Digits and Place Value Worksheet

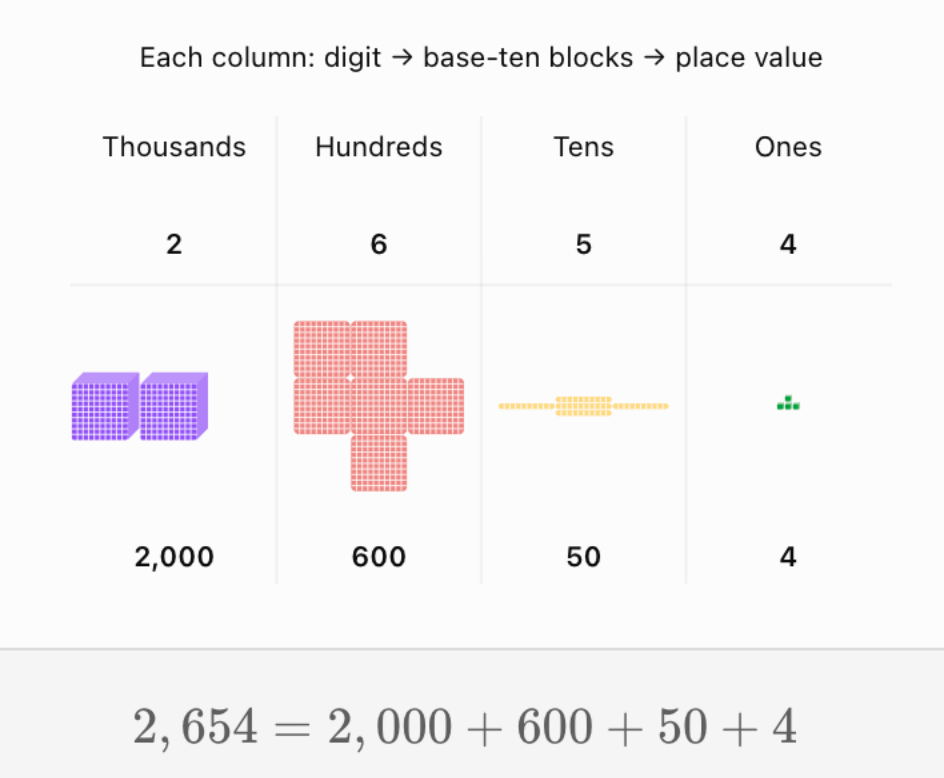
Name: _____ **Date:** _____

Understanding Place Value

Our number system is a **base-ten system**. Moving one place to the left makes the value **10 times greater**. Moving one place to the right makes the value **10 times smaller**.

For example, in **5,555**:

- the first 5 represents 5,000
- the second 5 represents 500
- the third 5 represents 50
- the final 5 represents 5



1. Complete the statements.

a) 10 ones = _____ ten

b) 10 tens = _____ hundred

c) 10 hundreds = _____ thousand

d) 10 thousands = _____ hundred thousand

e) 10 hundred thousands = _____ million

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2. What happens to the value of a digit when it moves one place to the left?

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3. What happens to the value of a digit when it moves one place to the right?

What Is the Value of the Digit?

Write the **value** of the bold digit.

4. 4,**7**25 = _____

5. **6**,341 = _____

6. 83,**5**19 = _____

7. 2**4**7,801 = _____

8. **9**,425,163 = _____

9. 6,**3**18,425 = _____

10. 47,82**6**,391 = _____

11. 5,430,21**8** = _____

Name the Place

Write the place occupied by the indicated digit.

12. What place does the **7** occupy in 3,**7**42?

13. What place does the **8** occupy in **8**4,205?

14. What place does the **6** occupy in 4,**6**25,781?

15. What place does the **9** occupy in **9**,721,405?

16. What place does the **3** occupy in 58,4**3**2,761?

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Expanded Form

Write each number in expanded form.

Example:

4,382 = 4,000 + 300 + 80 + 2

17. 5,427

18. 38,615

19. 407,293

20. 2,563,418

21. 7,040,205

Now write each expanded number in standard form.

22. 60,000 + 4,000 + 300 + 20 + 8 = _____

23. 500,000 + 20,000 + 7,000 + 600 + 4 = _____

24. 8,000,000 + 300,000 + 40,000 + 2,000 + 70 + 5 = _____

Reading and Writing Numbers

Write each number in words.

25. 4,326

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26. 72,508

---

27. 604,219

---

28. 3,450,721

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Write each number in standard numerical form.

29. Twenty-three thousand, six hundred forty-two

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30. Four hundred eight thousand, two hundred fifteen

---

31. Seven million, three hundred twenty thousand, forty-six

Periods

Large numbers are separated into groups of three digits called **periods**.

For example:

427,315,682

can be separated as:

427 | 315 | 682

Millions | Thousands | Ones

32. Complete the table for 8,426,315.

Period	Digits
Millions	_____
Thousands	_____
Ones	_____

33. Complete the table for 372,805,416.

Period	Digits
Millions	_____
Thousands	_____
Ones	_____

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34. Which period contains the digit 8 in 54,821,367?

A. Ones
B. Thousands
C. Millions
D. Billions

35. Which period contains the digit 7 in 7,436,218?

Build the Number

36. Write the number that has:

- 5 in the millions place
- 2 in the hundred thousands place
- 8 in the ten thousands place
- 3 in the thousands place
- 6 in the hundreds place
- 4 in the tens place
- 1 in the ones place

Number: _____

37. Write the number that has:

- 7 millions
- 4 hundred thousands
- 0 ten thousands
- 9 thousands
- 2 hundreds
- 5 tens
- 8 ones

Number: _____

38. Use the digits 2, 4, 5, 6, 7, and 9 exactly once to make the greatest possible six-digit number.

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39. Use the same digits to make the smallest possible six-digit number.

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Compare Large Numbers

Write >, <, or =.

40. 456,782 _____ 456,728

41. 3,405,218 _____ 3,450,218

42. 807,291 _____ 807,291

43. 6,250,400 _____ 6,205,400

44. 999,999 _____ 1,000,000

45. Explain how place value helped you answer Question 44.

Reasoning with Place Value

46. Consider the number: **4,572,361**

What is the value of the digit 5?

What is the value of the digit 7?

How many times greater is the value of the 5 than it would be if it moved one place to the right?

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47. Consider the number:

6,666,666

Complete the table.

Digit	Place	Value
First 6	Millions	
Second 6		
Third 6		
Fourth 6		
Fifth 6		
Sixth 6		
Seventh 6	Ones	

What pattern do you notice?

Challenge

48. I am a seven-digit number.

- My millions digit is 3.
- My hundred thousands digit is twice my millions digit.
- My ten thousands digit is 2 less than my hundred thousands digit.
- My thousands digit is 0.
- My hundreds digit is 5.
- My tens digit is 1 more than my hundreds digit.
- My ones digit is 2.

What number am I?

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49. A number contains the digit **7** with a value of **700,000**.

Which place must the 7 occupy?

Explain how you know.

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50. The digit 4 has a value of 40,000 in one number and a value of 4,000,000 in another number.

How many times greater is 4,000,000 than 40,000?

Explain using place value.

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51. A student writes: **5,306,042 = 5,000,000 + 300,000 + 6,000 + 400 + 20 + 2**

Is the student's expanded form correct? **Yes / No**

If not, identify the error and write the correct expanded form.

Extension — Create Your Own

Choose any **seven-digit number**.

My number: _____

Write it in words:

Write it in expanded form:

Identify the value of three different digits:

Digit: _____ Value: _____

Digit: _____ Value: _____

Digit: _____ Value: _____

Separate your number into its periods:

Millions: _____

Thousands: _____

Ones: _____

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