Math News

EAGLE MOUNTAIN SAGINAW ISD
Curriculum and Instruction

Our Learning Goals:

- Read, write, order and compare numbers up to one billion
- Solve addition and subtraction problems

Numbers to One Billion

In third grade, students became familiar with numbers up to 100,000. In fourth grade, we will extend understanding of the place value system to include numbers up to one billion. Students will be given numbers and asked to read and write the number in words (like we do when writing checks). They will also be given a variety of numbers and asked to put them in order from least to greatest or use symbols to compare the numbers (< , > , =).

Example Questions:
Q: Write this number in written form: 978,543,246
A: Nine hundred seventy eight million, five hundred forty three thousand, two hundred forty six
Q: How much would the number 978,543,246 change if we replaced the 5 with a 1?
A: It would decrease by 400,000.

How Can I Support My Child's Learning?
- Count out loud with your child beginning at numbers larger than 500. Count by a variety of multiples such as 1's, 10's, 50's, 25's, or 100's.
- Make connections to times you use large numbers in the real world (mileage, price of a car, number of attendees at a sports event, etc…)

Strategy 1: Adding One Number in Parts

Students begin with one of the addends and add up using numerical relationships such as tens and ones, make ten facts or landmark numbers.

2,357 + 4,899

Using a number line:

+1   +100   +200   +56   +2,000

4,899 4,900   5,000   5,200   5,256   7,256
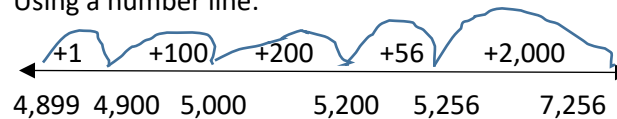
Or using equations:
2,357 + 4,000 = 6,3257
6,357 + 700 + 100= 7,157
7,157 + 50 + 40 = 7,247
7,247 + 3 + 6 = 7,256

Strategy 2: Traditional Algorithm

In this strategy, students line numbers up by place value and add them from right to left. Regrouping is an area that many students struggle with in this strategy.

$$\begin{array}{r} 2,357 \\ + 4,899 \\ \hline 7,256 \end{array}$$

How Can I Support My Child's Learning?
- In class, we spend time discussing problems in depth and sharing our reasoning and solutions. Encourage your child to explain to you the math thinking that supports their solution.

Strategy 3: Compensation

The goal of this strategy is to decompose the numbers into easier, friendly numbers. When compensating, remove a specific amount from one addend and give it to the other addend. Choosing which number to adjust is an important decision that is linked to students' number sense.

2,357 + 4,899

(2,357-101) + (4,899+101)
2,256 + 5,000 = 7,256

> **Think**: 4,899 is not easy to add. So I'm going to take from one number & give it to the other so it's easier.

Why Is my Child Learning Strategies

The Texas Essential Knowledge and Skills (TEKS) are the standards Texas teachers follow to ensure a quality education for all students. Our standards emphasize the importance of students solving problems using multiple strategies and mathematical relationships.

"Students with good number sense can think and reason flexibly with numbers, use numbers to solve problems, spot unreasonable answers, understand how numbers can be taken apart and put together in different ways, see connections among the operations, figure mentally and make reasonable estimates."
(Marilyn Burns, About Teaching Mathematics)

How Will My Child be Assessed?

Students will be assessed informally and formally throughout the unit with opportunities to learn from their peers and their own mistakes. An assessment will be given at the end of the unit with both open ended and multiple choice questions.