Seeing Difference In Three Ways, Solving Missing Number Sentences.

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Differentiate and Assess

Not every student will be ready to investigate this concept at this Level and so we will need to differentiate to ensure every student is learning at their leading edge. Select the Differentiate button on this screen.

Integrate

Every mathematical concept is integrally related to other mathematical concepts. Teaching and learning related concepts simultaneously develops deep relational understanding. Select the Integrate button on this screen.

Intervene

Some students may not yet be ready to investigate this concept at any Level, and so we will need to provide some intervention. Select the Intervention button on this screen.

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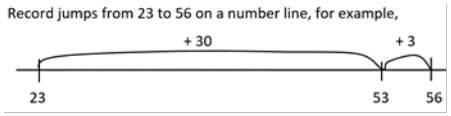
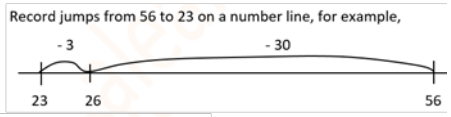
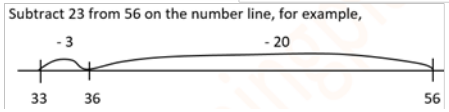
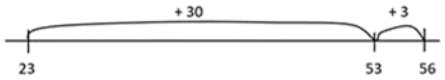
EXPLICIT TEACHING PLAN OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE EXPLICIT TEACHING PLAN, INCLUDING STRATEGIC QUESTIONS, AND DESRIBING THE SEQUENCE WHICH WILL OCCUR OVER MULTIPLE LESSONS.

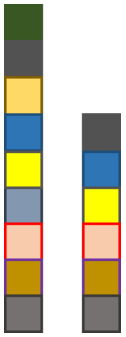
RESOURCES:CONNECTING BLOCKS, PLAYING CARDS, PENCIL, PAPER

WHAT COULD WE DO?	WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?
Children: • Find difference between numbers using blocks, for example, Difference between 6 and 9 can be found by adding 3 to 6, 6 + 3 = 9, subtracting 3 from 9, 9 – 3 = 6, subtracting 6 from 9, 9 – 6 = 3  • Find difference between numbers on a number line, for example, Difference between 23 and 56 can be found Record jumps from 23 to 56 on a number line, for example,  Record jumps from 56 to 23 on a number line, for example,  Subtract 23 from 56 on the number line, for example,  • Find missing numbers in missing number sentences, for example, 23 + _____ = 56  56 - _____ = 23  	Children • ask one another questions about finding difference, for example: ▸ How could we find the difference between these two towers? ▸ How many do we need to add to the short tower to make the tall tower? ▸ How could we record this? ▸ How many do we need to subtract from the tall tower to make the short tower? ▸ How could we record this? ▸ Could we subtract the number in the short tower from the number in the tall tower? ▸ How could we record this? ▸ How could we find the difference between these two numbers on a number line? ▸ Could we add onto the lower number till we get to the higher number? ▸ Could we subtract from the higher number till we get to the lower number? ▸ Could we subtract the lower number from the higher number? How could we solve these missing number sentences?

SEEING DIFFERENCE IN THREE WAYS, SOLVING MISSING NUMBER SENTENCES.

EXPLICIT TEACHING PLAN

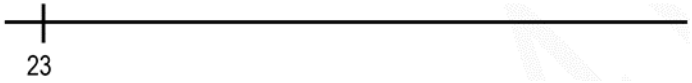
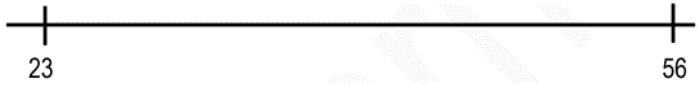
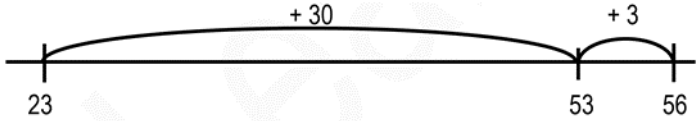
FULL EXPLICIT TEACHING PLAN, EMBEDDING DEEP RELATIONAL UNDERSTANDING, METALANGUAGE, AND QUESTIONS THAT MAY BE USED OVER MULTIPLE LESSONS.

WHAT COULD WE DO?	WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?
Children think about, talk and listen to a friend about, then have the opportunity to share what they already know.	► Today brings an investigation about difference. ► What do you know about difference? ► Talk about difference with a friend. ► Is anyone ready to share what they are thinking about difference?
Record, for example, difference means not the same	► What does difference mean? ► Does difference mean not the same?
Select some connecting cubes to make 2 towers of different heights, for example, Place them side-by-side, for example, 	► In maths we love to measure things. ► In maths, we love to measure how different things are. ► Today we're going to measure the difference between numbers. ► We're going to investigate how many ways we can find the difference between the numbers of blocks in these two towers ► What is one way we can find the difference between the numbers of blocks in the

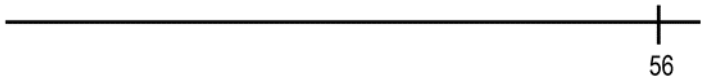
	2 towers? ► Could we add to shorter tower? ► How many would we have to add onto the shorter tower to make it the same as the taller tower? ► If we place the towers side by side like this, could we count up from the shorter tower?
Record, for example, 6	► How many in the shorter tower? ► Are there 6 in the shorter tower?
	► How many more blocks in the taller tower? ► Does the taller tower have 3 more blocks? ► If we add three to the shorter tower, how many will we have?
Record, for example, 6 + 3	► Will we have 9?
Record, for example, 6 + 3 = 9	► Are there 9 in the taller tower?
	► Did we find the difference between the numbers of blocks in the 2 towers by adding up from the shorter tower? ► What is the difference? ► Is the difference, 3?
Circle the difference, for example, 6 + (3) = 9	
	► How else could we find the difference between the numbers of blocks in the 2 towers?

Record, for example, 9 Record, for example, 9 - 3 Record, for example, 9 - 3 = 6 Circle the difference, for example, 9 - (3) = 6	► Could we subtract from the taller tower? ► How many would we have to subtract from the taller tower to make it the same as the shorter tower? ► If we place the towers side by side like this, could we count back from the taller tower? ► How many in the taller tower? ► Are there 9 in the taller tower? ► How many fewer blocks in the shorter tower? ► Does the shorter tower have 3 fewer blocks? ► If we subtract three from the taller tower, how many will we have? ► Will we have 6? ► Are there 6 in the shorter tower? ► Did we find the difference between the numbers of blocks in the 2 towers by subtracting from the taller tower? ► What is the difference? ► Is the difference, 3? ► How else could we find the difference? ► Could we subtract the number of blocks in the shorter tower, from the number of

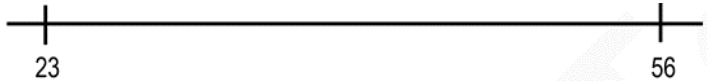
	blocks in the taller tower? ► How many in the taller tower? ► Are there 9 in the taller tower? ► How many in the shorter tower? ► Are there 6 in the shorter tower? ► If we subtract 6 from 9, how many left?
Record, for example, 9	
Record, for example, 9 - 6	► Will we have 3 left?
Record, for example, 9 - 6 = 3	► Did we find the difference between 9 and 6 by subtracting 6 from 9? ► What is the difference? ► Is the difference 3?
Circle the difference, for example, 9 - 6 = (3)	► Do we have 3 ways to find the difference?
	► We've investigated finding the difference between the numbers of blocks in 2 towers in 3 ways. ► Today we're going to investigate finding difference between numbers on a number

Display 2 numbers, for example, 23 and 56	line. ► What is one way we can find the difference between the numbers? ► How many would we have to add onto the lower number to make the higher number? ► What is the lower number? ► Is the lower number 23? ► Let's record 23 on a number line. ► What is the higher number? ► Is the higher number 56? ► Let's record 56 on a number line.
Record 23 on a number line, for example,  	
Record 56 on a number line, for example,  	► How many will we need to add to 23 to make 56? ► If we add 30 will we have 53? ► If we add another 3 will we have 56? ► So will we have to add 33 to 23 to make 56? ► Is the difference between 23 and 56, 33? ► Did we find the difference between the numbers by adding onto the lower number on a number line?
Record jumps from 23 to 56 on a number line, for example,  	
Record, for example, $23 + \textcircled{33} = 56$	► What is another way we can find the difference between the numbers? ► How many would we have to subtract from the higher number to make the lower number?

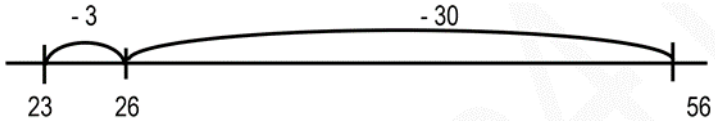
Record 56 on a number line, for example,



Record 23 on a number line, for example,



Record jumps from 56 to 23 on a number line, for example,



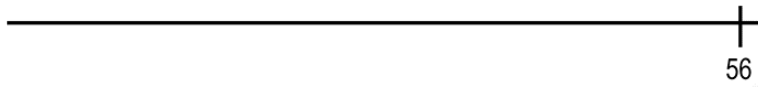
Record, for example, 56 - (33) = 23

- What is the higher number?
- Is the higher number 56?
- Let's record 56 on a number line.
- What is the lower number?
- Is the lower number 23?
- Let's record 23 on a number line.
- How many will we need to subtract from 56 to make 23?
- If we subtract 30 will we have 26?
- If we subtract another 3 will we have 23?
- So will we have to subtract 33 from 56 to make 23?
- Is the difference between 23 and 56, 33?

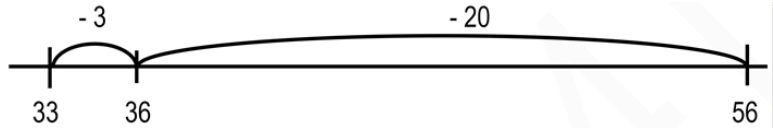
- Did we find the difference between the numbers by subtracting from the higher number on a number line?

- How else could we find the difference between the numbers?
- Could we subtract the lower number from the higher number?
- What is the higher number?

Record 56 on a number line, for example,



Subtract 23 from 56 on the number line, for example,



Record, for example, 56 - 23 = 33

- Is the higher number 56?
- Let's record 56 on a number line.

- What is the lower number?
- Is the lower number 23?
- Let's subtract 23 from 56 on the number line.

- What number do we have?
- Do we have 33?
- What is the difference between 23 and 56?
- Is the difference between 23 and 56, 33?

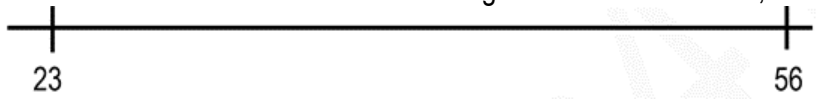
- Did we find the difference in 3 ways?

- We've investigated finding the difference between numbers in 3 ways.
- **Today we're going to find difference in missing number sentences.**

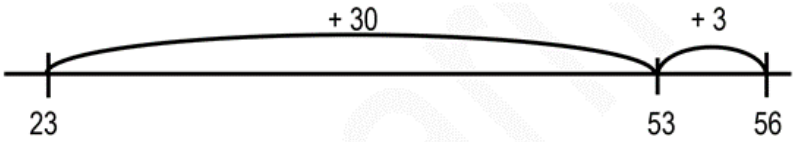
Record 2 numbers, for example, 23 and 56

Record, for example, 23 + _____ = 56

Record 23 at the low end and 56 at the high end of a number line, for example,



Add onto 23 till you get to 56 on a number line, for example,

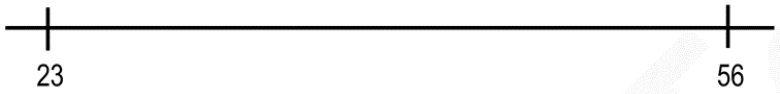


Record, for example, 23 + 33 = 56

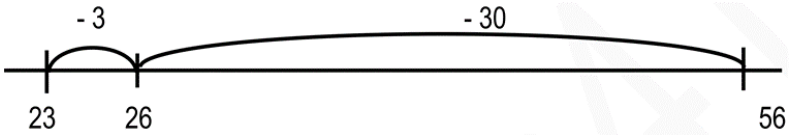
Record, for example, 56 - _____ = 23

- Could we find the difference between these 2 numbers by adding onto the lower number to make the higher number?
- Let's record this as a missing number sentence.
- What would we have add to the lower number to make the higher number?
- Could we record a number line with 23 at the low end and 56 at the high end?
- To work out the missing number, could we add onto 23 till we get to 56?
- How many did we add?
- Did we add 33?
- Is the missing number 33?
- Could we find the difference between these 2 numbers by subtracting from the higher number to make the lower number?
- Let's record this as a missing number sentence.
- What would we have subtracting from the higher number to make the lower number?
- Could we record a number line with 56 at the high end and 23 at the low end?

Record 56 and 23 on a number line, for example,



Subtract 23 from 56 on the number line, for example,



Record, for example, 56 - 33 = 23

- To work out the missing number, could we subtract from 56 until we make 23?
- How many did we subtract?
- Did we subtract 33?
- Is the missing number 33?
- Did both of the missing number sentences ask us to find the difference between 23 and 56?