**Lesson Plan: Integers**

**Grade 7**

**Objectives:**

* Integer arithmetic: Addition, subtraction, multiplication and division.
* Application of integers in simple linear equations.

**Prior Knowledge:**

* Differentiate positive and negative numbers.
* Compare integers.
* Ordering integers.
* Placing integers on a number line.
* Add integers
* Familiarity with integers in real life situations.

**Teacher’s activity:**

* Review prior knowledge as a discussion. If students (few/majority/all) face any difficulty, quickly revisit ‘Introduction to Integers’ with activities.
* Revisit addition of Integers using the buttons model. Follow it up with worksheet as HW.
* Introduce integer subtraction using the buttons model. Reinforce the concept with ample examples and worksheets. With the help of vertical number line strengthen integer subtraction as an abstraction (moving away from concrete material).
* Revisit simple linear equations as an application of integers.

Ex: *y* + 5 = 2 ; *y* -3 = -2 ; *y* – 4 = 1; *y* – 2 = -8

* Introduce Multiplication of integers with button model or as patterns. Follow up with worksheets involving word questions and as equations.
* Introduce Division of integers as an inverse of multiplication. Follow up with worksheets involving word questions and as equations.

**Projects:**

* Get data of temperatures of cold and hot regions of Earth. Compare the temperature difference by marking them on a number line. Children should be encouraged to get the information by referring encyclopaedias. Emphasize on the process and not on the exact temperatures.
* Assuming BC as negative and AD as positive, children could make a timeline on dynasties or evolution or anything that interests’ children.
* Integer multiplication/ division: Open to children to come up with project ideas.

**References:**

NCERT class 7 mathematics textbook and assorted worksheets.

At right angles Integers pull out