

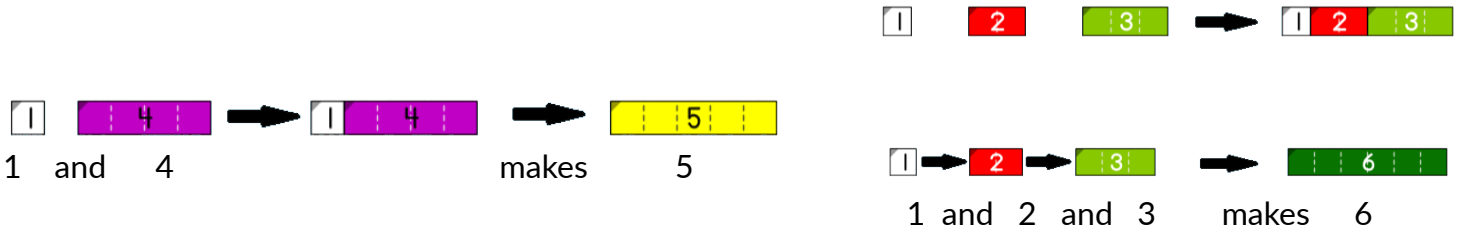


Composing and Decomposing Whole Numbers to 5

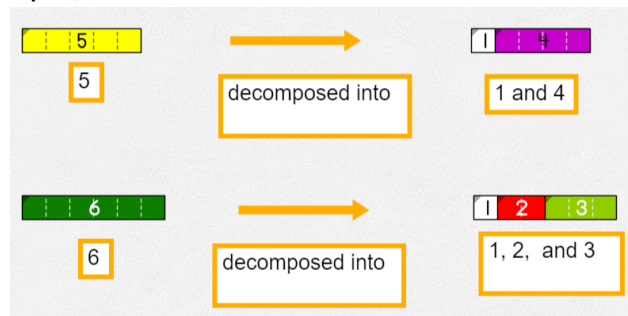
Mathematical Ideas

The ability to compose and decompose numbers is foundational to understanding numbers and their relationships.

Composing is when numbers are combined to create a larger number.
For example,

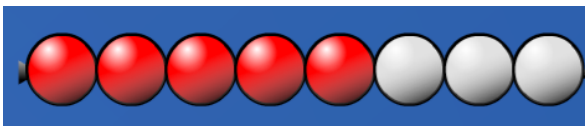


Decomposing is when a number is broken down into smaller numbers. A number can be decomposed in multiple ways. For example,

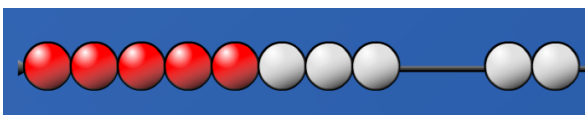


Understanding the relationship of numbers to 5 and 10 is helpful for knowing combinations of numbers. For example,

8 can be thought of as three more than 5



8 can be thought of as two less than 10



Understanding numbers relative to place value is important when working with our decimal system.
For example,

18 can be thought of as 1 ten and 8 ones.



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Helpful Information

Tips

- Learning tools are used to explore mathematical ideas and are a way for children to share their thinking. Encourage your child to take the time to use the learning tools in each activity.
- Organized concrete and visual representations can help with understanding numbers and the relationships between numbers.

For example,



From this visual, you can spatially see that when one number increased, the other number is decreased.

Mathematical Words/Symbols

Attribute – a characteristic of an object (e.g., colour, size, thickness, or number of sides).

Materials

Activity 1:

- Whole Number Rods

Activity 2:

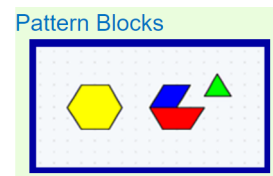
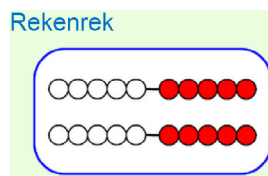
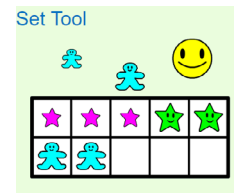
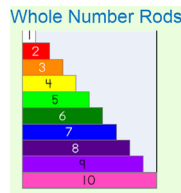
- Set Learning Tool

Activity 3:

- Rekenrek

Activity 4:

- Pattern Blocks





Composing and Decomposing Whole Numbers to 5

How Am I Composed?

Activity 1

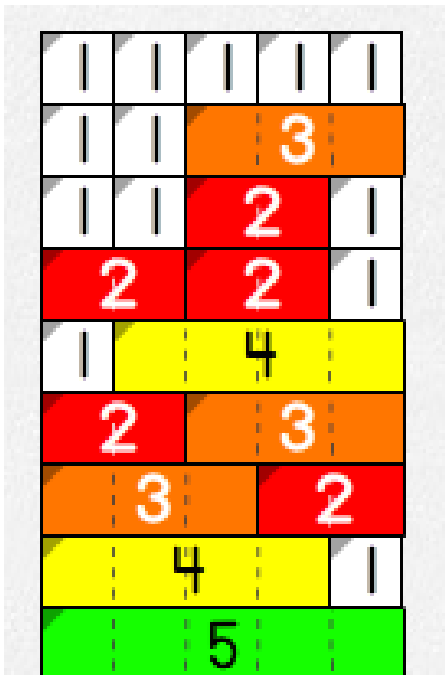
Set Up for the Activity:

- Open the Whole Number Rods learning tool.
 - » Place one 5-rod onto the workspace just above the unit train.

How to Do the Activity:

1. Ask your child to find other combinations of rods that create a train of this value. Stack each train on top of the single whole number rod to build a tower.
2. Challenge your child to build a tall tower by finding many different combinations.
3. Repeat the activity starting with one 3 or 4-rod.

Example:



Your child may start with two rod combinations before using more than two rods.

Let's Talk About It

How can you find another combination?

What train can you create if you had 'three' rods in your train? 'four' rods?

Do you think you have found all the trains? Why or why not?



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How Many in Each Group

Activity 2

Set Up for the Activity:

- Open the Set learning tool.
 - » Select the Auto mode on the panel.
 - » Input 4 or 5 for the Number of Objects and Press New.
 - » Hide the Panel
 - » Move the objects into the top centre of the workspace.
 - » Select the objects and make three copies.
 - ◇ Arrange each copy into three distinct sets across the workspace.

How to Do the Activity:

1. Ask your child to count the number of objects in the top set. This top set will stay as a group for the duration of this activity.
2. Confirm with your child that all the sets have the same number of objects in them.
3. Ask your child to decompose each set into two groups. Encourage your child to make groups of different sizes.
4. Have your child count the number of objects in each group. Record using the annotation tool.
5. Ask your child if there are other ways that the set can be split into two groups? If your child says yes, ask your child to show you.

Example:

The example shows a set of 5 objects at the top: 2 pink figures, 1 yellow smiley, 1 green smiley, and 1 blue star. Below this, three pairs of groups are shown, each with a handwritten number indicating the count of objects in each group:

- Group 1: 2 pink figures and 3 objects (1 yellow smiley, 1 green smiley, 1 blue star).
- Group 2: 3 pink figures and 2 objects (1 yellow smiley, 1 green smiley).
- Group 3: 4 objects (2 pink figures, 1 yellow smiley, 1 green smiley) and 1 blue star.

Your child may notice that 3 and 2 as well as 2 and 3 make 5.

Let's Talk About It

How did you know how many objects are in each set?

What patterns do you notice with the objects in the pairs of groups?





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Decomposing 5 on the Rekenrek

Activity 3

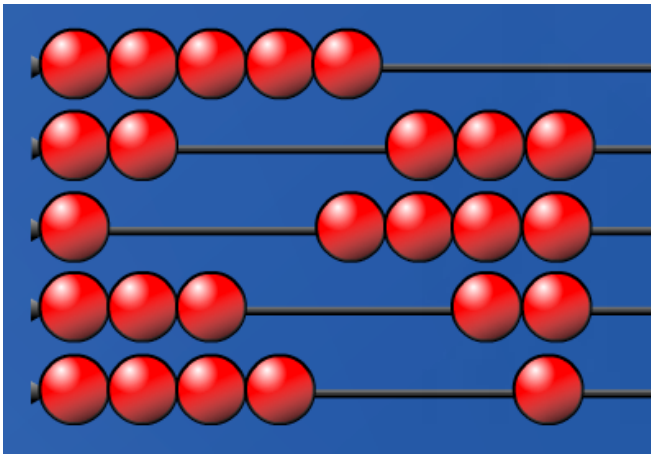
Set Up for the Activity:

- Open the Rekenrek learning tool.
 - » Show five racks with 4 or 5 beads on the left.
 - ◇ Use add a row  to add more racks.
 - ◇ Hide the other beads using the shade .

How to Do the Activity:

1. Ask your child to count the number of beads on the first rack.
2. Confirm with your child that each of the racks show the same amount of beads.
3. Ask your child to separate the beads into two groups on the second rack.
4. Have your child tell you how many are in each group. Record the number using the annotation tool.
5. Ask your child to show different ways to separate the beads into two groups using the other racks.

Example:



Your child may randomly place the beads into two groups.

Let's Talk About It

How did you know how many beads are in each group?
What patterns do you notice with the groups you made?



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Composing Blocks

Activity 4

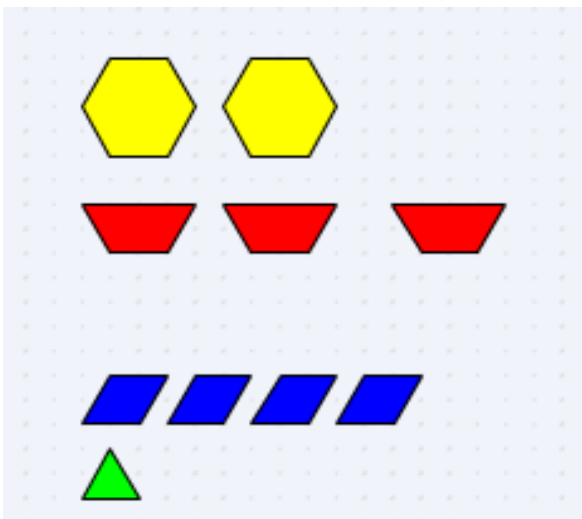
Set Up for the Activity:

- Open the Pattern Block learning tool.

How to Do the Activity:

1. Ask your child to place 5 pattern blocks onto the workspace using only two types of pattern blocks.
2. Ask your child to count the number of each type of block used.
3. Ask your child to place another set of 5 pattern blocks onto the workspace using a different combination of blocks and count the number of each type of block used.
4. Ask your child if there is another way to make 5. If your child says yes, ask your child to show you.
5. Repeat activity using 4 pattern blocks.

Example:



2 yellow and 3 red

4 blue and 1 green

Your child may replace one block type with another without actually changing the numbers of blocks.

Let's Talk About It

How are the two sets of blocks the same? How are they different?



Composing and Decomposing Whole Numbers to 5

Composing and Decomposing to 5 Using Colour Tiles


Activity 5

Set Up for the Game:

Number of Players: 2

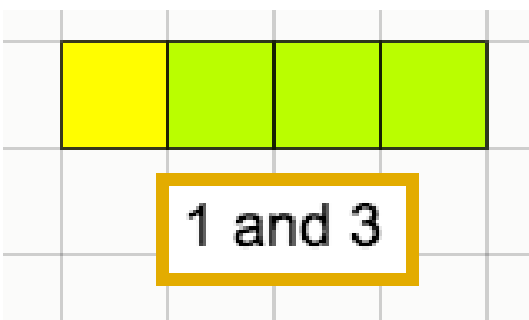
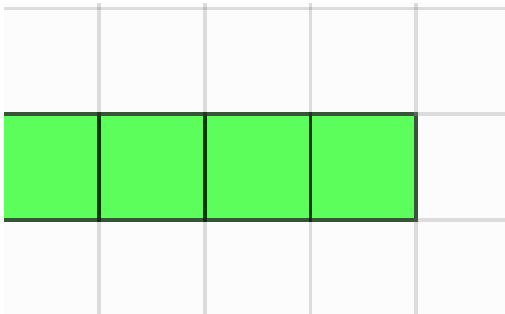
- Open the Colour Tiles learning tool.
 - » Select Few.

How to Play the Game:

1. Pick a number from 2 to 5. This is the target number.
2. Have your child move this number of same colour tiles into the workspace.
3. Have your child change some of the tiles so there are two colours of tiles.
 - » To change the colour select the tile(s) and the palette icon  .
4. Ask your child to tell you how many tiles of each colour. Record these numbers using the annotation tool.
5. Repeat as desired.

Example:

Target number: 4



Your child may notice that 1 and 3 is the same as 3 and 1.

Let's Talk About It

What is another way to decompose the target number?