**Cooperative Learning Lesson Plan**

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**Subject(s):** Math 1

**Topic or Unit of Study (Title):** 1.4 Properties of Real Numbers & 1.7 The Distributive Property

**Grade Level:** 9th and 10th

***Materials:*** Textbook, pencil, Properties worksheet, poster board, markets,

**Summary (*and Rationale*):** The properties of real numbers are used throughout all math courses. Students must understand how to apply and recognize each property.

**I. Focus and Review (Establish Prior Knowledge):** [5 minutes]

1. Draw a number for line for natural number, whole numbers, and integers.
2. What are rational numbers and irrational numbers?
3. What are real numbers?

**II. Statement of Instructional Objective(s) *and Assessments*:**

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| **Objectives** | **Assessments** |
| *The student will be able to define each property and identify when to apply it when given an expression without assistance 80% of the time.* | Students will be able to define and identify the property correctly 80% of the time. |

State the objective: [1 minute]

Assessment: [no additional time needed]

**III. Teacher Input (Present tasks, information and guidance):**  [10 minutes]

The teacher explains that today they will be learning about the Properties of Real Numbers. The students should have read over this chapter before class to have some prior knowledge about the properties. The teacher tells the students that they will be splitting into 4 groups and each group will receive a property to learn about. Each group will be decided by pulling a colored rock out of a bag and all of the red rocks will go together (blue rocks, green rocks, etc.). Each group will be given a poster board, markers, and a textbook. They will use their material to make a poster about their property. On the poster will be the definition and two examples of how to apply it. One the groups are done they will each present their property to the class. The class will be given guided notes to fill in as each group presents.

Group 1: Commutative Property

Group 2: Associative Property

Group 3: Identity Property

Group 4: Distributive Property

**IV. Guided Practice (Elicit performance):** [40 minutes]

The groups are working on their projects and the teacher will be walking around to make sure the students are on track and answer any questions the students may have.

***V.* Closure (Plan for maintenance):** [30 minutes]

Groups will present their information to the class and the students will feel in the graphic organizer.

**STANDARDS:**

* CCSS.Math.Content.HSA.SSE.A.1.a  
  Interpret parts of an expression, such as terms, factors, and coefficients.
* CCSS.Math.Content.HSA.SSE.A.1.b  
  Interpret complicated expressions by viewing one or more of their parts as a single entity.

**Plans for Individual Differences:**

A graphic organizer will be passed out to all students to fill in the information about each property as the groups present them.