

Equivalent Addition and Subtraction 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.

EQUIVALENT ADDITION AND SUBTRACTION NUMBER SENTENCES.

EXPLICIT TEACHING PLAN OVERVIEW PAGE

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

RESOURCES: PLAYING CARDS,PENCIL, PAPER

WHAT COULD WE DO?

Children:

- record an addition number sentence, for example, $24 + 38 = 62$
- record 2 related subtraction number sentences, for example, $62 - 24 = 38$ and $62 - 38 = 24$
- explain the equals sign means equality
- record equivalent number sentences, for example,

$$\underline{\quad} + \underline{\quad} = \underline{\quad} - \underline{\quad}$$

$$27 + 17 = \underline{\quad} - \underline{\quad}$$

$$27 + 17 = 50 - 6$$
- record a missing number sentence, for example,

$$27 + 17 = 45 - \underline{\quad} \quad \text{or} \quad 24 + \underline{\quad} = 45 - 1$$
- Use the meaning of the equals sign to work out the missing number, for example,

$$27 + 17 = 45 - \underline{1} \quad \text{or} \quad 24 + \underline{20} = 45 - 1$$

WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?

Children

- ask one another questions about solving missing and equivalent number sentences and the relationship between addition and subtraction, for example:
 - How could we record an addition number sentence?
 - How could we record 2 related subtraction number sentences?
- What does the equals sign mean?
- What does the left side of the equals sign equal?
- What does the right side of the number line have to equal?
- How can we work out what number is missing from this number sentence?
- What does the left side of the equals sign equal?
- What does the right side of the equals sign have to equal?
- What number will make both sides of the equals sign equal?

EQUIVALENT ADDITION AND SUBTRACTION 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?
<p>Children think about, talk and listen to a friend talk about, then have the opportunity to share what they already know.</p> <p>Record, for example, $24 + 38 = 62$</p> <p>Record, for example, $62 - 24 = 38$</p> <p>Record, for example, $62 - 38 = 24$</p>	<ul style="list-style-type: none">▶ Today brings an investigation about addition and subtraction.▶ What do you know about addition and subtraction?▶ Talk about addition and subtraction with a friend.▶ Is anyone ready to share what they are thinking about addition and subtraction? ▶ We've investigated addition and subtraction.▶ And we found that addition is joining groups together.▶ And we found that subtraction is starting with one group and taking away from it.▶ Let's record an addition number sentence.▶ If we know that 24 plus 38 equals 62, what would we get if we subtracted 24 from 62?▶ Would we get 38?▶ If we know that 24 plus 38 equals 62, what would we get if we subtracted 38 from 62?▶ Would we get 24? ▶ Today we're going to investigate number sentences involving addition and subtraction.

Display an equals sign, for example, =

Display an equivalent number sentence, for example,

$$\underline{\quad} + \underline{\quad} = \underline{\quad} - \underline{\quad}$$

Allow children to suggest numbers we could use on the left side of the equals sign, for example, $27 + 17 = \underline{\quad} - \underline{\quad}$

Record 50 minus 6, on the right side of the equals sign, for example,

$$27 + 17 = 50 - 6$$

Record 45 minus, on the right side of the equals sign, for example,

$$27 + 17 = 45 - \underline{\quad}$$

- ▶ What do you know about this symbol?
- ▶ We've investigated this symbol.
- ▶ And we found that this symbols says 'equals'.
- ▶ We found that this symbol means equality – that both sides are equal.

- ▶ Here we have a number sentence.
- ▶ Let's select numbers to make this number sentence true.
- ▶ What does the equals sign mean?
- ▶ Does the equals sign mean equality?
- ▶ Does the equals sign mean both sides are equal?
- ▶ What numbers could we use on the left side of the equals sign?
- ▶ Could we use 27 plus 17?

- ▶ What does the left side of our equals sign equal?
- ▶ Does the left side of our equals sign equal 44?
- ▶ What does the right side of our equals sign have to equal?
- ▶ Does the right side of our equals sign have to equal 44 as well?
- ▶ What numbers could we use on the right side of the equals sign to equal 44?
- ▶ Could we use 50 minus 6?
- ▶ Is this number sentence true?
- ▶ Are both sides of the equal sign equal?
- ▶ Do both sides equal 44?
- ▶ What if our number sentence said $27 + 17 = 45$ minus?
- ▶ How could we work out the missing number?

Record 45 minus, on the right side of the equals sign, for example,
 $27 + 17 = 45 - \underline{1}$

Record 24 plus something = 45 minus 1, for example,
 $24 + \underline{\quad} = 45 - 1$

Record 24 plus 20, on the left side of the equals sign, for example,
 $24 + \underline{20} = 45 - 1$

- ▶ What does the left side of the equals sign equal?
- ▶ Does the left side equal 44?
- ▶ What does the right side of the equals sign have to equal?
- ▶ Does the right side have to equal 44 as well?
- ▶ 45 minus what equals 44?
- ▶ Does 45 minus 1 equal 44?
- ▶ Is the missing number 1?

- ▶ What if our number sentence said 24 plus something = 45 minus 1?
- ▶ How could we work out the missing number?
- ▶ What does the right side of the equals sign equal?
- ▶ Does the right side equal 44?
- ▶ What does the left side of the equals sign have to equal?
- ▶ Does the left side have to equal 44 as well?
- ▶ 24 plus what equals 44?
- ▶ Does 24 plus 20 equal 44?
- ▶ Is the missing number 20?