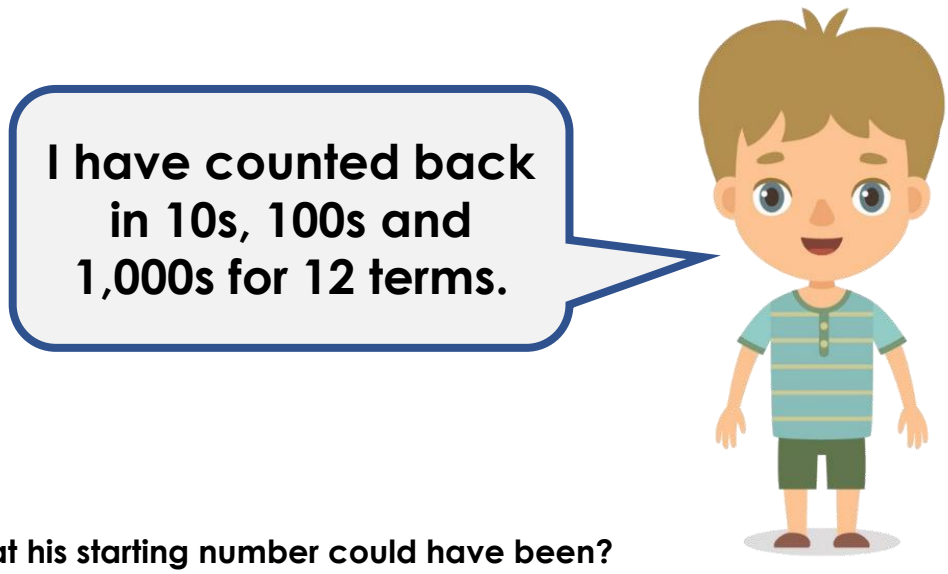
Counting forwards or backwards in 10s, 100s or 1,000s, investigate the closest you can get to 50,000 in the fewest terms.

Try setting a new target for a friend.

DP

Counting in Powers of 10

1. Billy has counted to the number 367,985.



Explore what his starting number could have been?

Pupils need to add on 12 amounts to Billy's number.
Various answers, for example: 367,985 + 10 + 100 + 100 + 1,000 + 100 + 10 + 100 + 1,000 + 100 + 100 + 1,000 + 10 = 371,615

DP

2. Use the digit cards below to create a five-digit number.

2	4	5	6	9

Counting forwards or backwards in 10s, 100s or 1,000s, investigate the closest you can get to 50,000 in the fewest terms.
Various answers, for example: 9 terms. 49,652 + 100 + 100 + 100 + 10 + 10 + 10 + 10 + 10 + 10 = 50,012

Try setting a new target for a friend.

DP