

## Activities to Increase Fluency with Integer Computation

### How Much to 0?

This mental math activity focuses on students' understanding of addition and subtraction of integers as distance from other numbers on the number line. Students are given an integer and asked how much it will take to get to 0. There are other variations of this activity that increase the challenge.

Examples:

- I'm at  $-7$ . How much to 0? [Students should say positive 7 or add 7, or equivalent.]
- I'm at 18. How much to 0?
- I'm at  $3 \times (-5)$ . How much to 0?
- I'm at  $(-7) - 4$ . How much to 0?

Variation:

- I'm at  $-4$ . How much to  $-10$ ? How much to 10?
- I'm at 6. How much to  $-20$ ? How much to 20?
- I'm at  $-15$ . How much to  $-10$ ? How much to 10?

### Mental Number Strings

This mental math activity focuses on students holding simple calculations with integers in their heads. Teachers read the number string aloud to students, who perform each calculation in their heads as given (order of operations is not followed as it would be if the problem were written down). It is recommended to keep the numbers within a reasonable range, such as integers between  $-20$  and 20. This range can be increased throughout the unit/year.

Examples:

- $4 - 8 + 7 + (-3) + 12 - 20$
- $(-5) + (-2) \times 2 - 16 + (-8)$
- $(-3) \times (-3) \times (-1) - 9$

Variation:

- This activity can be done around the room or in small groups with each student adding onto the number string with an operation and an integer

### Counting Around the Room

This mental math activity builds on students' skip-counting skills by adding integers and speed. Students are given a starting number and an integer to either subtract or add. Students quickly go around the room following the rule until, unexpectedly, the teacher (or designated student) interrupts and provides a new rule.

Example:

- Start at 10 and add  $(-3)$ : 10, 7, 4, 1,  $-2$ ,  $-5$ ,  $-8$ ,  $-11$ ,  $-14$
- *Teacher interrupts with Add 5*:  $-9$ ,  $-4$ , 1, 6, 11
- *Teacher interrupts with Subtract 4*: 7, 3,  $-1$ ,  $-5$ ,  $-9$ , ...

### Mad Minute Integers

This timed, written activity focuses on students building fluency with integer operations. Students are provided a sheet of paper, turned face down, and are provided a limited amount of time to solve the problems on the other side. The answers are quickly read afterward for students to see how they did. Tracking scores for improvement in performance is recommended.

Examples:

- EngageNY [Grade 7 Mathematics Module 2](#) Sprints
  - [Lesson 8](#) (+), [Lesson 9](#) ( $-$ ), [Lesson 12](#) ( $\div$ ), [Lesson 15](#) ( $\times$ ), [Lesson 16](#) ( $\div$ )
- Better Lesson, "[Integer Mad Minutes](#)"
- Math-Drills, "[Integer Worksheets](#)"
- A simple search of "Integer mad minute" or "integer worksheet" will also generate some examples to use.

See our [Guide to Procedural Skill and Fluency](#) for additional information, strategies, and activities aligned with students' development and demonstration of fluency.