DUVAL Math Parent Tips

DUVAL COUNTY PUBLIC SCHOOLS

Place Value, Rounding, and Algorithms for Addition and Subtraction

August 2015

In this Module, students extend their work with whole numbers. They begin with large numbers using familiar units (hundreds and thousands) and develop their understanding of millions by building knowledge of the pattern of times ten in the base ten system on the place value chart.
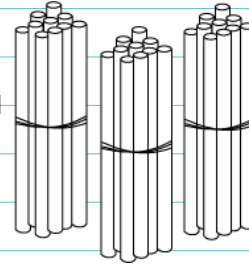
Fourth Grade, Module 1

Words to Know

Digit- a numeral between 0 and 9

Place value -the numerical value that a digit has by virtue of its position in a number

Bundling, renaming, regrouping, trading - exchanging 10 ones for 1 ten, 10 tens for 1 hundred Unbundling, renaming, regrouping, trading - exchanging 1ten for 10 ones, 1 hundred for 10 tens

Standard form - a number written in the format: 135

Expanded form - addition sentence with the value of each digit written out e.g., 100 + 30 + 5 = 135

Word form – a number written out in words as in 135 one hundred thirty-five

Special points of interest:

✓ Words to Know

✓ Sample Problems

✓ Standard Form

✓ Expanded Form

✓ Place Value Chart

✓ Help at home

✓ Standards for Mathematical Practice

✓ Florida Standards

Students will use the place value chart to demonstrate every time we get 10 we 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 one

1000s	100s	10s	1s

1hundred = 10 x 1 ten

1000s	100s	10s	1s
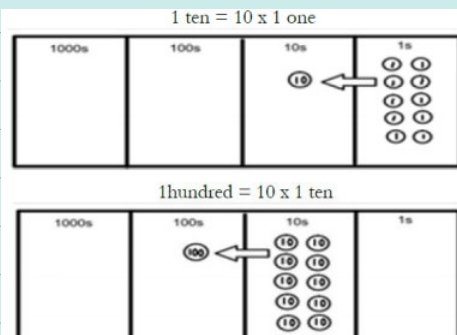
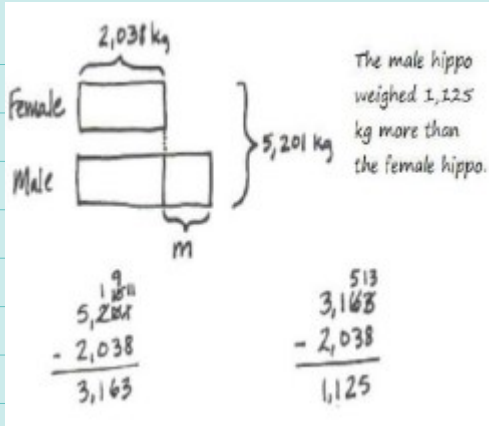## Questions?

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Sample Problems

A pair of hippos weighed 5,201 kg together. The female weighed 2,038 kg. How much more did the male weigh than the female?

2,031 kg

Female [ ]

5,201 kg

Male [ ]

m

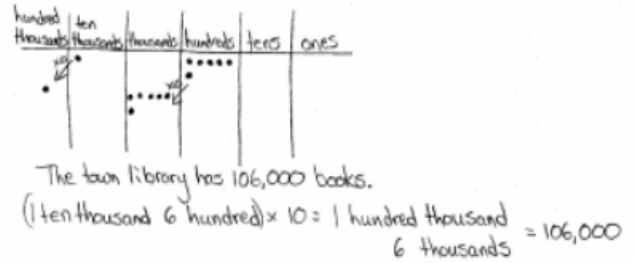The male hippo weighed 1,125 kg more than the female hippo.

$$
\begin{array}{r}
5,201 \\
-\ 2,038 \\
\hline
3,163
\end{array}
$$

$$
\begin{array}{r}
513 \\
3,163 \\
-\ 2,038 \\
\hline
1,125
\end{array}
$$

The school library has 10,600 books.

The town library has 10 times as many books.

How many books does the two library have?

hundred | ten
Thousands | thousands | thousands | hundreds | tens | ones

The town library has 106,000 books.
(1 ten thousand 6 hundred) × 10 = 1 hundred thousand
6 thousands
= 106,000

Standard Form / Expanded Form

5 , 406 , 378

↑   ↑
million   thousand

five million, four hundred six thousand, three hundred seventy-eight

5,000,000 + 400,000 + 6,000 + 300 + 70 + 8

Place Value Chart

Students will use their understanding of place value to complete a chart similar to the one below.

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

(Above) Place Value Chart, to the millions place

Hundreds Tens Ones
2   3   4

2 0 0
3 0
4

(Left) Place Value Cards

4th grade students will learn to round large numbers to various place values.

$$935,292 \approx 900,000$$
$$935,292 \approx 940,000$$
$$935,292 \approx 935,000$$

We will also discuss which place value is appropriate to round to in different situations – what degree of accuracy is required?

The goal of DUVAL Math is to produce students who are not merely literate, but fluent, in mathematics. Your child has an exciting year of discovering the story of mathematics ahead!
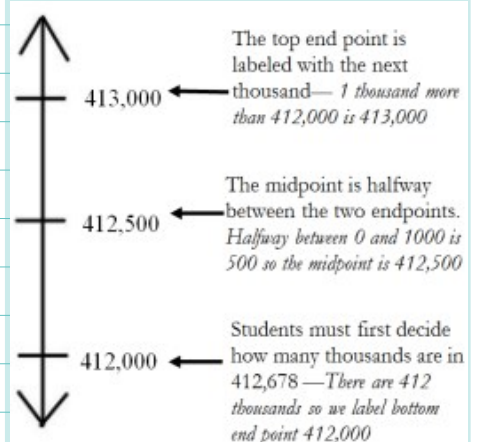
Fourth graders will use vertical number lines to round a five- or six-digit number to the nearest thousand, ten thousand, and hundred thousand. In this example, they will round 412,648 to the nearest thousand.

Each module's parent tip sheet will highlight a new strategy or math model your student will be working on.

413,000 — The top end point is labeled with the next thousand— *1 thousand more than 412,000 is 413,000*

412,500 — The midpoint is halfway between the two endpoints. *Halfway between 0 and 1000 is 500 so the midpoint is 412,500*

412,000 — Students must first decide how many thousands are in 412,678 —*There are 412 thousands so we label bottom end point 412,000*

How can you help at home?

Make up numbers, roll numbers with dice, or find numbers (on labels) and compare them. • Find numbers and write them in expanded form. • Make numbers and tell which place value (and/or value) each digit represents. • Place large numbers on a number line. • Collect objects (i.e. Cheerios) and estimate how many. • Draw pictures and make models of numbers.
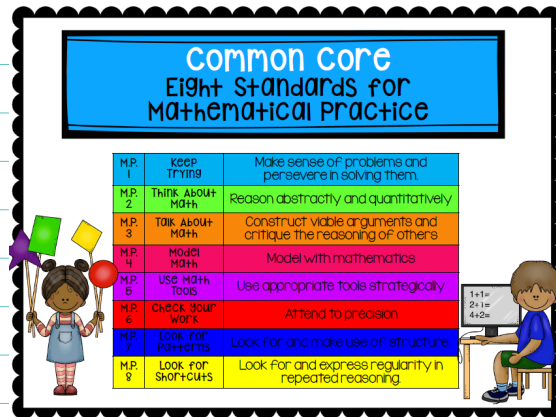
Standards for Mathematical Practice

During the first 10 days of schools, teachers will emphasize the importance of the 8 Standards for mathematical practice through 30 minute lessons.

These practices will be embedded in lessons daily throughout the school year.

Strength with the mathematical practices make strong mathematicians!

Mathematics Florida Standards

Operations and Algebraic Thinking

MAFS.4.OA.1.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

4.OA.1.1 Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

4.OA.1.a Determine whether an equation is true or false by using comparative relational thinking. For example, without adding 60 and 24, determine whether the equation $60 + 24 = 57 + 27$ is true or false.

4.OA.1.b Determine the unknown whole number in an equation relating four whole numbers using comparative relational thinking. For example, solve $76 + 9 = n + 5$ for n by arguing that nine is four more than five, so the unknown number must be four greater than 76.

Numbers and Operations in Base Ten

MAFS.4.NBT.1.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.

4.NBT.1.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

4.NBT.1.3 Use place value understanding to round multi-digit whole numbers to any place.

4.NBT.2.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.