MATH GRADE 6 LESSON 1

HSEA HomeSchool Education Academy

Integers on the Number Line

How to use: Print first for the main practice. Then use the device to repeat activities and save progress.

LEARNING OBJECTIVES

1. Identify integers as positive whole numbers, negative whole numbers, and zero
2. Place positive and negative integers at their correct tick on a number line
3. Recognize opposite integers as mirror values across zero
4. Describe absolute value as the distance from zero on the number line

MINI LESSON

Integers are the whole numbers together with their opposites. They include the counting numbers 1, 2, 3, the negatives -1, -2, -3, and the special integer zero. Integers show up in temperatures, elevations, money, scores, and any situation that has a clear "above and below" or "forward and backward" direction.

What Counts as an Integer?

- Positive integers: +1, +2, +3, +4, ... (often written without the plus sign)
- Negative integers: -1, -2, -3, -4, ...
- Zero: 0 — the boundary integer, neither positive nor negative.
- Integers do NOT include fractions or decimals like 1/2 or 3.7.

The Number Line Orders Every Integer

- Draw a horizontal line and mark zero in the middle.
- Positive integers sit to the right of zero, growing larger as you move right.
- Negative integers sit to the left of zero, growing more negative as you move left.
- Each step left or right is the same size, so every integer has its own tick.
- A number on the LEFT is always less than a number on the RIGHT.

Opposites — Mirror Integers Across Zero

Two integers are opposites if they sit the same distance from zero but on different sides. +3 and -3 are opposites. +7 and -7 are opposites. The opposite of zero is zero itself. Opposites always add to zero: +3 + (-3) = 0.

Absolute Value (Light Intro)

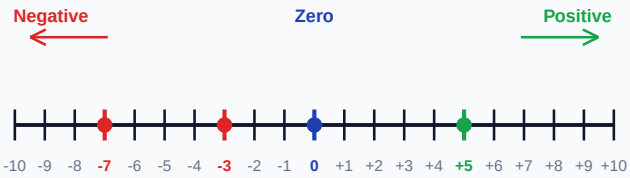
The absolute value of an integer is its distance from zero on the number line. Distance is never negative, so absolute values are always positive (or zero). We write absolute value with two vertical bars: |-3| = 3 and |+3| = 3 — both integers are 3 steps from zero. Opposites always share the same absolute value.

- |+5| = 5 — five is five steps from zero.
- |-5| = 5 — negative five is also five steps from zero.
- |0| = 0 — zero is zero steps from itself.
- |-12| = 12 — drop the sign and you are left with the distance.

! Tip: when you compare two negatives, the one closer to zero is greater. -2 is greater than -8, even though 8 is bigger than 2. Think of temperature: -2 degrees is warmer than -8 degrees.

VOCABULARY	
integer	A whole number, its negative, or zero — no fractions or decimals.
positive	A number greater than zero, sitting to the right of zero on the number line.
negative	A number less than zero, sitting to the left of zero and written with a minus sign.
opposite	Two integers the same distance from zero but on different sides, like +4 and -4.
absolute value	The distance an integer is from zero on the number line; always zero or positive.
number line	A straight line that orders numbers from least on the left to greatest on the right.

Integers on the Number Line



-7 | -3 | 0 | +5

Numbers grow larger to the right and smaller to the left.
Zero is neither positive nor negative.

Opposites and Absolute Value

Opposites are mirror integers across zero.

-3 and +3 are opposites

-6 and +6 are opposites

Absolute value = distance from zero

|-3| = 3 and |+3| = 3 because both sit 3 steps from zero.

An integer and its opposite always share the same absolute value.

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GUIDED PRACTICE — WRITE YOUR RESPONSE

Read the prompt and use at least 5 of the vocabulary words below. Write at least 30 words.

Prompt

Write 3-4 sentences explaining what you have learned. Use at least 5 of the vocabulary words below.

VOCABULARY — USE AT LEAST 5

integer · positive · negative · opposite

Write at least 30 words.

EXERCISES — FILL IN THE BLANKS

Write the integer described on each line.

1. On a number line from -10 to +10, the integer that sits 7 steps to the LEFT of zero is _____ .
2. The integer 3 steps to the RIGHT of zero is _____ .
3. The integer that marks the boundary between positives and negatives is _____ .
4. The OPPOSITE of +4 is _____ .
5. The greatest of the integers -9, -3, 0, +4, +8 is _____ .
6. The integer with absolute value 6 on the NEGATIVE side of zero is _____ .

"Flip the page upside down to see the answer key "

1. -7 2. +3 3. 0 4. -4 5. +8 6. -6

EXERCISES — SORT & MATCH

Sort each integer into the correct bucket: Positive, Negative, or Zero.

WORDS TO SORT

+8 | -3 | 0 | -12 | +1 | -1 | +25 | -7 | +100 | -50

Positive	Negative	Zero

"Flip the page upside down to see the answer key "

Positive: +8, +1, +25, +100 | Negative: -3, -12, -1, -7, -50 | Zero: 0

PRACTICE — DICTATION / TYPING

Now explain your thinking — no looking back.

Define an integer in one sentence. Then list the integers from -3 to +3 in order from least to greatest.
An integer is a whole number, its negative, or zero — no fractions or decimals. Order from least to greatest goes -3, -2, -1, 0, 1, 2, 3.

"Flip the page upside down to see the answer key "

integer / whole / -3 / -2 / -1 / 0 / 1 / 2 / 3

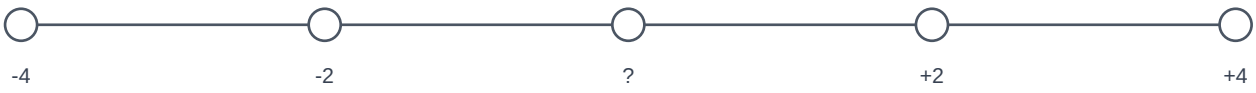
EXERCISES — NUMBER LINE

Read each question, then color the circle that shows the correct answer.

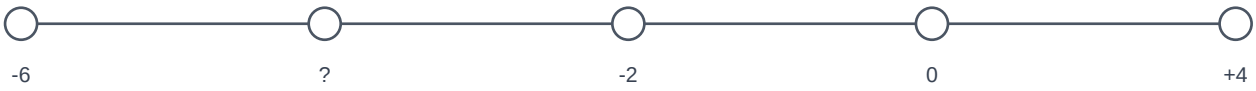
1. Click the tick that shows -7 on this number line from -10 to +10.

2. Click the tick that shows +3 on this number line.

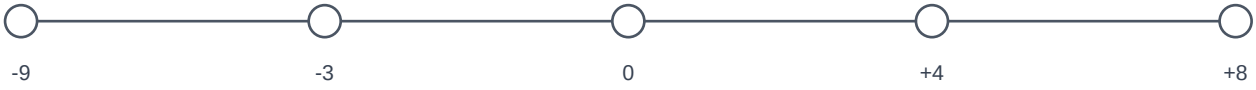
3. Which tick shows zero — the boundary between positive and negative integers?



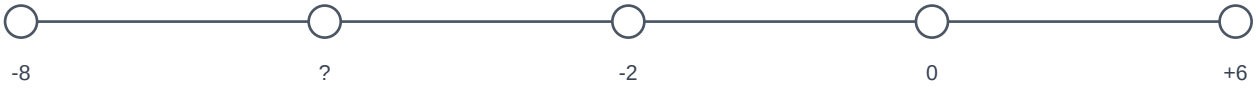
4. Click the tick that shows -4 — the opposite of +4.



5. Which tick shows the greatest integer on this number line?



6. Which tick shows the integer with absolute value 6 on the negative side?



"Flip the page upside down to see the answer key "

1. -7 2. 3 3. 0 4. -4 5. 8 6. -6

EXERCISES — MULTIPLE CHOICE

Circle the best answer.

1. Which of these is NOT an integer?

- ◯ -15
- ◯ 0
- ◯ 3.5

2. On a horizontal number line, where do negative integers sit?

- ◯ To the right of zero
- ◯ To the left of zero
- ◯ On top of zero

3. Which integer is GREATER: -2 or -9?

- ◯ -9, because 9 is bigger than 2
- ◯ -2, because it is closer to zero
- ◯ They are equal

4. What is the OPPOSITE of +7?

- ◯ 0
- ◯ -7
- ◯ +14

5. Which integer has the SAME absolute value as -8?

- ◯ +8
- ◯ 0
- ◯ -16

6. Which list of integers is in order from LEAST to GREATEST?

- ◯ -8, -3, 0, 4, 9
- ◯ 9, 4, 0, -3, -8
- ◯ 0, -3, -8, 4, 9

7. Is zero a positive integer, a negative integer, or neither?

- ◯ Positive
- ◯ Negative
- ◯ Neither — it is the boundary integer

8. Which real-life situation is BEST described with a negative integer?

- ◯ A bird flying 30 metres above the ground
- ◯ A diver 12 metres below sea level
- ◯ A child walking 4 steps forward

"Flip the page upside down to see the answer key "

1. c 2. b 3. b 4. b 5. a 6. a 7. c 8. b

ASSESSMENT

PARENT / TEACHER CHECKLIST

- [ ] Identifies whether a given number is an integer or not.
- [ ] Places a positive and a negative integer at the correct tick on a number line.
- [ ] Names the opposite of a given integer.
- [ ] States the absolute value of a positive or negative integer.