

A



Critical Learning Phase: Describes parts of numbers; counts on to determine total. Knows total when combining parts. (pages 56-57)

Children who understand this Critical Learning Phase can count on from the part they know to determine the total.

Students should all have their own Rekenrek.

Part 1:

Show 5 on your bead rack with 5 on top and ask students to match this on their own Rekenrek.

Question: **“How many more to make 8?” “How did you do it?”**

Anticipated responses: “3 - I did 6, 7, 8” “3 - I know 5 and 3 more is 8.”

Connect Strategies: **“Which of these strategies is the most efficient? Why?”**

Clear the space.

Part 2:

Show 5 on bead rack with 5 on top with students matching.

Question: **“How many more to make 9?” “How did you do it?”**

Anticipated responses: “4 - I did 6, 7, 8, 9” “4 - I know 5 and 4 more is 9.” “4 - 5 more is 10 and 9 is one less.”

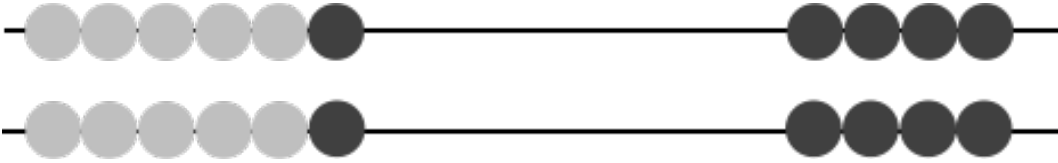
Part 3:

Show 5 on bead rack with 5 on top with students matching.

Question: **“How many more to make 10?” “How did you do it?”**

Anticipated responses: “5 - I did 6, 7, 8, 9, 10” “5 - I know 5 and 5 more is 10.”

B



Critical Learning Phase: Combines parts by using related combinations including doubles plus or minus 1. (pages 57-58) **Children who understand this Critical Learning Phase can use what they know about number combinations to solve another related combination.**

Students have their own Rekenreks.

Part 1:

Show 6 beads on the top row and 6 beads on the bottom row.

Question: **“How many altogether?” “How did you see it?”**

Anticipated responses: “12. I did 6...7, 8, 9, 10, 11, 12.” “I saw 12, 10 gray and 2 black.” “I saw 12, I just know 6 and 6 is 12.”

Clear the bead rack space.

Part 2:

Show 7 beads on the top row and 6 beads on the bottom row.

Question: **“How many altogether?” “How did you see it?”**

Anticipated responses: “13. I did 7... 8, 9, 10, 11, 12,13.” “13. I saw 10 gray and 2 black on top and 1 more black on the bottom.” “I know 7 and 6 is 12.” “I remember from the last problem that 6 on top and 6 on the bottom makes 12. There is one more on the top so that makes 13.”

Clear the bead rack space.

Part 3:

Show 8 beads on the top row and 8 beads on the bottom row.

Question: **“How many altogether?” “How did you see it?”**

Anticipated responses: “16. I did 8... 9, 10, 11, 12, 13, 14, 15, 16.” “16. I saw 10 gray and 6 black.” “I know 8 and 8 is 16.”

Part 4:

Show 8 beads on the top row and 7 beads on the bottom row.

Question: **“How many altogether?” “How did you see it?”**

Anticipated responses: “I did 8... 9, 10, 11, 12, 13, 14, 15.” “I saw 10 gray and 5 black.” “I know 7 and 7 is 14 and then 1 more is 15.”

C



Critical Learning Phase: Combines parts by using related combinations and notice relationships such as commutative property and rearranging parts to create known combination. Children know totals when combining parts. (pages 57-59) **Children who understand this Critical Learning Phase can combine part of numbers without counting.**

Part 1:

Show 6 by using the top row only. Cover the remaining 4 beads on the top as well as the entire bottom row.

Question: **How many altogether?**

Anticipated responses: 6, I see 5 and one more makes 6.

Question: **How many more to make 10? (These are the ones hidden in the top row.)**

Anticipated responses: "4, because to get to 10 you have to go 7,8,9,10, and that is 4 more." "4 because I know that 4 and 6 makes 10."

Clear the space.

Part 2:

Show 3 beads on the top row and 4 beads on the bottom row. Cover the remaining beads.

Question: **How many altogether?**

Anticipated Responses:

Question: **How many more to make 10?**

Anticipated Responses: "There are 7, so 8,9,10 is 3 more." "You need to add 2 on top to get 5 and 1 on the bottom to get another 5. 1 and 2 is 3."

Part 3:

Show 6 beads on the top row and 1 bead on the bottom row. Cover the remaining beads.

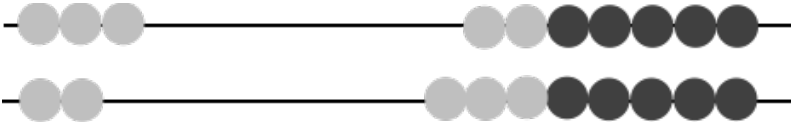
Question: **How many altogether?**

Anticipated Responses:

Question: **How many more to make 10?**

Anticipated Responses:

D



Critical Learning Phase: Knows the amount is not changed when a number is broken apart and recombined in various ways. Children do this first to numbers within 6, then to 10 and then to 20 (page 56-61) **Children who understand this Critical Learning Phase can see different ways that numbers can be arranged or described, and trust the total quantity stays the same.**

Students have their own Rekenreks.

Part 1:

Make 5 on the bead rack with 3 beads on the top row and 2 beads on the bottom row. Do not show students the bead rack until students have made several guesses.

Say, **“I have 5 on my bead rack. There are some on the top row and some on the bottom row. Guess My Way.”** Take student responses.

Anticipated Responses:

“I have 2 on top and 3 on the bottom.” You say: **“That is a way to make 5, but that is not my way. Did anyone else make 5 that way?”**

“Who has a different way to make 5?”

“I have 4 on top and 1 on the bottom.” You say: **“That is a way to make 5, but that is not my way.”**

“I have 3 on top and 3 on the bottom.” You say: **“How do you know that is 5?”**

Part 2:

Make 8 on the bead rack making 6 beads on the top row and 2 beads on the bottom row. Do not show students the bead rack until you have several guesses.

Say, **“I have 8 on my bead rack. There are some beads on the top row and some beads on the bottom row. Guess My Way.”** Take student responses.

Part 3:

Make 12 on the bead rack with 8 beads on the top row and 4 beads on the bottom row.

Say, **“I have 12 on my bead rack. There are some on the top row and some on the bottom row. Guess My Way.”** Take student responses.