Teaching plan/lesson plan for: Operations with Signed Numbers (specifically multiplication of signed numbers)

Title: Multiplication of integer numbers or multiplication of signed numbers.

**Overview/ Annotations**:
Uses the pedagogy of associating a mathematical concept with a physical operation or a thing to explain the operation.
Play the game Minus x Minus in the class and write the operations on a whiteboard explaining the operation each time.

**Primary learning objectives**:
At the end of this activity the students would have understood rules of multiplication of integer numbers.

**Additional learning**: Revision of addition of signed numbers

**Approximate duration**: 40 mins

**Material and equipment**:
Minus x Minus game sets.. One set for a group of 4 students.

**Pre-requisite**:
Students should know what negative numbers are and be familiar with addition of signed numbers.

**Preparation required**: None

**Procedure**:
Make groups of students with 5 students in each group.
Explain how to play Minus x Minus game using one plane and one numbered dice. [We recommend the teacher to use the style of explanation as given in the manual of the game.]
Demonstrate with a few throw of dice. While doing so write the operations on the white board.
After students have played the game for some time explain signed number multiplication using the strategy explained in the manual and let student discover the rules. Strengthen the concept by taking few sums that require signed number multiplication (take at least 5 sums)
Ask students to play the game again and ask them to write in their note book in a tabular form
What was the thro of the dice, how many steps forward or backward he/she has to move, previous position and the new position.

| Dice throw | How many steps forward/backward | Previous position | New position |
|---|---|---|---|

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Assessment strategies: check the table prepared by the students in their notebook

**Extension**: Play the game using two numbered dice

**Remediation**:

Observe the students while playing, if you notice some students are faltering explain again using the terms 'green is going forward and red is opposite of green. So red means going backwards. If you get two reds you have to go opposite of going backwards.

If all students in a particular group are not able to play the game with ease play few rounds with them writing the steps and numbers using signs every time.

**Homework**:

Ask student to play the game again during their spare time. Next day give at least 10 sums that involve addition, subtraction and multiplication of signed numbers (use two digit numbers)