

Making the Number Rack (K-2)

1. Place 5 red beads and 5 white beads on each pipe cleaner.
2. Wrap the pipe cleaners around the black board and tape in place.
3. Make sure white beads are on the right and red are on the left.
4. Place sticker in top right hand corner of board (white bead side) as “reset button”.



Using the Number Rack

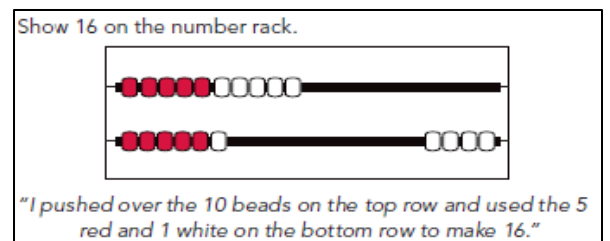
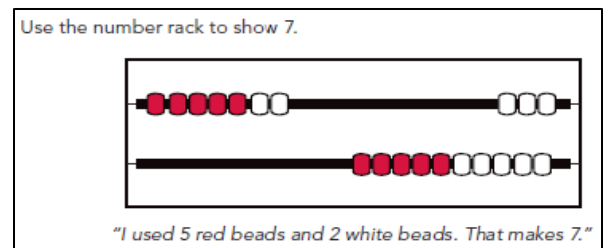
The Number Rack facilitates the natural development of children’s number sense. Rows of moveable, colored beads encourage learners to think in groups of fives and tens, helping them to explore and discover a variety of addition and subtraction strategies.

1. All beads should be “reset” to the starting position on the right hand side of the number rack.
2. Beads are moved to the left when in use.
3. Beads can be moved to the left on the top row only, the bottom row only or both rows at the same time.

Activities to do with the Number Rack

Beginning Activities:

- **Show me 0-10:** Say a number, or hold up a numeral card (0-10). Ask students to show the given number by moving the beads with one push – top row only.
- **Show me 11-20:** As above but ask students to show the given number of beads using only two pushes – top and bottom row.



- **Quick Images:** Push some beads across and display them briefly before covering them with a piece of cloth or card. Ask, “How many beads did you see? How do you know?”
- **Finding Different Ways to Make a Given Number:** Ask the students to build a number between 0-20. Have them find many different ways to build the same number (i.e. Build 6 – student slides to the right 2 beads on top and 4 beads on bottom, ask them to reset and find a different way to build 6).

Advanced Activities:

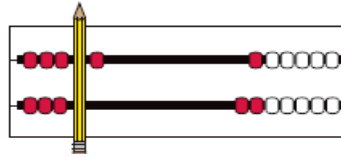
- **Doubles:** How many different doubles facts can you show on your Number Rack?

Using Doubles

How many beads can you see on the left?



The number rack shows $7 + 7$ as 2 rows of 7 beads.



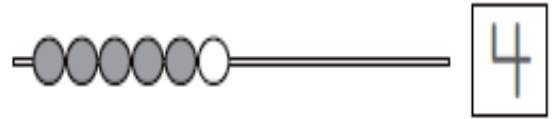
This number rack shows $4 + 3$. Students can see this as a double 3 and 1 more: $3 + 3 + 1$.

- **Building Missing Addends:** Tell your child that you are going to build the number 6 as a team. You will move beads on the top row and your child will move beads on the bottom row. "I am going to slide 4 beads to the right on the top row. Now in one move, you slide beads on the bottom row to build the number 6." Build that number in as many different ways as possible. Begin with 1-10, later increase to 1-20.

Making Ten

How many more beads are needed to make 10?

Write the number.



- **Number Stories:** Have children use number racks as a tool to solve various types of addition and subtraction number stories.
 - There were 8 children on a bunk bed. Some were on the top bunk and some were on the bottom bunk. How many children were on the top bunk? How many children were on the bottom bunk? Show as many different solutions as you can.
 - There were 12 passengers on a double-decker bus. Some passengers were on the top deck and some were on the bottom deck. How many passengers were on the top deck? How many passengers were on the bottom deck? Show as many different solutions as you can.
- **Writing Equations:** Slide beads to the left on the Number Rack. Have your child write an equation to match the number rack.

The Free App

Number Rack



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Download the Number Rack App: <http://catalog.mathlearningcenter.org/apps>

Watch video on how to use the App: <http://www.mathlearningcenter.org/blog/number-rack-app>