



YOUTH ART PROJECT FOR:

## INTRODUCTION TO NEGATIVES

### OBJECTIVE

Students will learn about negative integers and how to add and subtract positive and negative integers.

Set up/prep time:

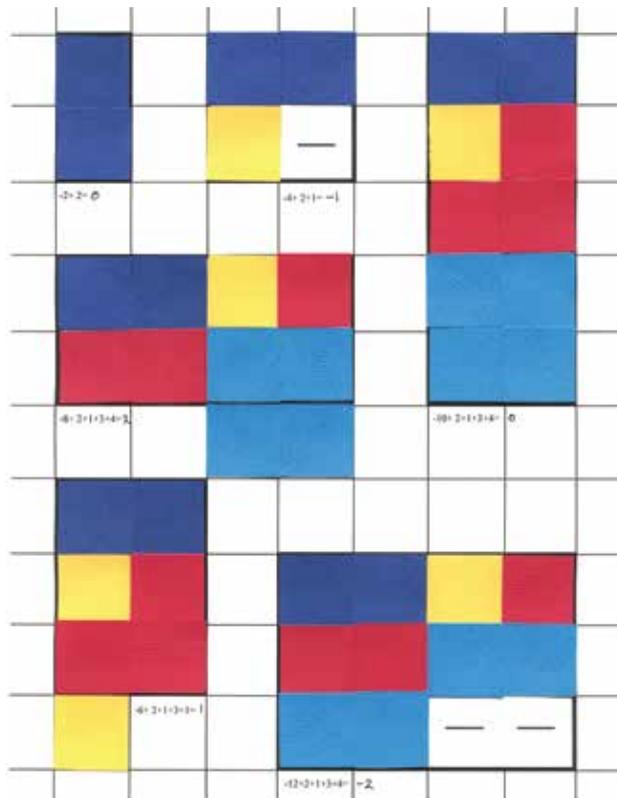
**30 minutes**

Activity time:

**2-3 hours**

Materials Needed:

**Colored markers, pencil, eraser, paper**





## COMMON CORE STATE STANDARD

CCSS.Math.Content.6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation

## PRE LESSON ASSESSMENT

Do a pre lesson assessment to determine what knowledge the students already have about negative integers.

## VOCABULARY

Positive, Negative, Integer

## RELEVANT RESOURCES

### Content

<https://en.wikipedia.org/wiki/Integer>  
<http://www.eduplace.com/math/mathsteps/6/b/>  
[http://en.wikiversity.org/wiki/Primary\\_mathematics/Negative\\_numbers](http://en.wikiversity.org/wiki/Primary_mathematics/Negative_numbers)

### Art

<http://mathforum.org/alejandre/magic.square/5x5grid.html>  
<http://blog.lib.umn.edu/farre212/f11psy1001ds1415/coloured-squares-created.gif>

### Students will engage in:

- Listening
- Speaking
- Reading
- Writing
- Partner Work
- Cooperative Learning
- Whole Group Instruction
- Visuals
- Hands on
- Technology Integration
- A Project
- Centers
- Simulations
- Activities

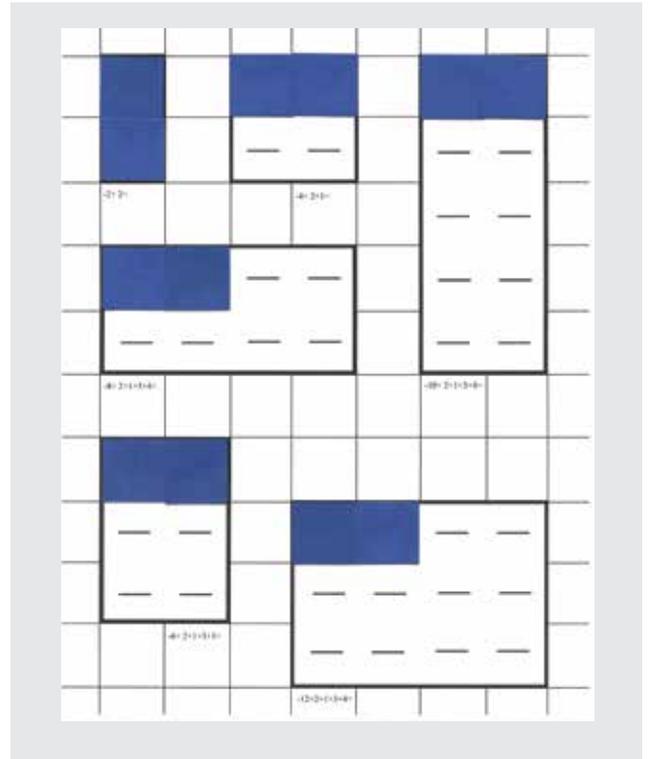
**“I prefer the errors of enthusiasm to the indifference of wisdom.”**  
—Anatole France





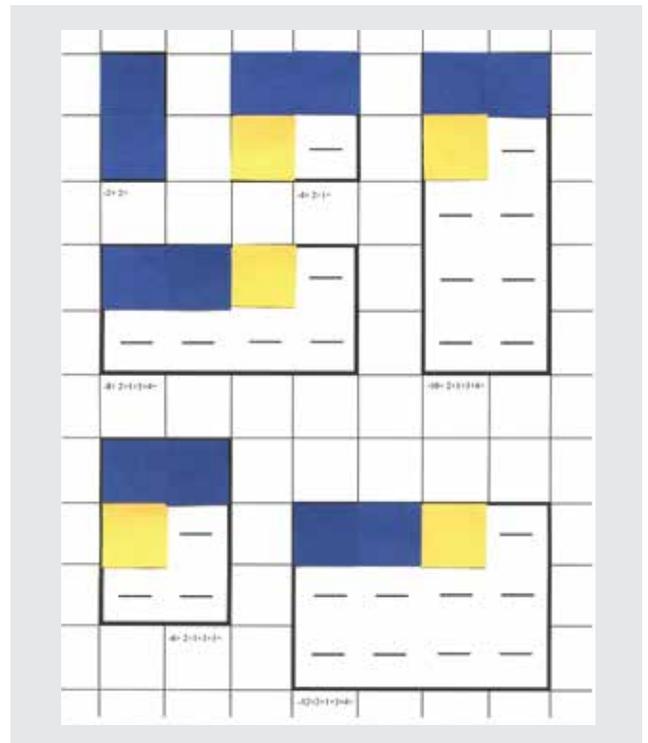
## STEP 1

Explain to the students that a negative is like a number that is not there or in this case like an empty box. Referring to the worksheet provided there are two negatives in the first box because two squares could fit into the box and twelve negatives in the last box because twelve squares could fit in the boxes. Below each box is an equation, the first number is the number of squares that will fit in the box. Have the students place two dark blue squares in the first box. Have the students observe that zero boxes now need to be filled, this means that  $-2+2=0$ . These squares represent a positive integer, for example if the equation calls for adding two, have the students lay down two blue squares, covering up the negatives. Have the students add two blue squares for all equations that have a +2.



## STEP 2

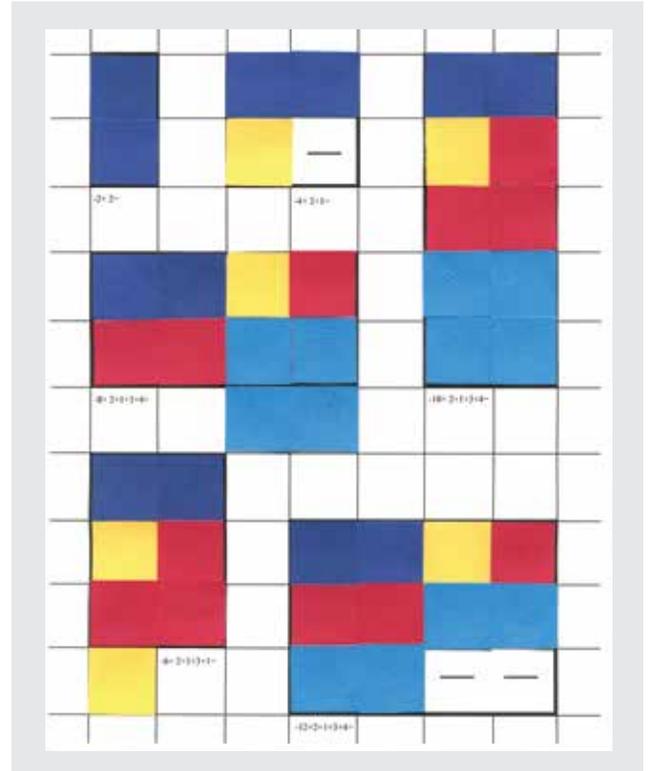
Have the students use a different color to represent each number presented in the equation. For example in step one we learned +2 is represented by two blue squares, +1 will be represented by a yellow square. Have the students place their yellow squares in their boxes for the equations that ask for +1.





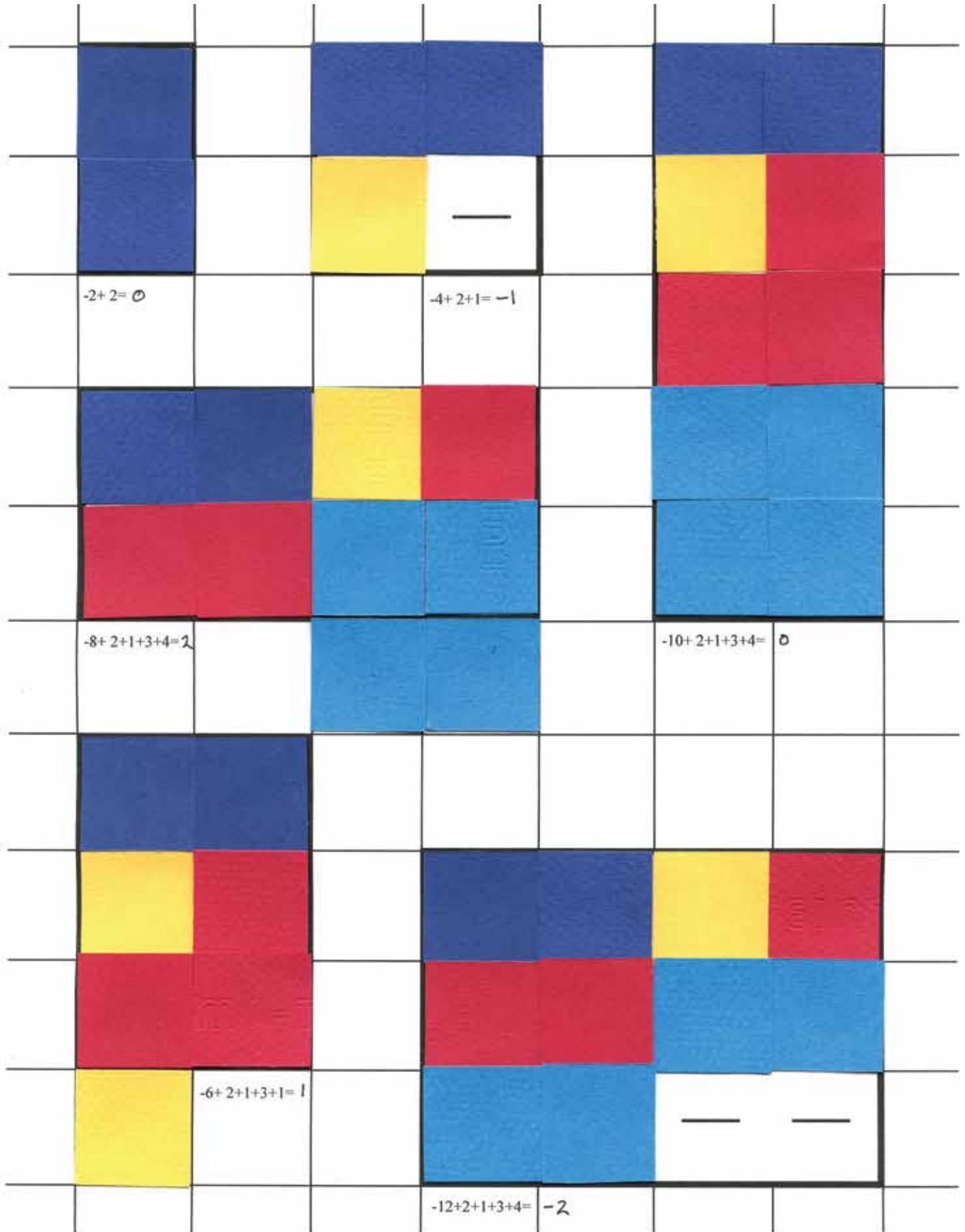
## STEP 3

Continuing with each equation have three red squares represent +3 and four light blue squares represent +4. Note on some of the equations the light blue squares will not fit into the boxes drawn, they can be placed anywhere outside the box. Now have the students write down the answers to their equations using their boxes. Explain to the students that for every box with a negative sign that is not covered by a colored square represents -1. For example, in the second equation one square is left uncovered therefore the answer is -1. Two squares left uncovered represent -2 and so on. Also explain to the students that for every colored square they have left over that did not fit into the drawn boxes this represents a positive answer. For example if the equation had two colored squares left over than the answer is positive 2. Once all the equations are correct have the students glue down their squares. A blank grid has been provided for teachers to use if they wish to have the students practice further equations.



## POST LESSON ASSESMENT

Do a post assessment to determine what new knowledge the students have gained.





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$-2 + 2 =$			$-4 + 2 + 1 =$		
<hr/> <hr/>				<hr/> <hr/>	
$-8 + 2 + 1 + 3 + 4 =$				$-10 + 2 + 1 + 3 + 4 =$	
<hr/> <hr/>					
	$-6 + 2 + 1 + 3 + 1 =$		<hr/> <hr/>		
			$-12 + 2 + 1 + 3 + 4 =$		

