

Discussion Problems

Step 9: Compare and Order to a Million

National Curriculum Objectives:

Mathematics Year 5: (5N2) [Read, write, order and compare numbers to at least 1,000,000](#)

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.

Compare and Order to a Million

1. Three children have each created a 6-digit number and ordered them from smallest to greatest.



Mia

478,961



Avril

643,817



Joseph

957,204

Rules:

- You can only use the digits you already have.
- You can only swap two numbers at a time.
- You cannot make the same number twice
- You must be in a different position each time.

Find three possible combinations.

DP

2. Scientists are researching the number of insects in a forest. Use the clues and the digit cards to work out how many of each type of insect there could be.

Explore the possible solutions and order them from greatest to smallest.

Insects	Total Clues (all are 6-digit numbers)
 Woodlouse	There are more woodlice than beetles. The last two digits show a prime number.
 Ant	This is the largest number and is a multiple of 10.
 Beetle	When rounded to the nearest 10,000, this number rounds to 200,000.
 Greenfly	This number is more than 300,000. The first and last digits are both multiples of three.
 Housefly	This is the second smallest amount. It is an odd number.



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- You can only use the digits you already have.
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Find three possible combinations.

Various answers, for example: Avril = 143,867; Joseph = 597,204; Mia = 874,961

DP

2. Scientists are researching the number of insects in a forest. Use the clues and the digit cards to work out how many of each type of insect there could be.

Explore the possible solutions and order them from greatest to smallest.

Various answers, for example:

Insects	Total Clues (all are 6-digit numbers)
 Woodlouse	There are more woodlice than beetles. The last two digits show a prime number. 372,019 (2nd)
 Ant	This is the largest number and is a multiple of 10. 721,390 (1st)
 Beetle	When rounded to the nearest 10,000, this number rounds to 200,000. 197,023 (5th)
 Greenfly	This number is more than 300,000. The first and last digits are both multiples of three. 312,079 (3rd)
 Housefly	This is the second smallest amount. It is an odd number. 209,371 (4th)



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