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Round Numbers to the Nearest 10 000 and 100 000

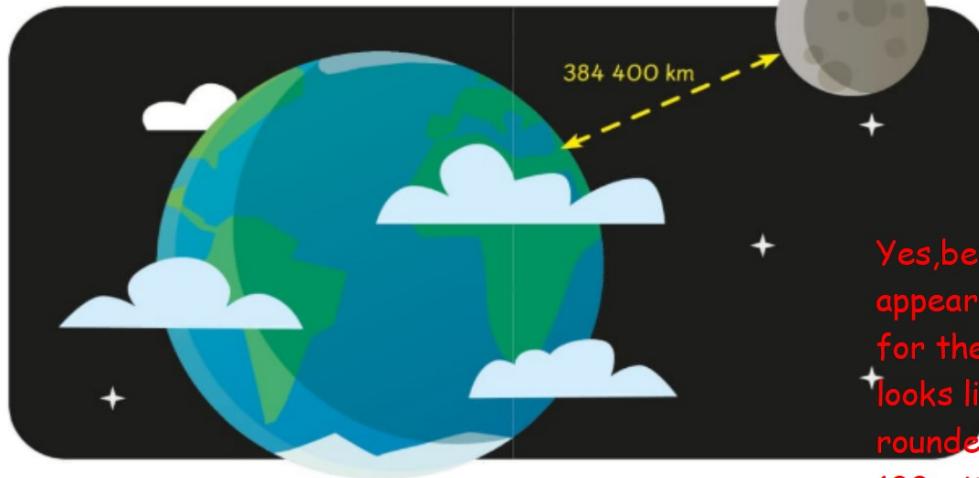
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What You Will Learn:

- Round numbers to the nearest 10 000 and 100 000.

Look Back

The moon is 384 400 km away from the Earth.



Caz thinks the distance is rounded to the nearest 100 km.
Is she correct? How do you know?

Yes, because it does not appear to have the digits for the 10s and 1s so it looks like it has been rounded to the nearest 100 with zeros as place holders.

384 400

Read the number.

384 thousands 4 hundred

What numbers would round to 384 400?

The number is 384 400 when rounded to the nearest 100
explains that there are no smaller place value digits.
So the number could be any number from 384 350 to 384
449.

Which 10 000s is 384 400 between?

380 000 and 390 000

What do you think it is when rounded to the nearest 10 000?

380 000

Which 100 000s is it between?

300 000 and 400 000

What do you think it is when rounded to the nearest 100 000?

400 000

look at the digit in the 10 000 place

384 400 400 000


5 or more raise the score

Thinking Cap



How will the distance change if it is rounded to the nearest 10 000 km or 100 000 km? Make a guess about what all numbers rounded to the nearest 10 000 or 100 000 will look like.



18

The actual distance does not change by being rounded.

A number when rounded to the nearest 10 000 or 100 000 becomes less precise when compared to it when rounded to the nearest 10, 100 or 1000 because when we round a number to the nearest 10 000 or 100 000, more digits of the smaller place values are replaced with zeros as compared to when it is rounded to the nearest 10, 100 or 1000.

Which 10 000s is 384 400 between?

380 000 and 390 000.

What does it round to for the nearest 10 000?

380 000

Which 100 000s is 384 400 between?

300 000 and 400 000.

What does it round to for the nearest 100 000?

400 000

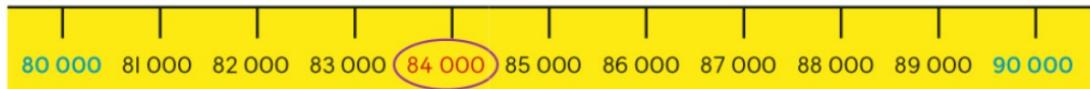
To round a number to the nearest 10 000, look at the digit in the thousands place.

- If the digit is less than 5, we round down.
- If the digit is 5 or more, we round up.

Let's Learn



a What is 84 000 when rounded to the nearest 10 000?



84 000 is between 80 000 and 90 000.

84 000 is nearer to 80 000 than it is to 90 000.

When rounded to the nearest 10 000,

84 000 is 80 000.

To round to the nearest 10 000, look at the digit in the thousands place.

- If it is less than 5, we round down.
- If it is 5 or more, we round up.

How many thousands are there in 84 000? **4 thousands**

How many ten thousands are there? **8 ten thousands**

Which 10 000s is it between?

How can we tell which it is nearest to?

84 000 is between 80 000 and 90 000. It is nearer to 80 000.

84 000 is nearer to which 10 000s.

look at the digit in the 1000s place

84 000 is nearer to 80 000.

84 000
U

4 or less let it rest

To round a number to the nearest 100 000, look at the digit in the ten thousands place.

- If the digit is less than 5, we round down.
- If the digit is 5 or more, we round up.

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look at the digit in the 10 000 place

b Round 350 000 and 380 000 to the nearest 100 000.



350 000 is exactly between 300 000 and 400 000.

380 000 is between 300 000 and 400 000. It is nearer to 400 000 than it is to 300 000.

350 000 rounded to the nearest 100 000 is 400 000.

380 000 rounded to the nearest 100 000 is 400 000.

To round to the nearest 100 000, look at the digit in the ten thousands place. When the digit is 5 or more, we round up.

Round 350 000 and 380 000 to the nearest 100 000.

Both are between 300 000 and 400 000.

Both are 400 000 when rounded to the nearest 100 000.

How many ten thousands are there 350 000? **5 ten thousands**

How many hundred thousands are there? **3 hundred thousands**

Which 100 000s is it between? How can we tell which it is nearest to?

350 000 is between 300 000 and 400 000.

It is halfway between 300 000 and 400 000.

Note:

If a number is halfway, then we round up to the next hundred thousand.

Numbers less than halfway are nearer to the hundred thousand that is less.

So for numbers that are 10 000 or over, round up to the next 100 000.

Let's Practise

1 Fill in the blanks.

a 340 345 is between 340 000 and 350 000.

340 345 is 340 000 when rounded to the nearest 10 000.

b 340 345 is 300 000 when rounded to the nearest 100 000.

What is the same for all numbers rounded to the nearest 10 000 and 100 000?

2



288 174 is 280 000 when rounded to the nearest 10 000.

Encourage your partner to be confident in improving their explanations.



Is Ron correct? Explain how you know.

No, he is incorrect. It should be 290 000.



3 Maya comes up with a number puzzle.

None of my digits are the same.

When rounded to the nearest 100 000, you will get 5 900 000.

When rounded to the nearest 10 000, you will 5 940 000.

The hundreds digit rounds down to 600.

What could the number be? List three possible answers. Think of a number and make up another puzzle.

Challenge a partner to solve your puzzle. Improve the puzzle to make it more challenging.

Using the number 5 937 601 to make this puzzle:

The number must have 5 940 000. The hundreds digit become 6 when rounded to the nearest 100.

The number does not have the digits 5 and 9 in the 10s or 1s place.).