Commuting and Computing

First Grade    Math    55 minutes    Standards: 1.OA.B.3

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Discovery is exciting! In this hands-on lesson, your students will discover for themselves the rule behind the commutative property of addition.

Learning Objectives

Students will be able to explain the commutative property of addition and how it can be used for mental math.

Materials and Preparation

- Counters (20 per pair)
- Drawing paper
- Crayons or pencils
- Chart paper or board

Key Terms:

- property
- sum
- commutative property

Lesson

Introduction (5 minutes)

- Explain to your students that a property is a characteristic belonging to someone or something. For example, Jenny has brown hair, and Paulo is a fast runner.
- Ask your students to share examples of properties.
- Explain that addition also has properties and that they will be exploring one of them today.
- Tell the students that when they understand the properties of addition, it will help them add faster and better.

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Explicit Instruction/Teacher Modeling (10 minutes)

- Invite the students to watch you use some counters, either by gathering around you, by using an overhead projector, a document camera with a classroom projector, or an interactive whiteboard.
- Show a model for a simple number sentence, such as $3 + 2$.
- Ask the students to identify how many counters you have in all.
- After the correct answer is given, write the equation on the board, pointing out that 5 is the sum, or the total of the numbers added together.
- Next, take the two groups of counters and, keeping them grouped, switch their order to be $2 + 3$.
- Explain that now the problem looks like $2 + 3$. Ask your students to identify the sum.
- Show that both equations got the same sum.
- Write the equations next to each other.

Guided Practice/Interactive Modeling (15 minutes)

- Pair students and give each pair 20 counters.
- Instruct your students to repeat the procedure that you modeled above using other simple equations.
- Keep a running list on the board or a chart of the pairs of equations that are being created.
- When you see that most of the students are starting to understand that the order of the addends does not affect the sum, explain that this is the commutative property, where the sums are the same.
- Explain that once they have solved the first equation, your students already know the sum of the second, and they don't have to count or compute to solve it.

Independent Working Time (15 minutes)

- Give each student a piece of drawing paper and coloring utensils.
- Demonstrate how to fold the paper into fourths. Assist as needed.
- Have each student pick 2 pairs of equations from the chart you've made and illustrate it.
- Instruct your students to title the page "The Commutative Property of Addition."
Extend

Differentiation

- **Enrichment:** Give your students more advanced questions to illustrate, such as two digit numbers like $11 + 5$ and $5 + 11$.
- **Support:** Pair your students together so that one student is making one illustration of an equation and the other is drawing the corresponding equation. For example, have one student show $4 + 5$ and the other show $5 + 4$.

Related Books and/or Media

- **GAME:** Fish Bowl Addition

Review

Assessment *(5 minutes)*

- As this is an introductory activity, informally question and observe your students.

Review and Closing *(5 minutes)*

- Restate the commutative property rule.
- Remind the students that when computing the sum of 2 addends, the order does not matter.