

In **Number Line: Integers**, students can explore multiple contexts that lend themselves to integer comparisons on a number line. After students explore altitude, bank accounts, and temperature, they can generalize about comparing integers and define absolute value.

## Explore Screen

In the Explore screen, students can compare integers in multiple contexts.

**OBSERVE** the values change as the objects move

**DEFINE** absolute value in multiple ways

**DRAG** objects to the scene

**SHOW/HIDE** number line, value labels, or absolute value

**DEFINE** absolute value in context

**COMPARE** two different bank account balances

**DEFINE** absolute value in context

**VIEW** one or two accounts

**ADD/REMOVE** money to create a balance or debt

**COMPARE** temperatures of different locations

**SWITCH** the order of the comparison

**CHOOSE** month of real data to view

Temperature  °F  °C

108° F

93° F A

75° F B

0° F

-83° F

93 > 75

April

Number Line: Integers

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## Generic Screen

In the Generic screen, students can compare integers generally, on different scales, and begin to define absolute value more generally.

**COMPARE** values at different locations on the number line

**VIEW** the opposite value

**DEFINE** absolute value in a general context

**CHANGE** number line range

-7 < -2

Labels

Tick Marks

Opposite

Absolute Value

-10 to 10

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## Suggestions for Use

- Use the Explore screen as an introduction to negative numbers, and later the Generic screen to reinforce the idea of opposites.
- Use both screens as an introduction to absolute value. Challenge students to come up with their definition of what they think “absolute value” means after playing with the simulation. Combine student ideas to come up with a classroom definition.

## Customization Options

?defaultCelsius - starts the simulation with celsius as the default selection for temperature units.

See all published activities for Number Line: Integers [here](#).  
For more tips on using PhET sims with your students, see [Tips for Using PhET](#).