**SUBJECT**: Mathematics TITLE: 6.3 Subtracting Integers

**GRADE LEVEL**: 6/Rm. 203

**NUMBER OF STUDENTS**: 34

**LESSON DURATION**: 164 minutes (2 days)

**STANDARDS:**

NCTM

* Standard 1: Understand the meanings of operations.
* Standard 6: Solve problems in math and other contexts.
* Standard 10: Use representations to communicate ideas

**OBJECTIVES**:

* All students will be able to:
  + subtract integers

**VOCABULARY**

* subtract
* integers

**MATERIALS/RESOURCES**:

* McDougal Littell Middle School Math
* Document Camera (ELMO)
* Math notebook
* Pencil
* Calculator
* Practice B
* Practice C
* Subtracting Integer Word Problems (2 worksheets)
* Challenge Practice
* Additional Challenge Practice

**LESSON INSTRUCTIONAL PROCEDURES**

**Day 1**

- Go over the homework from the night before.

- Discuss any problems students struggled with.

1. Introduction (motivation/warm-up/lead-in)

* *The elevator drops from the 5th floor to the 8th floor. What is an addition model for the resulting floor number?* 8 + –5 = 3
* *What is the subtraction model for the resulting floor number?* 8 - 5 = 3
* *How are they similar?* How are they the same?

1. Development: Instruction and Activities

* Discuss the rule: *To subtract an integer, you must add .*

*-* its opposite

* Have students go over the following examples:

1. Subtract 2 from 5 5 – 2 = 5 + (-2)

> Go over the subtraction model for 5 – 2

> Go over the addition model for 5 + (-2)

2. Subtract 6 from 4 4 – 6 = 4 + (-6)

> Go over the subtraction model for 4 – 6

> Go over the addition model for 4 + (-6)

3. 2 - 7 = 2 + (-7)

4. -6 – 8 = -6 + (-8)

5. 12 – (-9) = 12 + 9

6. -10 – (-5) = -10 + 5

* Go over two word problems:

- **Geography** The highest point in Asia is Mount Everest at 8850 meters. The shore of the Dead Sea, the lowest point in Asia, is about 410 meters below sea level. What is the difference between these elevations?

- **Weather** In Fairfield, Montana, on December 24, 1924, the air temperature dropped a record amount. At noon, the temperature was 63°F. Twelve hours later the temperature was -21°F. What was the change in temperature?

1. Differentiated Instruction
   * ELL Students

- Allow students to work in pairs or in their small groups (table groups).

* + Special Education – mild-moderate memory and processing learning disability

- Provide students with tiered questioning to help them build upon the main concept of the lesson.

- Allow students to work in pairs or in their small groups (table groups).

* + Talented and Gifted

- Challenge students by having them complete the Challenge Practice worksheet.

1. Closure
   * Review the rule for subtracting integers: *to subtract an integer, you must add its opposite*.
   * Have students begin their homework: 6.3 Practice B or C

**Day 2**

- Go over the homework from the night before (6.3 Practice B and C).

- Discuss any problems students struggled with.

1. Introduction (motivation/warm-up/lead-in)

* Discuss the following word problems:

- **Football** The longest gain in a football game was 41 yards. The worst loss was 14 yards. What is the difference between these distances?

- **Denver** The temperature in Denver drops overnight from 24°F to -16°F. What is the change in temperature?

1. Development: Instruction and Activities

* Handout the subtraction word problems.
* Have students work on the worksheets and have them all begin on the same worksheet.
* They must finish the worksheets for homework.

1. Differentiated Instruction
   * ELL Students

- Allow students to work in pairs or in their small groups (table groups).

* + Special Education – mild-moderate memory and processing learning disability

- Provide students with tiered questioning to help them build upon the main concept of the lesson.

- Allow students to work in pairs or in their small groups (table groups).

* + Talented and Gifted

- Challenge students by having them complete the additional Challenge Practice worksheet.

1. Closure
   * Discuss the first worksheets answers (at least one-side).

DIFFERENTIATED ASSESSMENT for ELL, LD, Gifted, and General Education

* Informal: While the students work, walk around the room making sure students are on task and are actively engaged in learning. Look for correct answers and anything that may need further explanation or if it is something that should be shared with the class.
* Formal: Students will complete three worksheets for homework and in-class (Practice B or C and Subtracting Integer Word Problems).

REFERENCES AND RESOURCES

* McDougal Littell Middle School Math