

# Algebra/Geometry Institute Summer 2002



## Lesson Planning Guide

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**School:** Matty Akin Elementary, Greenville, MS

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

### 1 Teaching objective(s)

Models simple addition and subtraction properties using integers on a number line.

### 2 Instructional Activities

Motivation: Review vocabulary with crossword puzzle.

- Number line
  - Origin
  - Positive and negative numbers
  - integers
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- Have groups to draw a number line from  $-20$  through  $20$  and demonstrate simple addition and subtraction problems by pencil moves on the number line. The students will use the deck of cards to make the equations. Red cards are negative and black cards are positive. The face cards equal 10, Aces equal 11, and the other are face value.
  - The class will be divided into 2 groups. A game of “Human Number Line Relay” will be explained to the class. A deck of playing cards will be given to each group. Red cards represent negative numbers and black cards represent positive numbers. Tape 2 number lines numbered  $-40$  through  $40$  on the floor. One person from each group will flip up 2 cards and add or subtract their cards.  
Example: Red King ( $-10$ ) plus black five ( $+5$ ) =  $-5$  or Red eight ( $-8$ ) minus black two ( $+2$ ) =  $-6$ .  
A representative from each group will physically walk the number line. The object of the game is the team that is the greatest distance from zero earns a point for their team. Alternate players so everyone has a turn.  
Cards represent their face value, face cards represent 10, and Aces represent 11.

### 3. Materials and Resources

- Sentence strips
- Pencils
- Decks of playing card for each group
- 2 number line numbered  $-40$  through  $40$

Saxon, John. Algebra 1/2 : An Incremented Development. Saxon Publishers Inc., 2000.

#### 4 Assessment

- The teacher will use observation as an assessment.
- The crossword puzzle will be graded.
- The students will complete a 10 point test on adding and subtracting integers on a number line.

#### 5 Enrichment

Give each table a deck of cards. The rules of Human Number Line game apply. The red cards represent negative and the black cards represent positive. Place eight cards face up on the table. The object of this game is to make zero using as many cards as possible.

Example: A red 5 and a black 5 represent a  $-5$  and a  $+5$  which cancel each other out and equal zero. The following cards would also equal zero:  $-4 + -2 + 10 + -10 + -6 = 0$  or red 4, red 2, red 10, black 10, black 6.