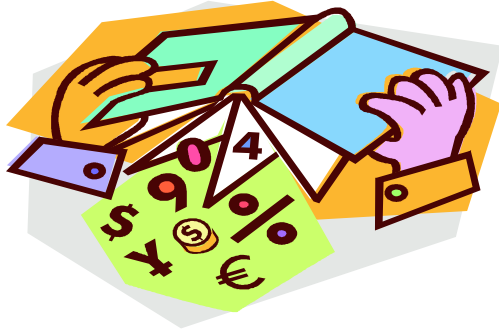


# Algebra/Geometry Institute Summer 2008



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**Grade Level: 6<sup>th</sup> grade**

1 Teaching objective: Model simple addition and subtraction problems of integers using manipulatives and number lines.

2 Instructional Activities

Teacher will do the following:

1. Provide manipulatives (2-sided counters) for each student. Demonstrate adding and subtracting using 2-sided counters, emphasizing the fact that red is for negative and yellow for positive. See Attachment 1 for models and answers.
2. Demonstrate using a number line to model addition and subtraction. See Attachment 2 for models and answers.

### Student Activities

1. Students will follow teacher models of integer exercises, taking notes and asking questions.
2. Students will participate in question & answer session towards first step of understanding for auditory learners.
3. Students will complete practice assessment using color counters to display provided problems and answers for tactile learners.
4. Students will use student made number lines to obtain answers to second assessment with paper clips.

### Materials and Resources

The following materials will be used to accomplish mastery;

1. 2-color counters
2. Teacher-constructed number line with paper clips
3. Teacher-made practice problems

### Practice Problems (write on overhead transparency)

1.)  $-3 + 8 = ?$

2.)  $-5 + -6 = ?$

3.)  $8 + -12 = ?$

4.)  $3 + -5 = ?$

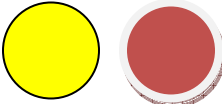
### Assessment

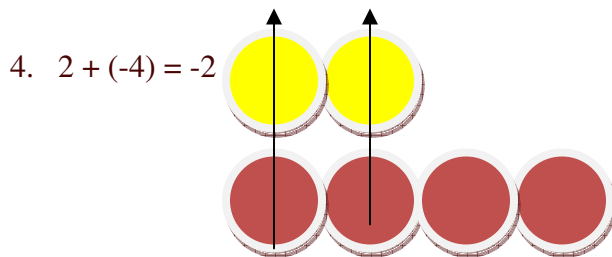
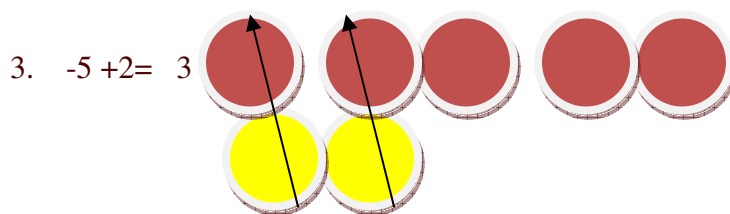
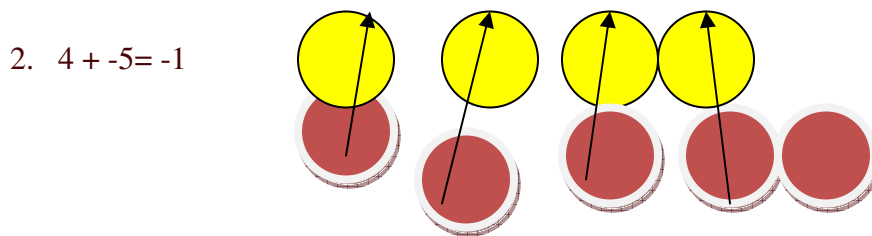
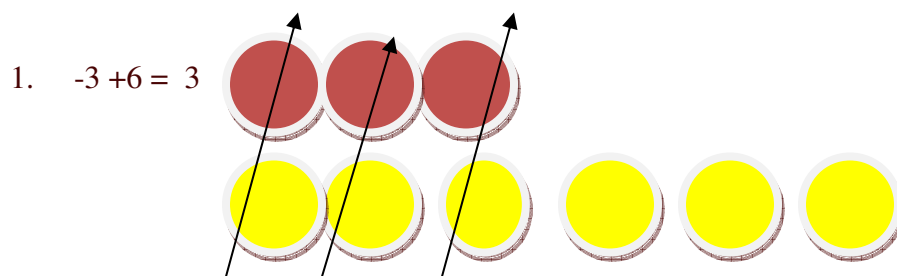
1. Students will complete color counters independent assessments.
2. Students will complete number line / paper clip assessment.

Attachment 1

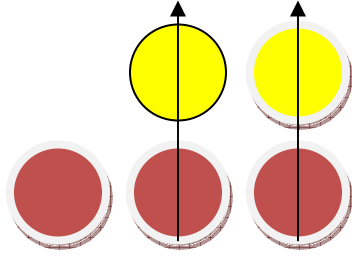
**Adding integers using 2-color counters.**

Directions: Demonstrate the following problems using color counters. Students should use their counters at their seats, taking notes and drawing pictures as needed.

Note:  $-1 + 1 = 0$ ; this is a zero pair 



5.  $2 + (-3) = -1$



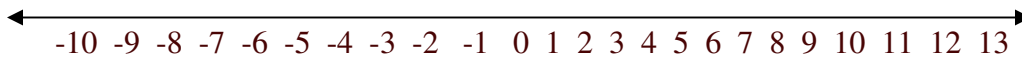
Attachment 2

**Adding and subtracting integers using a number line.**

Teacher will demonstrate using the paper clip by placing the clip on the first number in the problem and moving it according to the operation and second number.

Note: To move positive directions we move right.

To move in a negative direction we move to the left.



1.  $-8 + 10 =$  \_\_\_\_\_

2.  $8 - 12 =$  \_\_\_\_\_

3.  $-7 + 12 =$  \_\_\_\_\_

4.  $-2 - 6 =$  \_\_\_\_\_

5.  $10 - 16 =$  \_\_\_\_\_

