

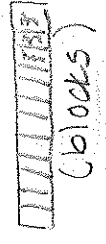
Put numbers together

Composing and Decomposing Numbers

Take a number apart

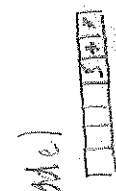
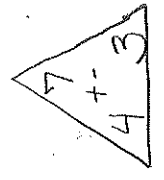
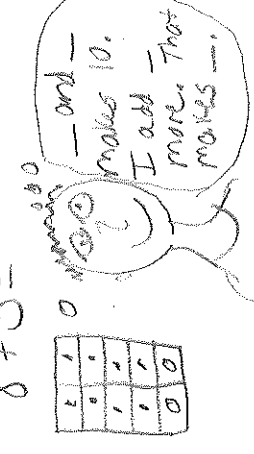
$9 + 3 = 12$
↑
sum

$12 - 3 = 9$
↑
difference



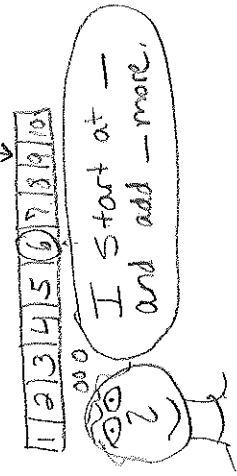
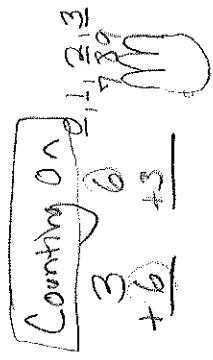
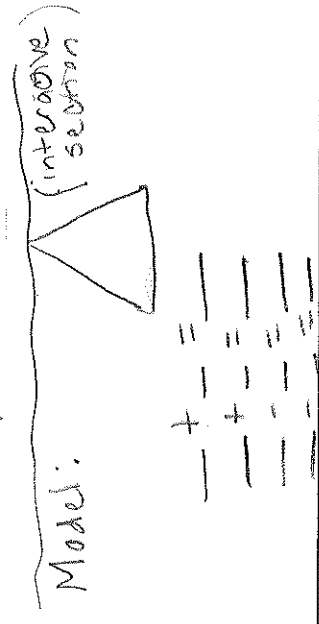
Make-ten
 $8 + 3 =$

How are + and - related?

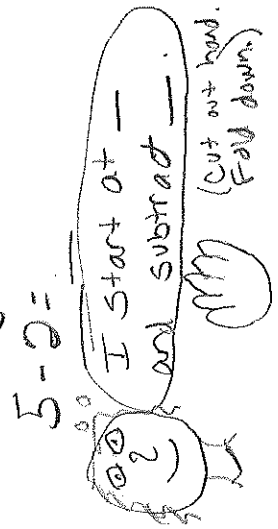


Model
Related Facts

$4 + 3 = 7$
 $3 + 4 = 7$
 $7 - 4 = 3$
 $7 - 3 = 4$



Counting Back



Mathematical Standards and Practices

We will persevere in solving addition and subtraction problems using different strategies.

Inquiry Chart

What we know about _____? What we want to learn about _____?

UNIT PLANNING TOOL

Planning Focus: Composing and Decomposing Numbers

Module(s)/Unit(s) 1st

CCSSM:

1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.3 Apply properties of operations as strategies to add and subtract.

1.OA.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

Mathematical Practices being emphasized:

- 3) Make sense of problems and persevere in solving them.
- 7) Look for and make use of structure.

Essential Questions

- How are addition and subtraction related?
- How do we become more efficient at add and subtracting?
- How can we use different combinations of numbers and operations to represent the same quantity?
- How does composing and decomposing numbers help us add and subtract?

Key Concepts previously learned

Represent addition and subtraction with objects, fingers, mental images, and drawings
 Add and subtract within 10
 Decompose numbers that are less than or equal to 10 in more than one way
 Make a ten from any given number 1-9


Pre and Post Assessments

Teacher made – show how many ways to make 5 and 10
 Post Assessment – teacher made based on standards

Visual Models/ Algorithms/ Diagrams for Compendium


How are + and - related?

Model:






$4 + 3 = 7$ $7 - 3 = 4$
 $3 + 4 = 7$ $7 - 4 = 3$

interactive section model:



Strategies

- Counting on
 - $+ 3$
 - 
 - $11, 12, 13, 14, 15, 16, 17, 18, 19, 20$
- Counting Back
 - $5 - 2$
 - 
 - fold fingers
- Make-ten
 - 
 - $8 + 3 = _$
 - Use a 10.
 - $14 - 5 = _$
 - $4 + 1 = 5$
 - $14 - 4 = 10$
 - $10 - 1 = 9$

Connections (Real World Applications)

- Highlight real situations in class where we are using addition or subtraction (lunch count, adding people to a group, how many more pencils/ papers need...)
- Use word problems that students can relate to from home and school experiences

Language Functions/Structures

___ plus ___ is ___.	The sum of ___ and ___ is ___.
___ plus ___ makes 10.	___ plus ___ makes 10. Then I add ___ more. (make ten)
I start at ___ and add ___ more. (counting on)	I start at ___ and count back ___ more. (counting back)
___ minus ___ is ___.	When you decompose a number you ...
The fact family for __, __ and __ is...	
I/ we solved the problem by ...	I subtracted/ added because...

Vocabulary

composing	decomposing			
add	plus	sum		
subtract	minus	difference	take away	compare
fluency	efficient	strategy	model	
counting on	counting back	counting all	make-ten	
equation	number sentence			

Focus and Motivation

Chants/ Songs

Addition and Subtraction Bugaloo by Jamie Shell
 Fact Families Song to Wheels on the Bus by Lisa Meyer
 Mr R's World of Math - My Dog Addition and The Mystery of the Chocolate Donuts
<https://mathstory.com/youtube-math-videos/>
 Jack Hartmann Kids - I Can Show the Number ___ (choose 1-10) in Many Ways (Look up on You Tube)

Literature

One is a Snail and Ten is a Crab by April Pulley Sayre and Jeff Sayre – extensions with animal feet
Mission Addition by Loreen Leedy (different strategies and vocabulary for adding)
Mission Subtraction by Loreen Leedy (different strategies and vocabulary for adding)
Ten Flashing Fireflies by Philemon Sturges (adding 1, making 10)
Splash! by Ann Jonas (addition and subtraction)

Other ideas

BrainPop Jr. – Basic Addition, Basic Subtraction, Counting On, Make 10
 Riddles – I am thinking of a way to make ___. Can you guess it?
 Listen and draw – Give word problems based on students in class

Fact Families by Lisa Meyer

Sing the chorus to The Wheels on Bus

The fact families for addition and subtraction,
addition and subtraction,
addition and subtraction
The fact families for addition and subtraction
are related.

Stop and say/ chant the fact family you are looking at

Let's look at this example:

4 plus 3 is 7

3 plus 4 is 7

7 minus 3 is 4

7 minus 4 is 3

Sing the chorus again.

Note: This chant is usually done orally and not written out. You can use it to help students see fact families and remember the relationship.