

# Place Value Rounding Maths Mastery Challenge Cards

## Place Value Rounding Maths Mastery Challenge Cards

1. Pavel and Nikita challenge each other to round numbers to the nearest thousand. Each writes a number (up to 7 digits) on a small whiteboard (hidden).

One reads the number to the other, who must round it to the nearest 1000. If the answer is correct, it is their turn to write a number.

If the answer is incorrect, then the writer of the number gets a point. They play to 10 points and then find another partner.

Play the game yourself with a partner. If one player is finding it difficult, show the number for a few seconds.

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2. George and Nikita challenge each other to round numbers to the nearest thousand. Each writes a number (up to 5 digits) on a small whiteboard (hidden).

One reads the number to the other, who must round it to the nearest 100. If the answer is correct, it is their turn to write a number.

If the answer is incorrect, then the writer of the number gets a point. They play to 10 points and then find another partner.

Play the game yourself with a partner. If one player is finding it difficult, show the number for a few seconds.

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3. Pavel writes four numbers.

For each of these numbers, write five numbers that can be rounded to it when rounded to the nearest 500.

2000

3500

32 000

56 500

Explain the range of answers for 100 000.

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4. Nikita writes down ten numbers. She asks, "Which numbers, when rounded to the nearest ten thousand, are rounded to 120 000."

119 672

126 629

125 501

123 002

119 503

125 919

112 499

129 499

117 501

112 120

Explain the range of answers to a partner.

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5. George writes down ten numbers. He asks, "Which numbers, when rounded to the nearest hundred thousand, are rounded to 600 000."

501 338

504 299

550 289

570 258

592 022

601 458

645 313

651 432

654 410

671 455

Explain the range of answers to a partner.

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6. Pavel writes an explanation, with examples, of how to round any number to the nearest half a million.

Write your own explanation and compare with a partner.

Can you improve your answer using your partner's ideas?

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7. Nikita writes two 7-digit numbers.

She adds the numbers together and rounds the answer to the nearest 1 000 000.

Now round the original numbers and add together.

Do you get the same answer? Try it again with different numbers. What do you find?

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8. Pavel writes two 5-digit numbers.

He finds the difference and rounds the answer to the nearest 10 000.

Now round the original numbers and find the difference.

Do you get the same answer? Try it again with different numbers. What do you find?

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9. George writes. The range of numbers that when rounded to the nearest 500, are rounded to 1500 is between 1250 and 1749.

Explain why George is correct.

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10. Nikita says, "I have £25 in my piggy bank."

She has rounded the money in her piggy bank. To what would you consider it reasonable to round the money in her piggy bank, and using your answer, how much money might she have in her piggy bank?

Discuss your ideas with a partner.

## Place Value Rounding Maths Mastery Challenge Cards Answers

1. Answers vary.
2. Answers vary.
3. Between 1750 and 2249, between 3250 and 3749, between 31 750 and 32 249, between 56 250 and 56 249.
4. 119 672, 123 002, 119 503, 117 501, 112 120.
5. 550 289, 570 258, 592 022, 601 458, 645 313.
6. Every number is between two half millions. We round to the nearest 500 000. By convention, the half way point goes up, so 750 000 rounds to 1 000 000.
7. Roughly half the answers will be the same; the rest will differ by 1 000 000. This is where both numbers are rounded up or both down by more than 50 000. e.g.  $2\,225\,000 + 3\,405\,000 = 5\,630\,000$  rounds to 6 000 000  
 $2\,000\,000 + 3\,000\,000 = 5\,000\,000$ .
8. Roughly half the answers will be the same and the rest will differ by 10 000. If both numbers are rounded up or both are rounded down, the answer will be the same. Where the larger is rounded up and the smaller is rounded down, the answer when calculated with the exact number will be 10 000 more, and vice versa.
9. 500 below 1500 is 1000. Half way between 1000 and 1500 is 1250, so 1250 is the smallest number that would be rounded to 1500. 300 more than 1500 is 2000. Half way between 1500 and 2000 is 1750. By convention 1750 would be rounded up to 2000, so the largest number rounded to 1500 would be 1749.
10. Answer will vary. Possible answers:  
Round to nearest £1 - £24.50 - £25.49.  
Round to nearest £5 - £22.50 - £27.49