

How are addition and subtraction related?

addition fact  
 $9 + 3 = 12$   
 sum

inverse opposite  
 (blocks)

subtraction fact  
 $12 - 9 = 3$   
 difference

Juan has 12 trucks.  
 Some are big trucks,  
 4 are small trucks.  
 How many small trucks  
 does he have?  
 (highlight key info. + words)

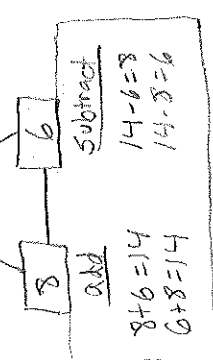
Picture	Equation	Sentence
	$12 = 4 + ?$ $4 + ? = 12$ $12 - 4 = ?$	Juan has 12 big trucks.

(You could also use RACE here.)

= equal sign  
 $6 - 3 = 3 + 1$   
 Same on both sides



Related Facts - Fact family



compose +	decompose -
$7 + 5 = 12$	$12 - 7 = 5$
$5 + 7 = 12$	$12 - 5 = 7$

Are these equations true or false?  
 $6 + 7 = 13$  true  
 $15 - 9 = 4$  false  
 $16 - 5 = 11$  true  
 $5 + 2 = 2 + 5$  true  
 $6 + \square = 5 + 3$  ?  
 $7 + 3 = 8 + 4$  false

999 Mathematical Standards and Practices

- 1) We will make sense of word problems using addition and subtraction.
- 2) We will understand how addition and subtraction are related.
- 3) We will explain why equations are true or false.

Inquiry: What we know about + and -  
 What we want to learn about + and -

Go Math UNIT PLANNING TOOL

Unit 5: Addition and Subtraction Relationships

**CCSSM:**

OA1 Use + and - w/in 20 to solve word problems (adding to, taking from, putting together, taking apart and comparing) w/ unknowns in all positions.

OA6 + and - w/in 20, demonstrating fluency w/in 10 using strategies...

OA8 Determine the unknown whole # in an + or - equation relating 3 whole numbers.

OA7 Understand the = sign. Determine if equations are true or false.

M Practices =

**Essential Question(s):**  
How are addition and subtraction related?

Pre Show what you know and Diagnostic assessment T.182

**Pre and Post Assessments**

Post Performance Task SEP.208 or T. given problem Chapter 5 test


Previous chapters on addition and subtraction. Use these assessments and observations.

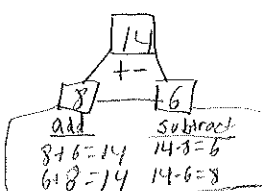
During Choose problems to assess that give info. on student progress

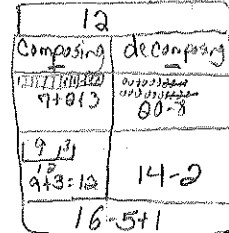
**Key Concepts**

- Build on + and - strategies from previous chapters.
- Understand related facts (fact families)
- Strategies to solve word problems

**Visual Models of Concepts**

 balance scale to build understanding of equal sign

  
 14  
 + -  
 8 6  
 Add Subtract  
 $8+6=14$   $14-8=6$   
 $6+8=14$   $14-6=8$

  
 12  
 Composing decomposing  
 $9+3=12$   $12-9=3$   
 $10+2=12$   $12-10=2$   
 $16-5=11$

**Algorithms/Diagrams**

Word problem		
Picture	Equation	
Solve	Sentence	

Use RACE to discuss.

Are these equations true or false?

$6+7=13$ true	$5+0=2+5$ true
$15=9+4$ false	$6+\square=5+3$ ?
$20-16=4$ true	$7+3=8+4$ false

**Connections (Real World Applications)**

- lunch count
- playground scenarios
- getting into lines in class

Language Functions/Structures

— plus — is —

The difference between — and — is —,

— and — are related facts because —,

I represented — as — and —.

— is true/false because —.

— is an important word in the problem because —.

Why did you — ?

Addition and subtraction are related/  
Connected because —,

I solved the problem by....

addition fact sum	subtraction fact difference	<u>Vocabulary</u>	model explain represent	Compose decompose
unknown related facts fact families	equations number sentence number model		true false	inverse opposite

Focus and Motivation

literature Mission Addition  
by Loreen Leedy

Act Out T. 1818  
(good strategy to build on w/ word  
problems through out unit)

www.studyjams.scholastic.com -  
"Relate Addition and Subtraction"

Listen and Draw - give  
word problem based in students in  
class

Number Riddles "I am thinking of number..."  
(example lesson 5.9 p. 217A)