

Grade 5 · Place Value and Powers of 10 · Quiz

Common Core 5.NBT.A.1, 5.NBT.A.2 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

Ten multiple-choice questions check place-value relationships and powers of 10 (5.NBT.A.1 and 5.NBT.A.2). Choose one answer for each question, then read the explanation to see the digit shift behind it.

Grade 5 Common Core: 5.NBT.A.1 · 5.NBT.A.2

Questions

Question 1

In the number 5,500, how does the value of the 5 in the thousands place compare with the 5 in the hundreds place?

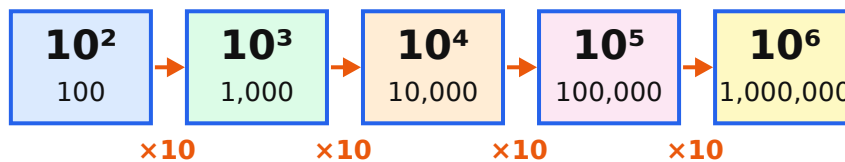
Thousands	Hundreds	Tens	Ones
5	5	0	0

The number 5,500.

- A. 100 times as much
- B. 10 times as much
- C. 5 times as much
- D. $\frac{1}{10}$ as much

Question 2

Use the figure. What is the value of 10^5 ?



Powers of 10.

- A. 50
- B. 10,000
- C. 1,000,000
- D. 100,000

Question 3

Which power of 10 equals $10 \times 10 \times 10 \times 10 \times 10$?

- A. 10^{50}
- B. 5^{10}
- C. 10^5
- D. 10^4

Question 4

What is 3.07×10^2 ?

- A. 307
- B. 30.7
- C. 3,070
- D. 300.07

Question 5

What is $64 \div 10^3$?

- A. 0.064
- B. 0.64
- C. 0.0064
- D. 6.4

Question 6

Which exponent makes $0.8 \times 10^? = 800$ true?

- A. 2
- B. 4
- C. 3
- D. 800

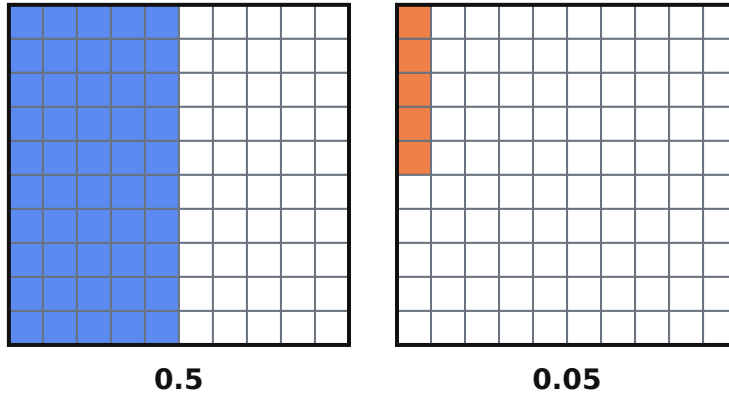
Question 7

The 3 in 3,000 is 10 times the value of a 3 in which number?

- A. 30,000
- B. 300
- C. 30
- D. 0.3

Question 8

The grids show 0.5 and 0.05. How many times as much is 0.5 as 0.05?



Two grids.

- A. 5
- B. 10
- C. 100
- D. $\frac{1}{10}$

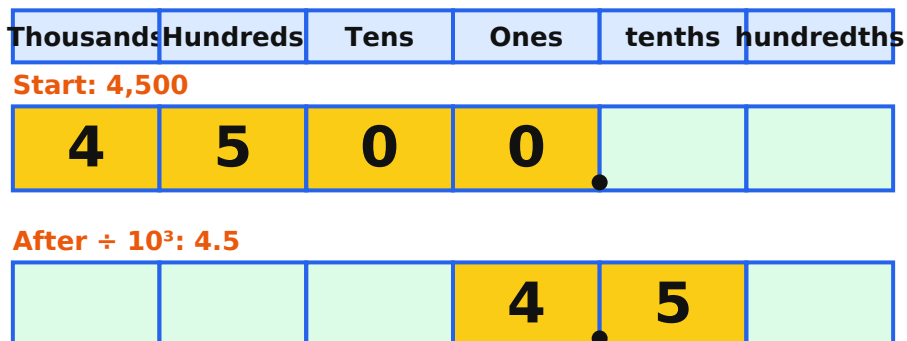
Question 9

A farmers market sells peaches for \$0.68 each. How much do 10^3 peaches cost?

- B. ,800
- C. .68
- D. 0

Question 10

Maya divides 4,500 by 10^3 . What is the quotient?



The digits of 4,500 move three places right.

- A. 45
- B. 0.45
- C. 4,500,000
- D. 4.5

Answer key

1. **B** – 5,000 is 10 times 500. Moving one place left multiplies by 10; saying $1/10$ reverses the direction.
2. **D** – 10 to the 5th has five factors of 10, so it is 100,000. The exponent is not multiplied by 10.
3. **C** – Five factors of 10 give an exponent of 5. Count the factors, not the zeros of the base.
4. **A** – Each digit moves two places left: 3.07 becomes 307. Moving only one place gives 30.7.
5. **A** – Dividing by 1,000 moves the digits three places right: 64 becomes 0.064.
6. **C** – 0.8 moves three places left to become 800, so the exponent is 3.
7. **B** – A 3 in the hundreds place is one tenth of a 3 in the thousands place, so the other number is 300.
8. **B** – Fifty squares is ten groups of five squares, so 0.5 is 10 times 0.05.
9. **D** – $0.68 \times 1,000 = 680$. Moving only two places gives , which is the cost of 100 peaches.
10. **D** – Three places right turns 4,500 into 4.5. Dividing by only 10^2 gives 45.

Remember:

- Each place is 10 times the place to its right and $1/10$ of the place to its left.
- 10^n means n factors of 10, and it has n zeros: $10^3 = 1,000$.
- Multiplying by 10^n moves every digit n places to the left.
- Dividing by 10^n moves every digit n places to the right.
- Use zeros to hold empty places after moving digits.