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### Model Subtraction Using Chips

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Name: Samuel Simpson

Grade level(s)/Subject taught: Math 7<sup>th</sup>

Objectives: Model subtraction using chips. Student learn to subtract integers using a chip board. Where chips represents positive and negative numbers

### Mathematical Concept:

Numbers and Operations: Learn to subtract negative integers.

Students use mathematical modeling to subtracting integers, a difficult concept for middle school student to grasp. The model uses positive and negative chips to represent integers.

After reviewing addition of integers using the number line and on a chip board. I will introduce subtraction, the opposite operation of addition on the chip board.

Students will start the Color Chips - Subtraction Activity from the page below.

website: [http://nlvm.usu.edu/en/nav/grade\\_g\\_3.html](http://nlvm.usu.edu/en/nav/grade_g_3.html)

Color Chips: This virtual manipulative uses plus-minus chips to demonstrate subtracting positive and negative values. Students using this virtual manipulative you will solve subtraction problems via chip boards.

Subtracting Integers using the virtual manipulative Color Chips:

1. Drag chips into the work circle to represent the first integer (red – negative, black - positive problem and click Continue.
2. Drag chips pairs into the work circle representing the second integer Continue.  
Note: When you drag a plus chip onto a negative chip they will animate and disappear to represent cancelling each other out.
3. Remove chips representing the integer being subtracted from the work circle and place in the take away bin and click Continue.

4. Type in your answer (the number of chips left over with the appropriate sign) and click Check

Students will be asked to complete a worksheet. The worksheet will consist of solving several subtraction sentences generated by the manipulative.

Students will:

1. Write down the subtraction sentence and solve.
2. Following the manipulative to confirm their solution.

Materials

- Worksheet
- Access to the website: [http://nlvm.usu.edu/en/nav/grade\\_g\\_3.html](http://nlvm.usu.edu/en/nav/grade_g_3.html)

All students should be able to complete this assignment.

Grading Rubric		
	Pass	Fail
Able to access the website	Able to access the site	Not able to access the site
Understands how to use the manipulate	Reads and follows the directions	Unable to read and follow directions
Able to solve the subtraction sentence	Correctly solves the problem	Unable to solve the problem
Complete the worksheet	Complete worksheet	Doesn't complete Worksheet

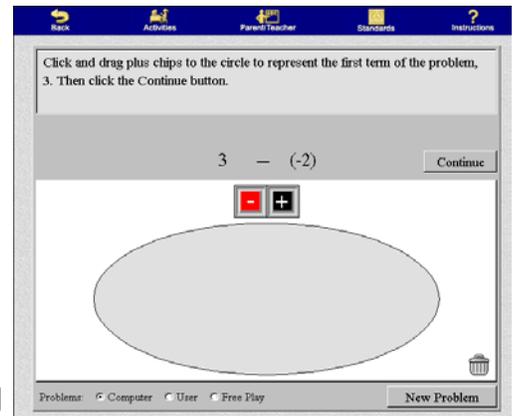
Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Activity: Subtraction - Chip Board

In this activity you are going to use color chips to illustrate subtraction of integers.

Start the Color Chips - Subtraction Activity from the page below.

website: [http://nlvm.usu.edu/en/nav/grade\\_g\\_3.html](http://nlvm.usu.edu/en/nav/grade_g_3.html)



### Color Chips

This virtual manipulative uses plus-minus chips to demonstrate subtracting positive and negative values.

Using this virtual manipulative you will solve subtraction problems:

- Using plus and minus chips

### Subtracting Integers using the virtual manipulative Color Chips:

1. Drag chips into the work circle to represent the first integer (red - negative, black - positive problem) and click *Continue*.
2. Drag chips pairs into the work circle representing the second integer *Continue*. Note: When you drag a plus chip onto a negative chip they will animate and disappear to represent cancelling each other out.
3. Remove chips representing the integer being subtracted from the work circle and place in the *take away bin* and click *Continue*.
4. Type in your answer (the number of chips left over with the appropriate sign) and click *Check*

Complete the work sheet

Name: \_\_\_\_\_

Date: \_\_\_\_\_

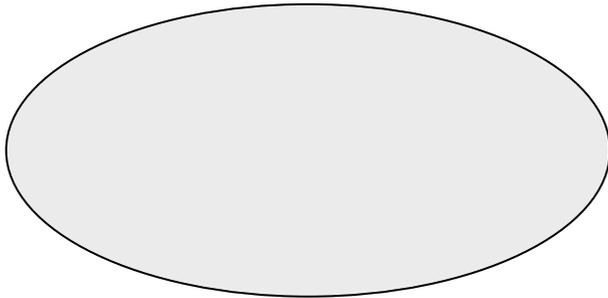
**Activity: Subtraction - Chip Board**

1. Write the subtraction equation and solve.

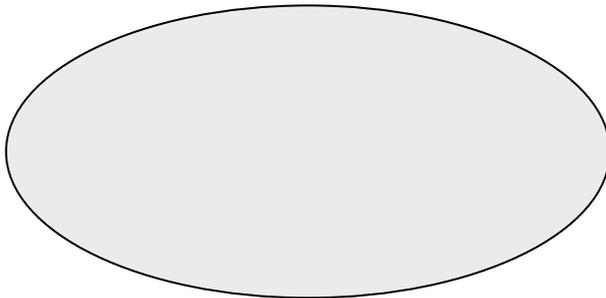
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2. Confirm or deny your solution using the color chips manipulative

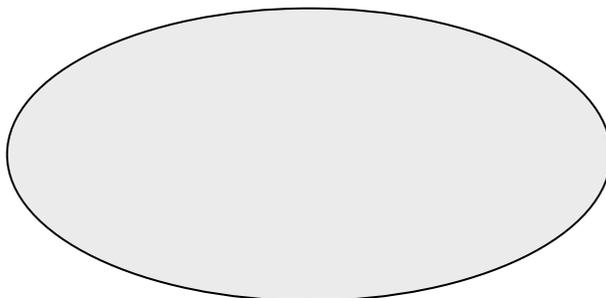
a. Drag chips into the work circle to represent the first integer (negative (-), positive (+)).



b. Drag chips pairs into the work circle representing the second integer (negative (-), positive (+)).



c. Cross out chips representing the second integer (subtraction).



d. The number of chips remaining is solution to the subtraction problem. Write and solve the subtraction equation.

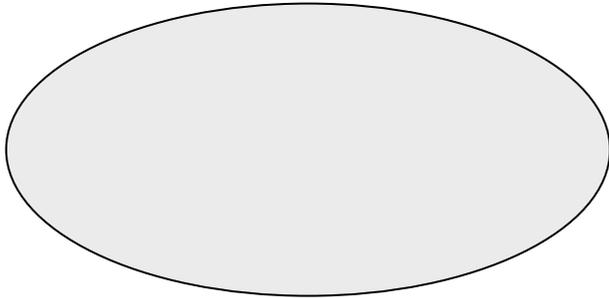
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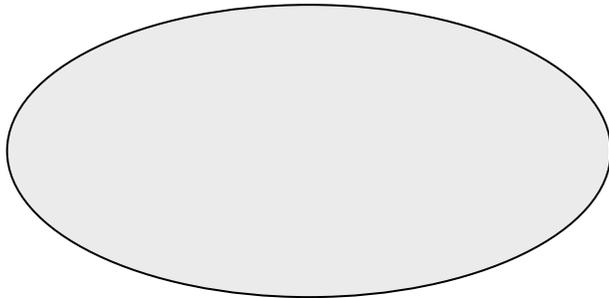
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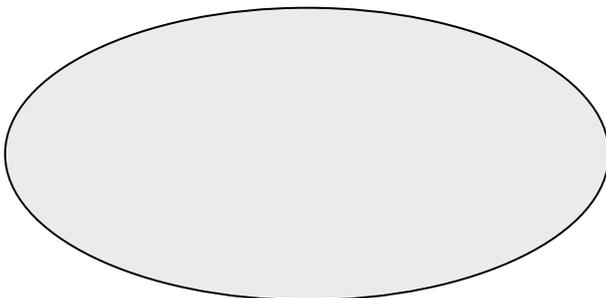
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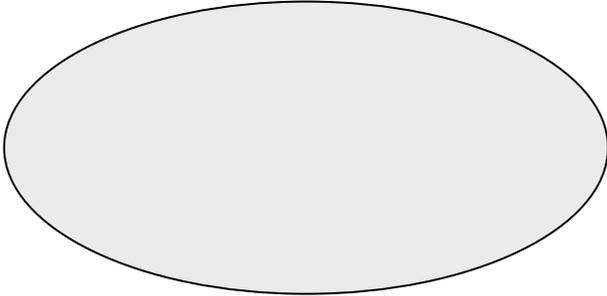
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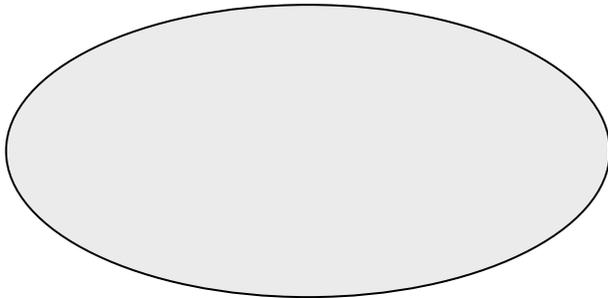
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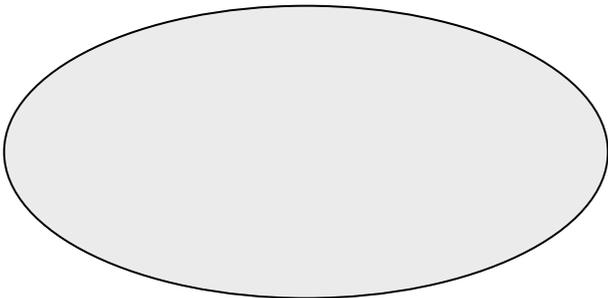
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