Text-Based Questions

Traditional Questions	Text-Based Questions
In *Bud, Not Buddy*, why does Bud keep the jazz band flyer in his suitcase?	What makes Bud's experiences tumultuous? What words does the author use to show this?
After reading *The Story of Ruby Bridges* by Robert Coles, how would you feel if you were Ruby?	What is a federal marshal? Use the following sentence to help you answer the question: *"The President of the United States ordered <u>federal marshals</u> to walk with Ruby into the school building."*
In *Sign of the Beaver*, Matt questions his decision to not migrate with the Beaver tribe. Why is he having second thoughts about his decision?	What did Matt say that showed that he was regretting his decision to stay at his family's cabin? What is the author's purpose in having Matt say those things?

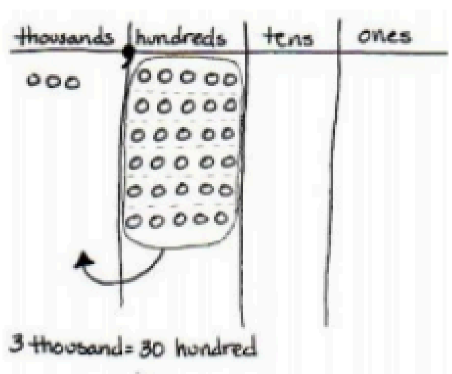
Source: Bhavini Bhakta, AUSD

Eureka Math™ Tips for Parents

Grade 4
Module 1

Place Value, Rounding, and Algorithms for Addition and Subtraction

In this first module of Grade 4, students extend their work with whole numbers, first with familiar large units (hundreds and thousands), and then develop their understanding up to 1 million. They practice and further deepen their facility with patterns in the base-10 number system.



Place value chart equivalence

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

935,292 ≈ 900,000
935,292 ≈ 940,000
935,292 ≈ 935,000

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

What Comes After this Module:

In Module 2, students further deepen their understanding of the place value system through the lens of measurement and metric units. Students will recognize patterns as they use the place value chart to convert units, e.g. kilograms to grams, meters to centimeters, etc.

Terms, Phrases, and Strategies in this Module:

Ten thousands, hundred thousands (as places on the place value chart)

One million, ten millions, hundred millions (as places on the place value chart)

Sum: answer to an addition problem

Difference: answer to a subtraction problem

Rounding: approximating the value of a given number

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

Standard form: a number written in the format: 135

Expanded form: e.g., 100 + 30 + 5 = 135

Word form: e.g., one hundred thirty-five

=, <, > (equal to, less than, greater than)

+ How you can help at home:

- When given a large, multi-digit number, ask your student what each digit represents. (e.g. "What does the 4 signify in the number 34,500?" Answer: 4,000)
- Help practice writing numbers correctly by saying large numbers and having your student write them down. Students can create their own place value charts to help.

Key Common Core Standards:

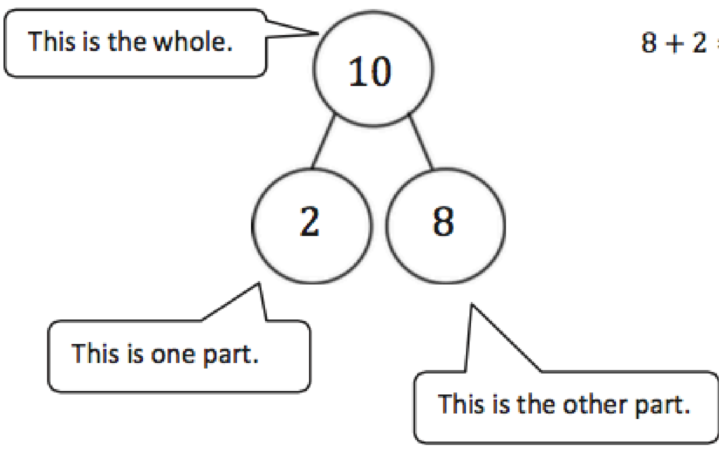
- ***Use the four operations with whole numbers to solve problems***
  - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations
- ***Generalize place value understanding for multi-digit whole numbers less than or equal to 1,000,000***
  - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right
  - Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form
  - Use place value understanding to round multi-digit whole numbers to any place
- ***Use place value understanding and properties of operations to perform multi-digit arithmetic***
  - Fluently add and subtract multi-digit whole numbers using the standard algorithm

Prepared by Erin Schweng, Math Coach

G2-M1-Lesson 1

Fluency Practice

Making ten and adding to ten is foundational to future Grade 2 strategies. Students use a number bond to show the part–whole relationship with numbers.



$8 + 2 = 10$

I know part + part = whole.

$2 + 8 = 10$

$10 - 8 = 2$

$10 - 2 = 8$

I also know whole – part = part.

$10 = 7 + \mathbf{3}$

I need to be careful when looking at the signs.
This says 10 *equals* 7 + ___, not 10 *plus* 7 = ___.
That means 10 is the same as 7 + 3.

Lesson 1: Wishful Thinking—Does Linearity Hold?

Exploring Linearity

Study the statements given below. Prove that each statement is false, and then find all values of a and b for which the statement is true. Explain your work and the results.

1. If $f(x) = x^2$, does $f(a - b) = f(a) - f(b)$?

> These are similar to Exercises 1 and 2 that we did in class. I'm going to start by choosing random values for a and b and see if the statement is true or false.

If $a = 1$ and $b = 2$, $f(a - b) = f(1 - 2) = f(-1) = (-1)^2 = 1$,

and $f(a) - f(b) = f(1) - f(2) = 1^2 - 2^2 = 1 - 4 = -3$.

Since $1 \neq -3$, the statement is false.

To find the values of a and b that make the statement true, find

$f(a - b) = (a - b)^2 = (a - b)(a - b) = a^2 - 2ab + b^2$

and $f(a) - f(b) = a^2 - b^2$.

> To find $f(a + b)$, I substitute $(a + b)$ in for x in $f(x) = x^2$ so that $f(a + b) = (a + b)^2$.

These two statements must be equal for the statement to be true.

$a^2 - 2ab + b^2 = a^2 - b^2$. Now gather like terms, making one side equal to zero.

$-2ab + 2b^2 = 0$

$2b(-a + b) = 0$. Factor out the greatest common factor.

> Remember the zero product property? One or both of the factors must equal zero.

The only way that $2b = 0$ is if $b = 0$, and the only way that $-a + b = 0$ is if $a = b$.

The only values of a and b that make this statement true are if $b = 0$ and/or $a = b$.