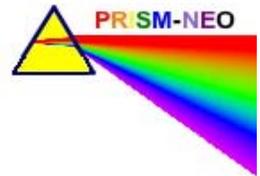


# Adding Integers with Counters

<---Sketch Title



**Sketch Filename:** Add\_Integers.gsp

**Movie Filename:** AddInteger1.mov

**Math Concept(s)**

**Suggested Grades**

**Sketchpad Level**

Integer Addition

- 7
- 8
- 9 Applied

Easy

- drag points and click buttons

Beginner  
Intermediate  
Experienced

## Learning Goals:

- Explore and Practice integer addition
- Recognize that zero may be represented as an equal number of positive and negative counters/numbers
- Represent integers in multiple ways

## “Sketchy” Description:

This page sketch includes:

- Visual demonstration of the Zero Principle using a virtual “Zero Tool”
- Exploration of integer addition
- Self-checking practice for reinforcement
- Exploration of missing addends
- Related resources Leading Math Success: Notable Strategies (2004) Grade 7 Lessons 18-29 (Term 3)

## Lesson Plan Suggestions

- description of how the sketch might be used in each of the three lesson parts - *Minds On, Action!, Consolidate.*
- includes student groupings, instructional strategies, and connections to manipulatives or other technologies.

**Minds On** - Whole class demonstration of the colour tile model. This can be done with GSP or using overhead coloured tiles as suggested in the LMS document mentioned above.

- Demonstrate the Zero Principle using the “Zero Tool” in the GSP sketch.

**Action!** - Students work individually or in pairs to investigate and practice addition of integers. The Zero Principle will be an integral component of the explorations.

**Consolidation** - Students will be asked to record some of their discoveries and create a set of questions with specific sums.

## Extensions:

- Students explore the Missing Addend exercise recording a number of questions answered correctly.

## Questions or activities for students/parents to explore together:

1. What patterns do you notice about the sum if both integers in the question have the same sign?
2. What patterns do you notice about the sum if both integers in the question have different signs?
3. How might knowledge of integer addition be useful in real life situations?