Algebra/Geometry Institute Summer 2002

Lesson Planning Guide #3

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School: Threadgill - Greenwood
Grade Level: 6

MS Framework Recognize, classify; and model real numbers and their properties.
Classify number as natural, whole integers, rational irrational and real.

1   Teaching objective(s)
        The students will identify, name and graph integers.

2   Instructional Activities

        The students will complete warm-up activity from overhead **(See Attachment #1)**
        Given the vocabulary terms, the students will define each term and place them in
        their mathematics notebook**. (See attachment #2)** The teacher will introduce
        the lesson by saying: The temperature in the deserts of Africa can reach as high as
        136°F and the temperature in Anchorage, Alaska can get as low as 30 degree
        below zero. The number 136°F is a positive number. What word (s) let us know
        that it is a positive number? (as high as). The number 30 degree below zero is a
        negative number.   What word(s) let us know that it is a negative number? (below)
        The teacher will make a chart using the overhead to show other words that means
        positive/negative. Student will copy this chart in their notebook**. (See
        Attachment #3.**
        The teacher will give the definition term for integer**.**
        *Integer*s are the whole numbers and their opposite… -3, -2, -1, 0, 1, 2, 3 . . .
        Opposites are two integers are opposites if they are represented on the
        number line by points that are the same distance from zero, but in opposite
        direction from zero. The sums of opposites are zero.
        Negative *integers* are integers that are less than zero.
        Positive integers are integers that are greater than zero.
        The teacher will tell students that positive integers are numbers they already know
        (2, 6, 7, 20, 24 . . .)

        Activity #1
        The teacher will have one student write numbers on the chalkboard while the rest
        of the class write the opposites of those numbers on a sheet of paper. The teacher
         will allow the students time to complete activity, once they are finish the
        students will be called at random to go to the chalkboard to place the number
        opposite. (10-15 minutes)

Activity #2
The teacher will write each integer from –10 to 10 on index cards. The student will choose one of 21 cards, placed face down. The students are asked to form a human number line, holding the cards in front of them. The students must listen to their classmate places on the number line and the integer greater than and less than their place. This will give them ideas as to their position on the number line when their time comes. Ask each student to name one integer greater than and one less than his or her card. Making sure each student understands the concept. Then have students in the line pass their cards to the teacher to be place flat down to be redistributed. Repeating the process.

Activity #3
The students will be given a practice worksheet to complete. The teacher will give students direction for completing the fourteen problems. **(See Attachment #4)**

3   Materials and Resources

Index cards, markers, overhead transparency, vocabulary terms, and positive/negative
chart, chalkboard, paper, notebook, pencil, dictionary, and chalk.
References
Silver Burdett Ginn Mathematics, The Path to Math Success! 6th Grade; Parsippany, NJ 2001.
Glencoe McGraw Hill Mathematics, Application and Connections; 6th Grade Columbus, OH

4   Assessment

The students will write and turn in the question on how would you use an integer to write 20 ft above ground? 20 ft below ground?

5   Enrichment (Optional)

The students will complete two problem-solving activities for homework.
(See Attachment #5)

Attachment #1

Warm–up Activity

Describe the pattern:

4, 11, 32, 95, . . .

(Answer: Multiply the proceeding number by 3 and then subtract 1 to get the next term.)

Attachment #2

Vocabulary Terms

1. **Integers**

2. **Positive Integers**

3. **Negative Integers**

4. **Opposite**

Attachment #3

Chart of Negative and Positive Integer Words

Negative Integers	Positive Integers
Drop	Gain
Backward	Go
Below Sea Level	Above Sea Level
Less	Greater
	High
	Above

Other Words: Profit, altitude, breakeven

Attachment #4

Practice Worksheet

Direction: Write an integer that describes each situation.

1. $19   2. weight loss of 10 pounds   3. 8 Feet below sea level

Make a number line for Exercise 4-9. Write the integer that represent each point.

4. B +4   5. C –3   6. H –6
7. E 0   8. F +1   9. A +8

Write the opposite of each integer.

10.   +12   11. +345

12.   –9   13. –4

14. 0

Attachment #5

Homework

Direction: For each problem, start at 0 degrees on a thermometer and find the last temperature.

1. **Up 3 degrees, down 7 degrees, up 2 degrees**

2. **Down 6 degrees, up 4 degrees, down 1 degrees.**