Unit 4: Using Place Value to Compare, Add, and Subtract

This unit serves to reinforce our number system as a base ten system with patterns. Through this perspective of place value, students can employ relational understanding to strategically solve problems by comparing and manipulating values. They will use visual representations, math models, and place value understanding. Students will think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 through 19 as composed of ten and some ones). This will happen through their use of concrete models (double tens frames, number lines, etc…) to "see" friendly (or decade) numbers and to solve problems.

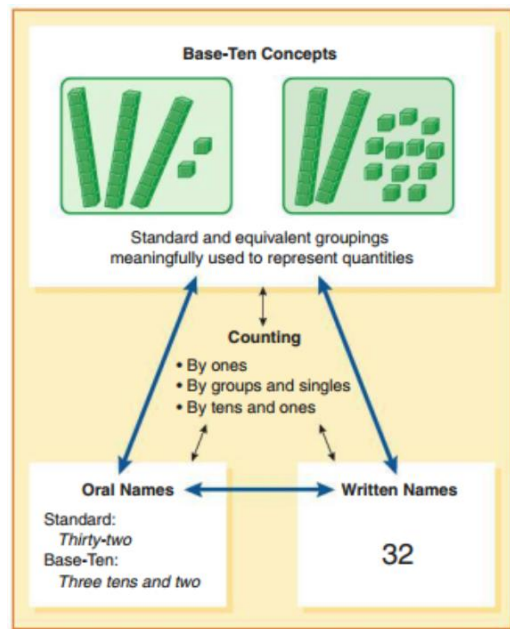### ☑ What came before~ Foundation Skills

In our last unit we explored
- How addition and subtraction are related
- Part-Part Whole Diagrams
- Number Bonds
- Number lines
- Using dimes and pennies to represent tens and ones
- Adding /Subtracting within 20
- Visualizing word problems

➡ The Big Ideas:

Relational understanding of place value integrate three ideas:
- Base ten concepts
- Spoken names of numbers
- Written names of numbers

Base-Ten Concepts

Standard and equivalent groupings meaningfully used to represent quantities

Counting
- By ones
- By groups and singles
- By tens and ones

Oral Names ↔ Written Names

Standard:
Thirty-two
Base-Ten:
Three tens and two

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🏠 How You Can Help Activities for Home

- Count by decade numbers (10, 20, 30, 40…)
- Practice adding and subtracting **ten more** or **ten less** to any <u>two digit number</u>
- Count handfuls of coins- dimes and pennies, tens and ones – to find the total value
- Roll two dice- one for the # of tens and 1 for the # of ones Have your child build it with dimes and pennies.
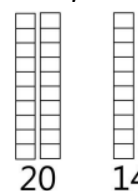- Pick two cards from a deck – have your child build them with tens and ones.

❓ Using Questions

Have conversations about what you notice and wonder

Ask questions like:
- What do you notice?
- Which number is biggest? Smallest?
- How much smaller? Bigger?
- Are we trying to find the whole or a part?
- Is the total going to be bigger or smaller?
- What do you wonder?

20   14

20 is greater than 14

Groupings by 10 are matched with numerals, which are recorded in labeled places and eventually written in standard form.
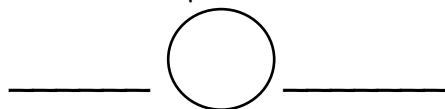
TENS	ONES
5	3

5
3

5 tens 3 ones

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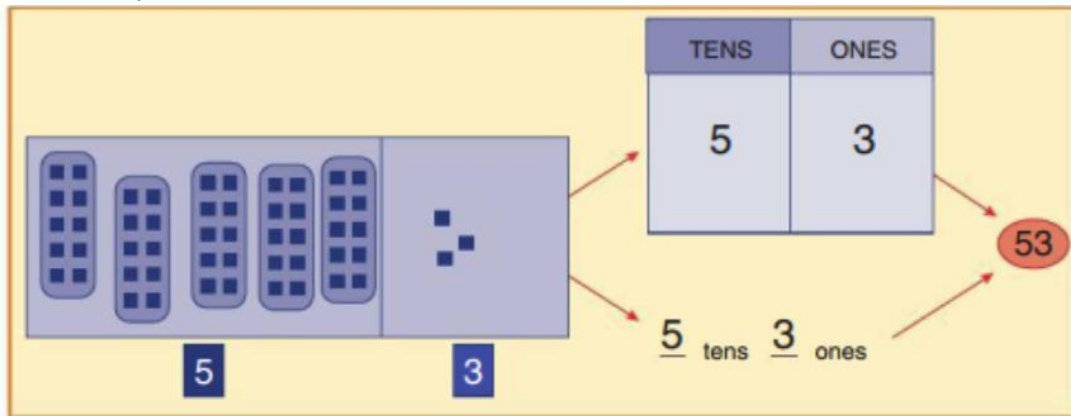
Comparing Numbers

Just like when you read a word or a book, start from left to right READ

This #   compared to   this #

_____ ◯ _____

<   is less than

>   is greater than

=   is the same as

Words to Know

Students need to have a solid understanding of these terms:

digit a single symbol representation used to make numerals (0,1,2,3,4,5,6,7,8,9)

numeral is a symbol or name that stands for a number

number is a count or measurement that is really an idea in our minds.

A Mental Strategy

Look for an Anchor of Ten
a decade or friendly number

An anchor is where you start, and from which you can build either backward or forward. *Not written*

$19 + 15 = ?$	$19 + 15 = ?$
10 5	1 14
$19 + 10 = 29$	$19 + 1 = 20$
$29 + 5 = 34$	$20 + 14 = 34$
1 4	10 4

This w

Key California Content Standards for this Unit

1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

    1.NBT.2.A: 10 can be thought of as a bundle of ten ones — called a "ten."

    1.NBT.2.B: The numbers from 11 to 19 are composed of a ten and one, two, three, four, f five, six, seven, eight, or nine ones.

    1.NBT.2.C: The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT. 3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols <, >, =.

1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

The concepts in this newsletter have been informed and adapted from these sources:
- Teaching Student Centered Mathematics
- California Mathematics Content Standards
- California Mathematics Framework
- Eureka Math Tips for Parents
- Lafayette Parish School System: "All Hands on Deck with Math" webpage

TUSD ~
Supporting community & family understanding