

EQUIVALENT NUMBER SENTENCES WITH ADDITION AND SUBTRACTION.

INVESTIGATIONS OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE INVESTIGATIONS THAT STUDENTS MAY ENGAGE IN TO DEEPEN THEIR RELATIONAL UNDERSTANDING. INVESTIGATIONS WITH INSTRUCTIONS TO STUDENTS FOLLOW ON SUBSEQUENT PAGES.

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- Children record an addition number sentence, for example, $63 + 27 = 90$, They record 2 subtraction number sentences from the addition number sentence, for example, $90 - 63 = 27$ and $90 - 27 = 63$. Reflection: How can we create subtraction number sentences from addition number sentences?
- Children are given one side of an equals sign, for example, $63 + 27 =$. They come up some many different ways to make the number sentence true. For example, they could record, $63 + 27 = 73 + 17$, $63 + 27 = 80 + 10$, $63 + 27 = 100 - 10$, $63 + 27 = 97 - 7$, etc. Reflection: What does the equals sign mean? How can we use the meaning of the equals sign to help us to solve missing and equivalent number sentences?
- In pairs, each child records expressions that equal a given number, for example, 74. They place their expressions on either side of the equals sign and record the number sentence. For example, child A records $91 - 17$ and child B records $58 + 16$. They place their expressions on either side of the equals sign and record $91 - 17 = 58 + 16$. Reflection: What does the equals sign mean? How can we use the meaning of the equals sign to help us to solve missing and equivalent number sentences?
- In pairs, children select or create missing number sentences, for example,

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

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

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

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

Reflection: What does the equals sign mean? How can we use the meaning of the equals sign to help us to solve missing and equivalent number sentences?

Equivalent Number Sentences with Addition and Subtraction.

Record an addition number sentence, for example, $63 + 27 = 90$

Record 2 subtraction number sentences from the addition number sentence, for example, $90 - 63 = 27$ and $90 - 27 = 63$

Record one side of an equals sign, for example, $63 + 27 =$

Work out what the left side of the equals sign equals, for example, 90

Come up with some different ways to make the number sentence true.

For example, you could record,

$$63 + 27 = 73 + 17,$$

$$63 + 27 = 80 + 10$$

$$63 + 27 = 100 - 10$$

$$63 + 27 = 97 - 7, \text{ etc.}$$

Reflection:

How can we create subtraction number sentences from addition number sentences?

What does the equals sign mean?

How can we use the meaning of the equals sign to help us to solve missing and equivalent number sentences?

Equivalent Number Sentences with Addition and Subtraction.

Sit with a friend.

Each of you record an expression that equals a given number, for example, 74, one of you records $91 - 17$ and your friend records $58 + 16$.

Place your expressions on either side of the equals sign $58 + 16$ and record the number sentence, for example, $91 - 17 = 58 + 16$.

Reflection: What does the equals sign mean? How can we use the meaning of the equals sign to help us to solve missing and equivalent number sentences?

Equivalent Number Sentences with Addition and Subtraction.

Create missing number sentences, for example,

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

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

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

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

Reflection: What does the equals sign mean? How can we use the meaning of the equals sign to help us to solve missing and equivalent number sentences?