

Integers, Absolute Value & the Coordinate Plane:

teacher script

Use with the Lesson presenter (room page -> Lesson presenter). Slides show only student cues; this script has what to say. Students need the printed lesson worksheet and a pencil.

Presenter keys: Right/left arrows change slides. N shows short notes. T pauses the timer. P picks a student. F is fullscreen.

Response routine: Students write each answer on their worksheet, then show it with fingers (1 = A, 2 = B, 3 = C, 4 = D). Scan the room before revealing.

SLIDE 1: TODAY'S TARGET

1 min

Say	Today's learning target is: "I can use integers to describe real-world situations, compare them, find absolute value, and graph points in all four quadrants." Read it with me.
Say	Here is how you will know you have it: the success criteria. You will prove it on the exit ticket at the end of class.
Point to	The agenda and the key vocabulary. Tell students they need their notebook, guided notes page, and pencil.

SLIDE 2: WARM-UP

0:00–0:08

Say	Turn to Part 2 of your lesson worksheet. Answer the three questions in complete sentences. You have 5 minutes of silent work. Go.
Do	Start the 8:00 timer. Circulate. At 5 minutes say: "Turn to your partner and compare answers for 2 minutes."
Look for	1) 5 degrees below zero; +5 and -5. 2) -8 °F, because it is farther below zero (farther left on the number line). 3) Right 3 (x first), then up 2.
Say	Call on 2-3 students for questions 1 and 2, then reveal. Say: "We will come back to question 3 at the end of class."

SLIDE 3: HOOK

1 min

Say	Read the question on the screen: "It was -8 °F in Fort Wayne and -3 °F in Evansville. Which city was colder?" Circle your prediction in Part 3 of your worksheet and write why. Then vote.
Background	Ask: "It was -8 °F in Fort Wayne and -3 °F in Evansville. Which city was colder? By how much?"

Do	Tap +1 for each vote. Do not give the answer. Say: "By the end of the lesson, you will be able to check your prediction."
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SLIDE 4: LEARN 1: OPPOSITES IN REAL LIFE

3 min

Say	Positive and negative numbers describe opposites: above/below sea level, gain/loss, deposit/withdrawal.
Worksheet	Say: "Part 5: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: Positive and negative numbers describe OPPOSITES, like gain and LOSS. (tap "Show the missing words" after students try.)
Explore	Point to the model: Opposites are the same distance from 0. Ask: "What do you notice?" Students do: Write an integer for 20 feet below sea level and for a \$15 deposit.
Turn and talk	Say: "Name a real situation where 0 is not "nothing" but a starting point." Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: -12. A loss is negative.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 5: LEARN 2: COMPARE INTEGERS

3 min

Say	On a number line, numbers increase to the right. $-3 > -8$ because -3 is farther right.
Worksheet	Say: "Part 6: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: Numbers increase to the RIGHT. -3 is GREATER than -8. (tap "Show the missing words" after students try.)
Explore	Students do: Order -5, 2, -9, 0 from least to greatest.
Turn and talk	Say: "Why is -2 greater than -20, even though 20 is bigger than 2?" Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: (C) $-3 > -8$. -3 is to the right of -8.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 6: LEARN 3: ABSOLUTE VALUE

3 min

Say	Absolute value is distance from zero, so it is never negative: $ -12 = 12$.
Worksheet	Say: "Part 7: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: ABSOLUTE VALUE is distance from zero. It is never NEGATIVE. (tap "Show the missing words" after students try.)

Explore	Students do: Find $ -7 $, $ 7 $, and $ 0 $.
Turn and talk	Say: "Why can distance never be negative?" Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: 150. -150 is 150 units from 0.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 7: LEARN 4: THE COORDINATE PLANE

3 min

Say	(x, y): x tells left/right, y tells up/down. Quadrants I (+,+), II (-,+), III (-,-), IV (+,-). Same x or same y? Same signs: subtract absolute values. Opposite signs: add them.
Worksheet	Say: "Part 8: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: In (x, y), x moves LEFT OR RIGHT and y moves UP OR DOWN. (tap "Show the missing words" after students try.)
Explore	Point to the model: Points A and B share a y-coordinate. Ask: "What do you notice?" Students do: Plot (-3, 4) on a sketch and name its quadrant.
Turn and talk	Say: "Why do you add absolute values when two points are on opposite sides of an axis?" Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: 5. $ -3 + 2 = 5$.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 8: WORKED EXAMPLE (I DO)

2 min

Say	Watch how I solve this. Write the final answer in Part 9 of your worksheet.
Think aloud	Plot (-3, 4) aloud: "Start at the origin. x is -3, so move 3 left. y is 4, so move 4 up. That is Quadrant II." Then find the distance to (5, 4): "3 left to 0, then 5 right: $3 + 5 = 8$ units."
Reveal	Problem: plot (-3, 4), then find its distance to (5, 4). Step 1: Start at the origin. x = -3, so move 3 left. Step 2: y = 4, so move 4 up. That is Quadrant II. Step 3: Both points have y = 4. Opposite signs, so add: $ -3 + 5 = 8$. Answer: 8 units apart.

SLIDE 9: WE DO

2 min

Say	Now we solve one together in Part 10. Read the problem with me.
Do	Before revealing each step, ask: "What should we do next?" Take one answer, then tap "Show next step."

Steps	Both points have $y = 3$, so they are on the same horizontal line. The x-values -4 and 5 have opposite signs. Add the absolute values: $ -4 + 5 = 4 + 5$. Distance = 9 units.
Answer	9 units

SLIDE 10: YOU DO

2 min

Say	Now on your own: Part 11. Solve it with no talking. You have 2 minutes.
Answer	(D) -14°F . -14 is farthest left on the number line.
Then	Students who got it: launch the room. Students who missed it: 3-minute reteach at your table, then start the room at the Explorer level.

SLIDE 11: WORK TIME: EXTREME EARTH FIELD TRIP

0:20–0:48

Say	Open Extreme Earth Field Trip on your device. Type your name, choose the level I assigned, and begin. Whisper voice with your partner only.
Do	Start the 28:00 timer and leave this slide up. Circulate with the answer key.
Checkpoints	At 10 minutes: stage 2 done. At 20 minutes: stage 4 done; give a 5-minute warning for the final lock and turn-in.
Turn-in	Students tap "Copy my work" and paste it into the Canvas assignment (Text Entry).

SLIDE 12: DEBRIEF

0:48–0:52

Ask	Give a real-world example of a negative number. How is absolute value useful when finding distance? What trick helps you remember which quadrant is which?
Say	Back to warm-up question 3 and our hook vote: were our predictions right? What evidence changed your mind?
Answer	Right 3 (x first), then up 2.

SLIDE 13: EXIT TICKET

0:52–1:00

Say	Clear your desk except a pencil. Work silently and on your own. For every answer, write "I know because..." and use evidence.
Do	Hand out the exit ticket. Start the 8:00 timer. Collect and sort with page 3 (Mastered / Approaching / Beginning).

MISCONCEPTIONS TO WATCH FOR

- "-8 is greater than -3 because $8 > 3$." On the number line, -8 is farther left.
- "Absolute value makes a number the opposite." It is distance, so $|5|$ is still 5.
- "(3, 2) and (2, 3) are the same point." Order matters: x first, then y.