

4

ADDITION AND SUBTRACTION OF POSITIVE AND NEGATIVE NUMBERS



OBJECTIVE

Students will learn how to add and subtract negative and positive numbers.



CONTENT

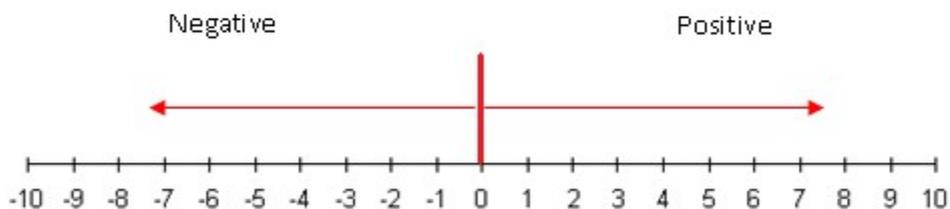
1. Addition and subtraction of positive and negative numbers
Activity 1: Step right
2. Take it to another level
Activity 2: Make it stick

1 ADDITION AND SUBTRACTION OF POSITIVE AND NEGATIVE NUMBERS

❖ Activity 1: Step right

Preparation

Draw a **number line** on the floor of the classroom (preferably on the schoolyard), the students should be able to **distinguish** where the negative side and positive side is on the number line or which are the **negative** numbers and **positive** numbers.



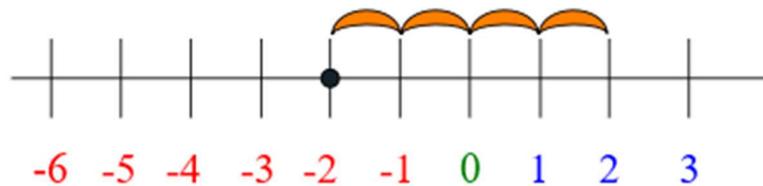
Implementation

- Put a student to stand at one point on the number line.
- Call out loud a calculation (only “**add**” or “**subtract**”) and a **positive** number (*add 4, subtract 5, etc.*).
- Upon hearing this command from the coach, the student has to step:
 - To which side?
*The student must step to the **right** upon “add” and to the **left** upon “subtract”.*
 - By how many?
*One step is equal to one unit on the number line.
The number of steps that the student has to take are equal to the number in the command (4 or 5).*

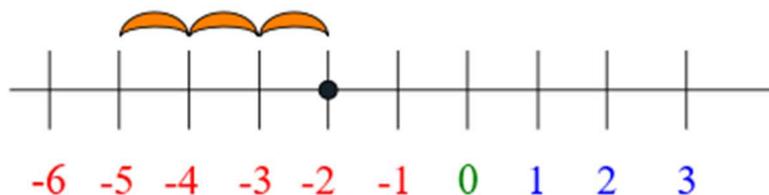
Coaches can make it harder by calling numbers after numbers faster and faster for one student. Rotate students to play.

Example

Put a student to stand at the number -2 then call out loud “add 4”.
The student should move 4 units to the right of the number line.



Put a student to stand on the number -2 then call out loud “subtract 3”.
The student should move 3 units to the left of the number line.

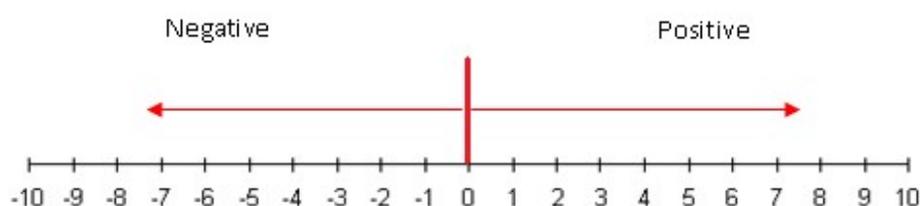


Note: Don't confuse the student with “Add negative five!”, “Subtract positive eight!” or “Subtract negative six!” yet.

Explanation

This part is for coaches to explain in class and on the board what we have done in Step Right activity.

Moving from the floor to the board: coaches draw the number line on the board. This is to help students visualize the calculation in mathematical terms. Coaches explain the way we calculate by using the number line (similar to what we have just done in the activity, but now in writings on the board), with emphasis to the question “**to which side**” and “**by how many**”.



For example:

$$-2 + 4 = 2$$

$$-2 - 3 = -5$$

Give students some more examples and ask them to solve it themselves.

Coaches might call students to the board to solve the problems, make sure they know how to use the number line to calculate the results.

(Only move on to Part 2 when students have fully understood Part 1, otherwise it is more important to keep reviewing part 1.)

2 TAKE IT TO ANOTHER LEVEL

Coaches state a new problem:

What if it is not simply $-2 - 2$ or $3 + 3$ but $-2 - (-2)$ or $-2 - (+2)$?

Wait for any brilliant minds!

Then coaches explain the rules below and give some examples.

Rules			Examples
<p>+(+) -(-)</p>	<p>Two like signs become a positive sign</p>		<p>$3+(+2) = 3 + 2 = 5$ $6-(-3) = 6 + 3 = 9$</p>
<p>+(-) -(+)</p>	<p>Two unlike signs become a negative sign</p>		<p>$7+(-2) = 7 - 2 = 5$ $8-(+2) = 8 - 2 = 6$</p>

Coaches can reuse the Step Right game now with more complex calculations such as $3 + (+3)$, $4 - (-4)$, $-5 - (+5)$ or $-6 + (-6)$.

❖ **Activity 2: Make it stick**

This game is to make what students have just learned stick to their brains and add some fun to the classroom.

Coaches draw 2 number lines on the floor. Students are divided into 2 teams competing for the correct answers. The kids from each team takes turns to compete against each other. The correct as well as the fastest will get the point.