

Project 15

Not Just One Direction

Objective: Child will understand the directionality of addition and subtraction.

Essential Question(s): How can we use grouping to better understand addition and subtraction?

Special Materials: A deck of cards without the kings, queens, and jacks; pencil and paper

Bricks Required: 9 each of two different colors of 1x2 bricks, 9 clear 1x2 bricks and a 16x16 plate to stick them on

Project Structure:

Engage:

1. Ask child to explain how addition and subtraction are related.
 - a. Answers may include that they are opposites.
2. Explain that addition can be used to help with subtraction and subtraction to help with addition.

Explore:

1. Hand out cards (at least one each of 1-9), a 16x16 plate, and bricks
2. Ask child to draw two cards and create an addition sentence with one number missing (card $x + \underline{\quad} = \text{card } y$, where y is the larger number) out of bricks on the plate. Child should line up the bricks so it's easy to see where the blanks are.
 - a. Child can use the clear bricks to help count how many are missing to fill in their equations and record them on paper.
 - b. Child should repeat this process a few times.
3. Child then continues to draw cards, this time creating a subtraction sentence that focuses on the unknown addend, and recording their work.

Images, L-R: $4 + ? = 6$, $7 - 3 = ?$ (and child asks, "What plus three equals seven?")

