



5

Common Core State Standards

Standard:
5.NBT.2

Grade 5

**Made for teachers,
by teachers.**

**Worksheets and Activities
that teach every standard!**

Common Core State Standards

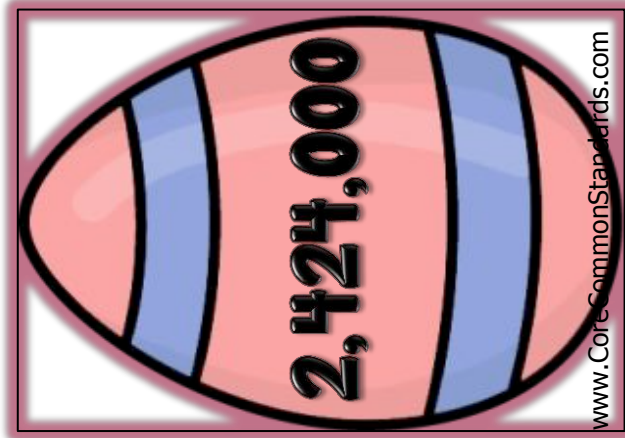
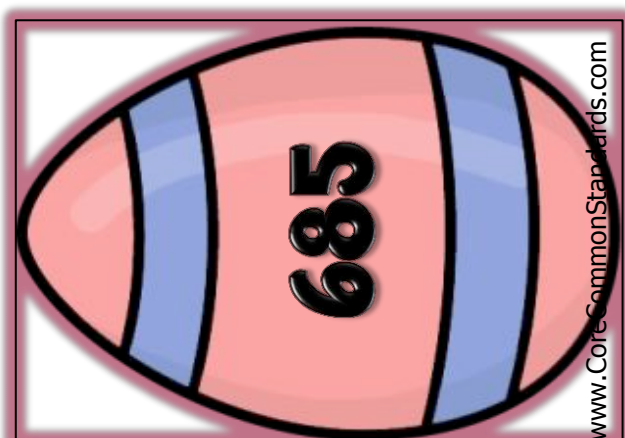
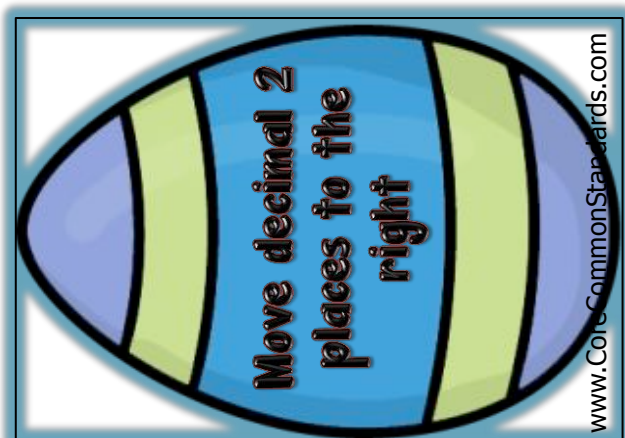
Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

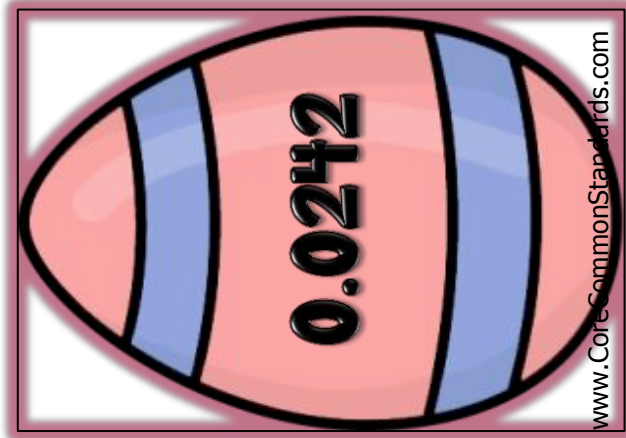
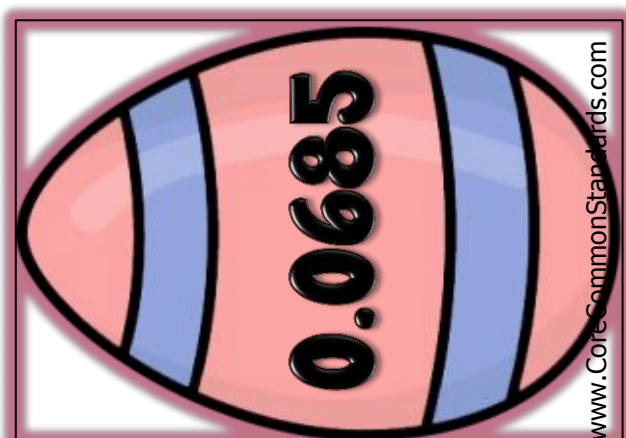
Dancing Decimals

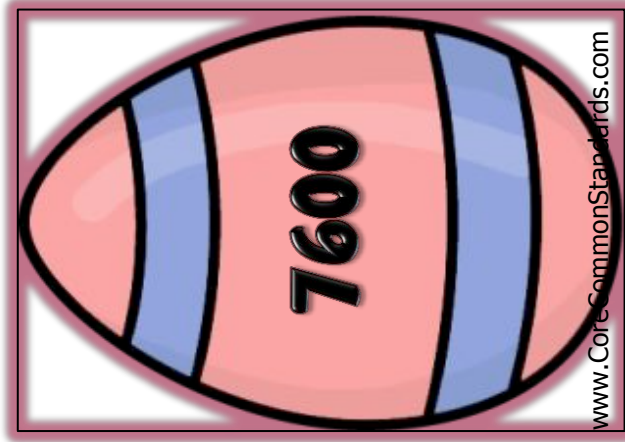
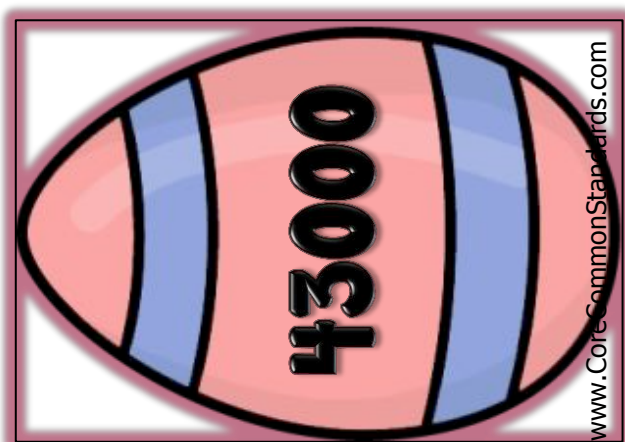
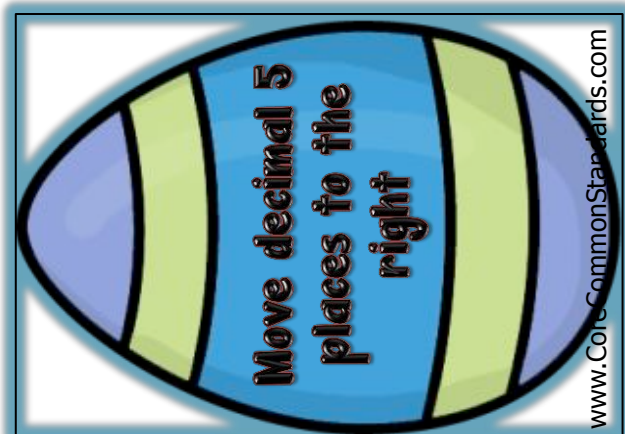
Directions:

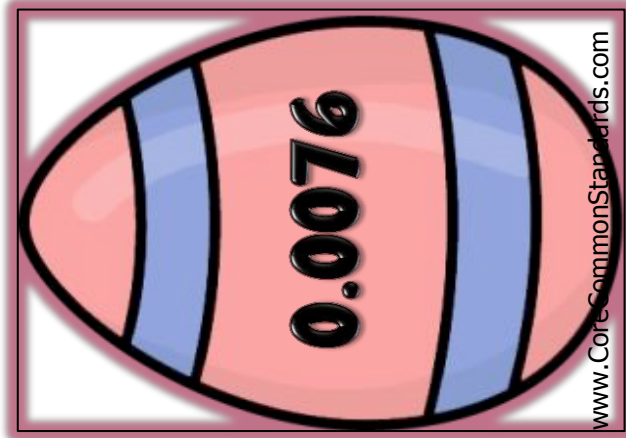
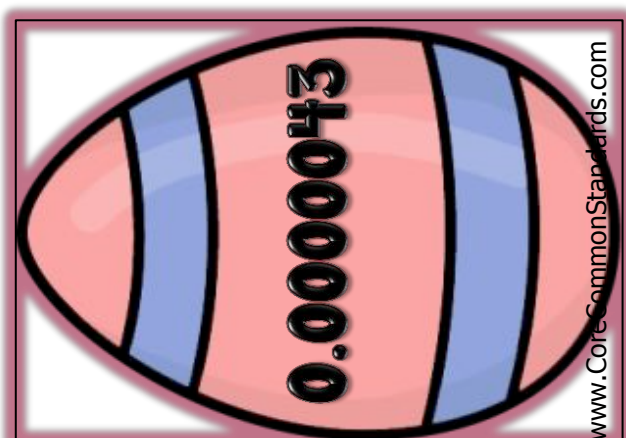
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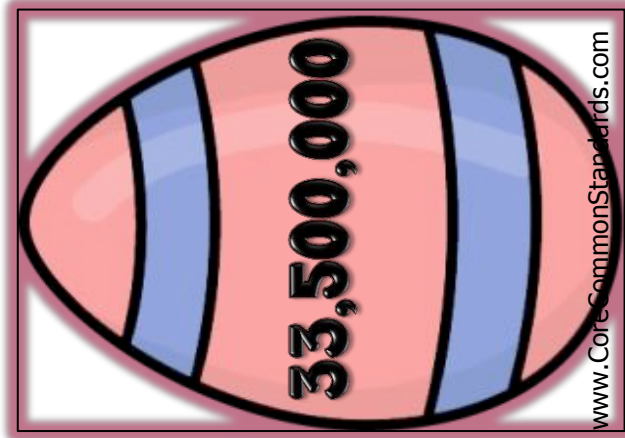
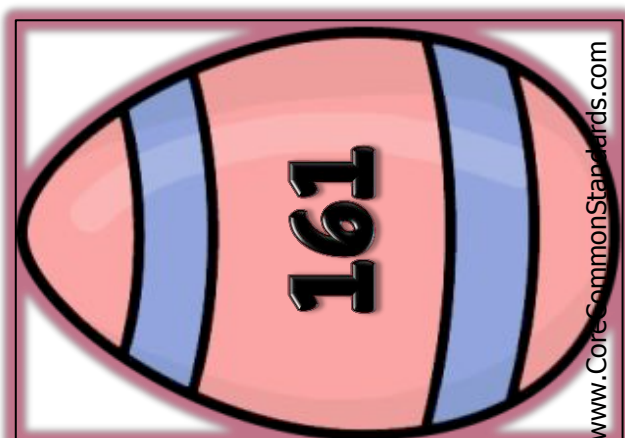
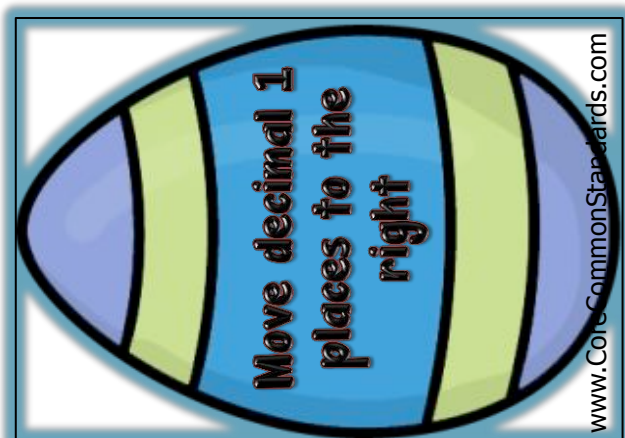
Match the number sentences cards to the how the decimal point will move and the answer. Then, continue your practice by examining how the cards were matched together and patterns you noticed.

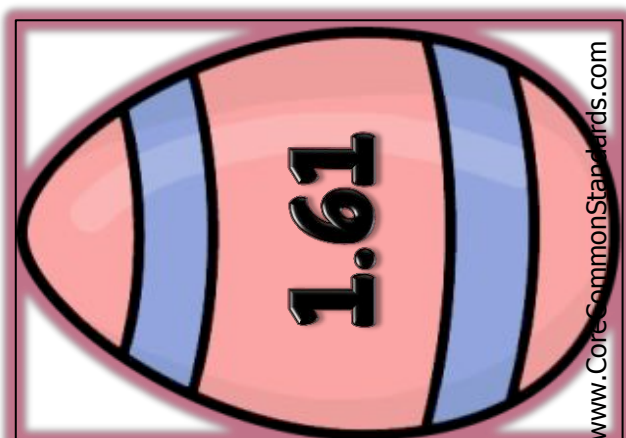












What do you notice?

What did you notice about how the decimal moved when the exponent was negative?

What did you notice about how the decimal moved when the exponent was positive?

If the decimal moves right, does the number get bigger or smaller? By how much?

If the decimal moves left, does the number get bigger or smaller? By how much?

What do you notice? **answers**

What did you notice about how the decimal moved when the exponent was negative?

The decimal moves to the left.

What did you notice about how the decimal moved when the exponent was positive?

The decimal moves to the right.

If the decimal moves right, does the number get bigger or smaller? By how much?

The number gets bigger. The number gets 10 times bigger each time the decimal moves right.

If the decimal moves left, does the number get bigger or smaller? By how much?

The number gets smaller. The number gets 10 times smaller each time the decimal moves left.

Patterns and Zeros

Directions: Solve the multiplication and division examples below. Do you notice a pattern?

$26 \times 10 = \underline{\quad}$ $26 \div 10 = \underline{\quad}$ $.26 \times 10 = \underline{\quad}$

$26 \times 100 = \underline{\quad}$ $26 \div 100 = \underline{\quad}$ $.26 \times 100 = \underline{\quad}$

$26 \times 1000 = \underline{\quad}$ $26 \div 1000 = \underline{\quad}$ $.26 \times 1000 = \underline{\quad}$

Explain any patterns you see.

Solve:

$.36 \times 100 = \underline{\quad}$ $3.0 \times 100 = \underline{\quad}$ $3.02 \times 100 = \underline{\quad}$

$.25 \times 10 = \underline{\quad}$ $13 \times 10 = \underline{\quad}$ $.91 \times 10 = \underline{\quad}$

$5 \times 1000 = \underline{\quad}$ $.78 \times 1000 = \underline{\quad}$ $6.281 \times 1000 = \underline{\quad}$

$1.36 \times 100 = \underline{\quad}$ $3.01 \times 100 = \underline{\quad}$ $83 \times 1000 = \underline{\quad}$

$.06 \times 10 = \underline{\quad}$ $.034 \times 10 = \underline{\quad}$ $.009 \times 100 = \underline{\quad}$

$54 \times 100 = \underline{\quad}$ $.129 \times 1000 = \underline{\quad}$ $.7 \times 1000 = \underline{\quad}$

Dividing and Multiplying by 10, 100, and 1,000

Directions: Solve the division and multiplication examples below.

$$\begin{array}{r} 0.92 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2.45 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times .93 \\ \hline \end{array}$$

$$\begin{array}{r} 1000 \\ \times 3.93 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times 8.5 \\ \hline \end{array}$$

$$\begin{array}{r} 7.92 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 89.3 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times 77 \\ \hline \end{array}$$

$$\begin{array}{r} 23.098 \\ \times 1000 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times .55 \\ \hline \end{array}$$

1. $54.78 \times ? = 547.8$

a. 10 b. 100 c. 1,000

2. $137.01 \times ? = 13701.$

a. 10 b. 100 c. 1,000

3. $.87 \times ? = 87$

a. 10 b. 100 c. 1,000

4. $7.318 \times ? = 7,318$

a. 10 b. 100 c. 1,000

5. $0.4416 \times ? = 44.16$

a. 10 b. 100 c. 1,000

6. $.0781 \times ? = 7.81$

a. 10 b. 100 c. 1,000

$23.7 \div \underline{\hspace{1cm}} = 0.237$	$3.43 \div \underline{\hspace{1cm}} = 0.0343$	$719.2 \div \underline{\hspace{1cm}} = 7.192$
$0.54 \div 10 = \underline{\hspace{1cm}}$	$80.2 \div 10 = \underline{\hspace{1cm}}$	$682.1 \div 1,000 = \underline{\hspace{1cm}}$
$45.9 \div \underline{\hspace{1cm}} = .459$	$120.98 \div \underline{\hspace{1cm}} = 1.2098$	$23.67 \div \underline{\hspace{1cm}} = 2.367$
$33.4 \div 1,000 = \underline{\hspace{1cm}}$	$0.79 \div 100 = \underline{\hspace{1cm}}$	$176.8 \div 100 = \underline{\hspace{1cm}}$

Name: _____

Date: _____

Directions: Solve the multiplication and division problems. Think about place value and the power of ten in each.

Assessment

1. $3 \times 8,000 =$ _____

6. $17 \times 60 =$ _____

2. $90 \div 9 =$ _____

7. $10^3 \times .24 =$ _____

3. $1000 \times .273 =$ _____

8. $6 \times 10,000 =$ _____

4. $68.2 \times 100 =$ _____

9. $1,000 \times .234 =$ _____

5. $456 \div 100 =$ _____

10. $16 \times 10^5 =$ _____

Directions: Solve the multiplication and division examples below. Do you notice a pattern?

11. $33 \times 10 =$

$33 \div 10 =$

$.33 \times 10 =$

12. $27 \times 10 =$

$27 \div 10 =$

$.27 \times 10 =$

13. $52 \times 10 =$

$52 \div 10 =$

$.52 \times 10 =$

14. $89 \times 10 =$

$89 \div 10 =$

$.89 \times 10 =$

15. $74 \times 10 =$

$74 \div 10 =$

$.74 \times 10 =$

Directions: Express the following numbers as multiplication to a power of ten.

16. $34,000$ _____

19. $162,000$ _____

17. $3,900$ _____

20. 130 _____

18. $4,200,000$ _____