MATH NEWS

4th Grade Math Unit 1

Volume 1   1st 9 Weeks

Math Parent Letter

Welcome back! We hope you had a fun and restful summer. We are so excited to begin a new year and see your child's mathematical knowledge grow. This newsletter is designed to give parents and students a better understanding of the math concepts found in the Georgia Standards of Excellence. We look forward to teaching your child and helping them master these standards.

UNIT 1 GOALS:

- Recognize that a digit in any one place represents ten times what it represents in the place to its right.
- Compare multi-digit numbers using >, <, or =.
- Use place value understanding to round multi-digit numbers to any place and estimate when solving problems.
- Add and subtract numbers using the standard algorithm.
- Find the perimeter of a rectangle.

VOCABULARY

This list is not intended for memorization. It is a guide to help you understand the language of the classroom.

Unit 1

Difference- the answer to a subtraction problem.

Place value- the value of the position of a digit in a number.

Digit- any one of the following ten symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9.

Rounding- approximating the value of a given number.

Sum- the answer to an addition problem.

Find the perimeter of a rectangle: *Students will revisit finding the perimeter of a rectangle from 3rd grade.*

3cm [rectangle]

14 cm

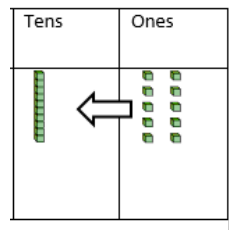$P = 1 + 1 + w + w \text{ or } 2(1) + 2(w)$

$P = 14 \text{ cm} + 14 \text{ cm} + 3 \text{ cm} + 3 \text{ cm}$
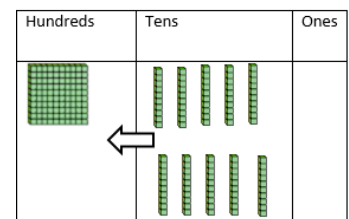
$P = 34 \text{ cm}$

Unit 1 Focus

Students will use the place value chart to demonstrate every time we get 10 of one unit we can bundle and make a bigger unit.

10 ones make 1 ten ⟶ 10 times 1 one is 1 ten or 10 ones. We say 1 ten is 10 times as many as 1 one.

1 ten = 10 x 1   **1 hundred = 10 x 1 ten**

Using Place Value Charts to Compare Numbers:

Students will use the place value chart to compare the value of each digit to decide which number is of greater value. In the following example we use the place value chart to compare 3,502 and 3,420. We represent each amount on the place value chart. We can tell that 3,502 is larger because it has more hundreds.

Resources for Unit 1

3,502 > 3,420

Comparing Numbers:

When comparing numbers in different forms, students may find it helpful to change both into standard form.

Example problem:

80,000 + 3,000 + 900 + 5   ◯   **eight hundred three thousand, four hundred one.**
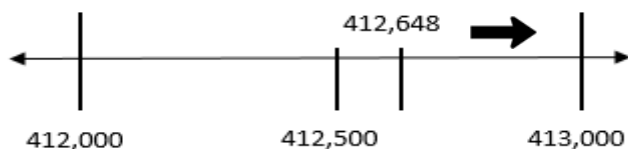
83,905   **<**   803,401

Images courtesy of Google Images and Mrs. C Classroom Blog

Rounding Multi-digit numbers to any place: *Students will round 412,648 to the nearest thousand using a number line.*

1. Students must first decide how many thousands are in 412,678—**there are 412 thousands so we label the left end of the number line 412,000**

2. The midpoint is halfway between the two endpoints. **Halfway between 0 and 1,000 is 500 so the midpoint is 412,500**

3. The right hand side end point is labeled with the next thousand—**1 thousand more than 412,000 is 413,000**

After labeling the number line, students should place the number they are rounding on the number line. This helps them visualize which thousand the number is closer to.

412,648 →

412,000   412,500   413,000

Students should notice that 412,648 is more than the midpoint, so it is closer to 413,000.
$$412,648 \approx 413,000$$

Estimating to Assess the Reasonableness of Answers: Students will use rounding to estimate to determine if the answer they get is reasonable.

43,743	40,000
- 22,395	-20,000
$\approx$	20,000

The student rounded to the nearest ten thousands. Her answer 20,000 is close to the actual answer of 21, 348.

Adding and Subtracting numbers using the standard algorithm: Use place value understanding to fluently add and subtract multi-digit whole numbers using the standard algorithm. Students will transition from using strategies from third grade to the standard algorithm.

34,237 +17,495	Ten Thousands	Thousands	Hundreds	Tens	Ones
	1		**1**	**1**	
	3	4	2	3	7
	+ 1	7	4	9	5
	11 **5**	**1**	7	**13** **3**	**12** **2**

43,743 - 22,395 21,348	Ten Thousands	Thousands	Hundreds	Tens	Ones
			6	**13**	**13**
	4	3	7̷	4̷	3̷
	- 2	2	3	9	5
	2	1	3	4	8

In the example above the students should understand when adding 7 ones and 5 ones you get 12 ones. This means we need to take 10 ones and make another ten. This is indicated in the sample problem by showing a 1 above the tens column. This understanding is crucial if students are to be successful with using the algorithm for addition and subtraction.

Next, they should move to the tens column and understand that 1 ten and 3 tens and 9 tens make 13 tens. This means they must take 10 tens and make an additional hundred. This is indicated in the sample problem by showing a 1 above the hundreds column.

Students should continue in this manner until all columns of the addends have been added.

In the example above the students should understand when subtracting 5 ones from 3 ones they can decompose 1 ten into 10 ones which gives them 13 ones. Subtracting 5 ones from 13 ones is 8 ones. This is indicated in the sample problem by showing taking 1 ten from the 4 tens and leaving 3 tens in the tens column.

Next, they should move to the tens column and understand when subtracting 9 tens from 3 tens they can decompose 1 hundred into 10 tens. Subtracting 9 tens from 13 tens is 4 tens. This is indicated in the sample problem by showing taking 1 hundred from the 7 hundreds and leaving 6 hundreds in the hundreds column.

Students should continue in this manner until all columns have been subtracted.

Images courtesy of Google Images and Mrs. C Classroom Blog