

Discussion Problems

Step 6: Round within 100,000

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: (5N4) [Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000](#)

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.

Round within 100,000

1. Millie is trying to solve this puzzle by using rounding.

Investigate the numbers Millie could use to solve the puzzle.



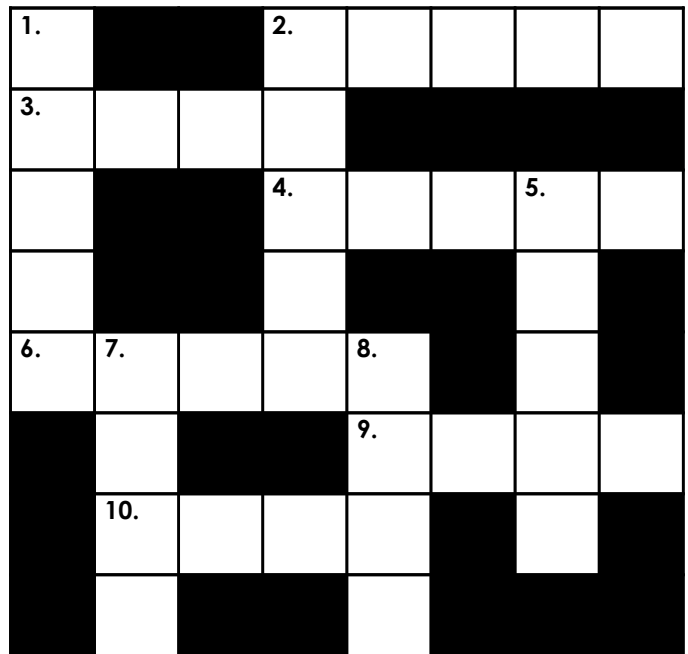
Clues:

Down

- 1. To the nearest 10,000, this number is 80,000
- 2. To the nearest 1,000, this number is 24,000
- 5. To the nearest 10, this number is 68,990
- 7. To the nearest 100, this number is 9,200
- 8. To the nearest 100, this number is 6,600

Across

- 2. To the nearest 10,000, this number is 30,000
- 3. To the nearest 1,000, this number is 8,000
- 4. To the nearest 100, this number is 55,700
- 6. To the nearest 10,000, this number is 90,000
- 9. To the nearest 100, this number is 5,100
- 10. To the nearest 100, this number is 9,500



DP

2. Bill is playing a game using rounding. The aim of the game is to make three different 5-digit numbers and place them on the grid to make three in a row. There are rules for each square on the grid.

Bill can only use these digits in his numbers:



Explore the numbers Bill could use.

To the nearest 1,000 the rounded number is less than 40,000	When rounded to the nearest 100, the number has exactly three zeros	When rounded to the nearest 1,000 there are 2 digits greater than 5
To the nearest 10,000 the number rounds to 80,000	When rounded to the nearest 100, the total of the digits is 13	When rounded to the nearest 1,000, the number has all even digits
When rounded to the nearest 1,000, the number is between 41,000 and 45,000	When rounded to the nearest 100, the number has 2 thousands	After being rounded to the nearest 10, all digits in the number are less than 7



DP

Round within 100,000

1. Millie is trying to solve this puzzle by using rounding.

Investigate the numbers Millie could use to solve the puzzle.

Various answers, for example: (See grid)



Clues:

Down

- 1. To the nearest 10,000, this number is 80,000
- 2. To the nearest 1,000, this number is 24,000
- 5. To the nearest 10, this number is 68,990
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- 2. To the nearest 10,000, this number is 30,000
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- 10. To the nearest 100, this number is 9,500

1. 7				2. 2	6	8	1	5
3. 7	5	1	3					
3				4. 5	5	6	5. 6	3
4				9			8	
6. 8	7. 9	3	4	8. 6			9	
	1				9. 5	0	9	3
	10. 9	5	1	7			3	
	3			3				



DP

2. Bill is playing a game using rounding. The aim of the game is to make three different 5-digit numbers and place them on the grid to make three in a row. There are rules for each square on the grid.

Bill can only use these digits in his numbers:



Explore the numbers Bill could use.

Various answers, for example: (See grid)

To the nearest 1,000 the rounded number is less than 40,000 29,460	When rounded to the nearest 100, the number has exactly three zeros 24,960	When rounded to the nearest 1,000 there are 2 digits greater than 5 69,402
To the nearest 10,000 the number rounds to 80,000 94,260	When rounded to the nearest 100, the total of the digits is 13 62,490	When rounded to the nearest 1,000, the number has all even digits 64,209
When rounded to the nearest 1,000, the number is between 41,000 and 45,000 42,609	When rounded to the nearest 100, the number has 2 thousands 62,409	After being rounded to the nearest 10, all digits in the number are less than 7 24,609



DP