

Treasure Line

PLAYER AND EDUCATOR MANUAL | VERSION 0.1



Follow the clues. Move with purpose. Find the treasure.

A playful number-line adventure for learners, families, and educators. Build confidence with direction, distance, signed movement, and multi-step reasoning - one treasure clue at a time.

Ready to hunt for treasure?

Treasure Line turns signed number clues into movement on a straight number line. Read the clue, choose a destination, and dig.



The title screen pauses briefly while the quiet background music loads.

Four steps to your first clue

WAIT

1

After about 2.5 seconds, the start prompt appears.

START

2

Press SPACE or left-click the title screen.

MOVE

3

Use LEFT/RIGHT, or drag the pirate with either mouse button.

DIG

4

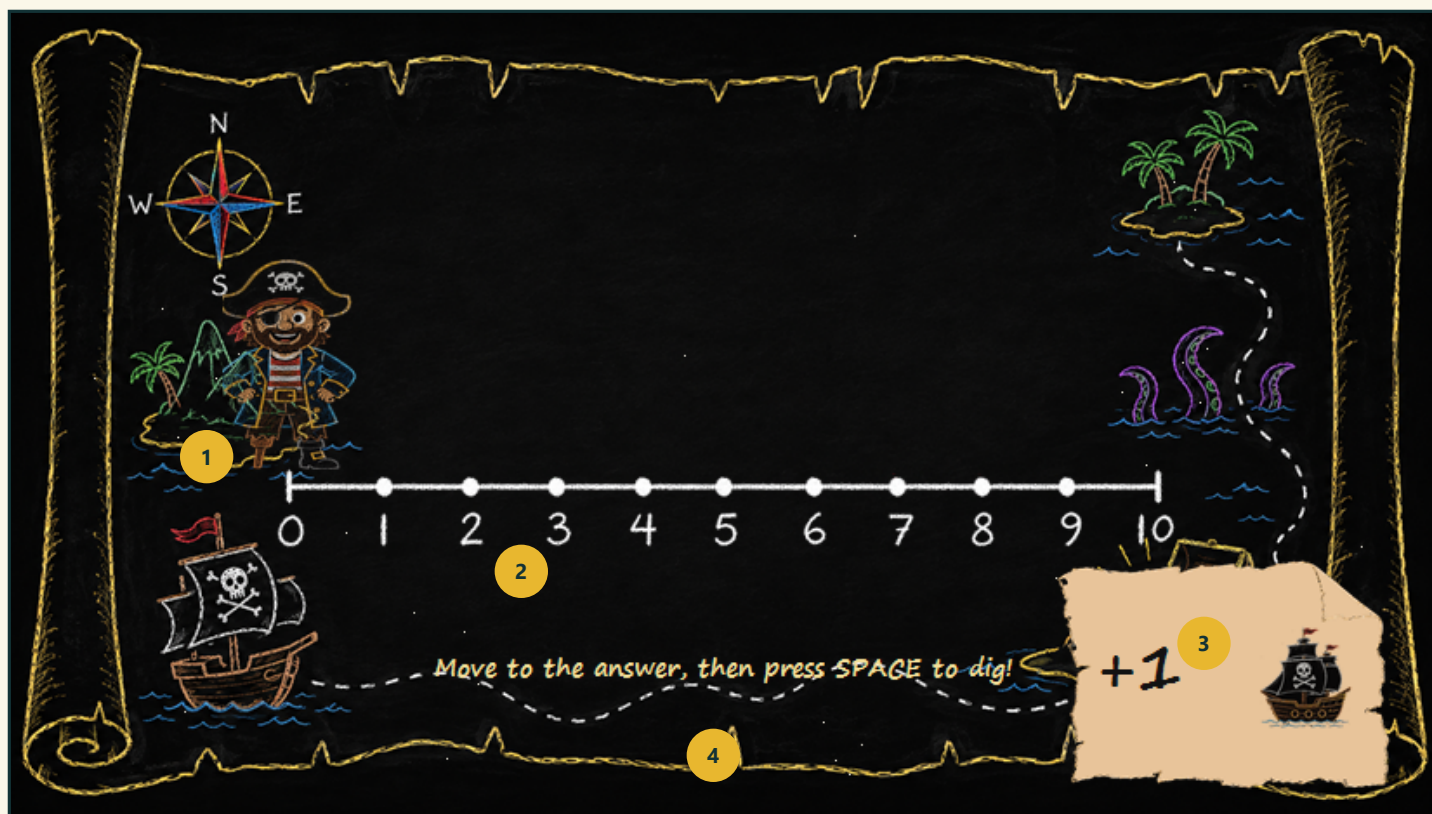
Press SPACE or double-click the pirate to check your answer.

Essential controls

LEFT / RIGHT - move one numbered point. SPACE - dig. ESC - exit at any time. On the summary, press or click Y to continue and N to exit.

A clear map for every move

The artwork sets the scene, but the mathematics stays central: one pirate, one number line, and one signed clue.



1 Pirate

The confirmed position is the starting value for the current clue.

2 Number line

Equal spacing connects each whole number to a fixed location.

3 Clue card

The sign gives direction; the numeral gives the distance.

4 Dig prompt

Move first, then press SPACE or double-click to check.

Read the sign, then count the spaces

A clue is a signed change from the pirate's current position. Always name the starting number before moving.

+3 means move right

Start at 4. Move three equal spaces toward larger numbers.
Land on 7.

-2 means move left

Start at 4. Move two equal spaces toward smaller numbers.
Land on 2.

$$4 + 3 = 7$$

$$4 - 2 = 2$$



Count intervals, not printed points

The starting point is not the first move. From 4, a +3 clue crosses the intervals 4-to-5, 5-to-6, and 6-to-7. The pirate snaps to integers, so it cannot stop halfway.

A quick reasonableness check

Positive clue: the answer should be greater than the starting number. Negative clue: it should be smaller. Every generated clue stays within the visible line, so an off-line answer signals that the direction or distance needs another look.

Try it together

- Name the starting number.
- Say 'right' or 'left' before counting.
- Predict the landing number, then move the pirate.

Choose the movement method that feels best

Keyboard and mouse controls lead to the same snapped number-line positions. Learners can switch methods at any time.

Keyboard

LEFT

Move one point left

RIGHT

Move one point right

SPACE

Dig at the selected position

ESC

Exit at any time



Mouse

Drag

Place the pointer on the pirate. Hold either mouse button, drag left or right, and release over the intended number.

Double-click

Double left-click the pirate to dig. A single click on the title screen starts the game after the opening delay.

Motor-access option

If dragging is difficult, the arrow keys provide precise one-step movement. A learner can reason aloud while a partner operates the controls. The clue card remains visible, reducing memory demand while the pirate moves.

Dig, discover, and try again

After the pirate moves, the game marks every crossed interval and plays the digging animation. Feedback is immediate, clear, and nonjudgmental.

1 MOVE



2 MARK



3 DIG



4 DISCOVER

Correct landing

A cheerful sound confirms the move. The landing point becomes the next starting value. A scroll briefly introduces the next clue. On the final clue, a closed chest appears before the summary.

Another look

A gentle corrective sound plays. One piece of buried junk appears for about half a second, the clue stays visible, and the pirate returns to the last confirmed position. Try the same clue again.



Errors do not erase progress

The route remains cumulative. Earlier clues stay solved, and an incorrect attempt does not change the clue. The feedback simply invites the learner to reconsider sign, direction, or distance.



A useful prompt

Ask: 'Where did you start? Which way should the sign send you? How many spaces did you cross?' This keeps attention on the mathematical decision instead of the mistake.

A course from counting on to crossing zero

Early levels establish the routine with fixed clues. Later levels widen the line, mix directions, and lengthen the treasure route.

LEVEL	NUMBER LINE	CLUES	MOVEMENT	TARGET
1	0 to 10	4 fixed	+1, +1, +2, +3	Untimed
2	0 to 10	5 fixed	+1, +2, +3, +4, -1	Untimed
3	0 to 10	7 random	-4 to +4	Untimed
4	0 to 10	7 random	-9 to +9	Untimed
5	0 to 20	7 random	-9 to +9	180 sec
6-7	0 to 20	7 random	Any valid move	180 sec
8	-10 to 10	7 random	Any valid move	180 sec
9	-10 to 10	8 random	Any valid move	180 sec
10	Random line	8 random	Any valid move	180 sec

Beyond Level Ten

Longer routes

Each new level adds one clue: Level Eleven has nine, Level Twelve has ten, and so on. The number line is selected randomly.

Shorter targets

The target drops by ten seconds per level after Level Ten. Missing a timed target returns the next run to Level One.

Time targets are game progression, not a statement that faster thinking is better. Levels One through Four remain available as untimed foundations.

Crossing zero with confidence

The -10 to 10 line extends the same movement model across zero. Positive still means right; negative still means left.



$$2 - 5 = -3$$

Break the trip at zero

Begin at 2. Move two spaces left to reach 0. Three spaces remain, so continue left through -1 and -2 to land on -3. Crossing zero changes the sign of the position, not the direction rule.

Make negative numbers meaningful

Connect the line to familiar contexts: temperatures below zero, floors below ground, elevation, or a debt and credit. The spatial model is strongest when the learner can explain what the values represent.

Direction

Read the sign before the numeral.

Distance

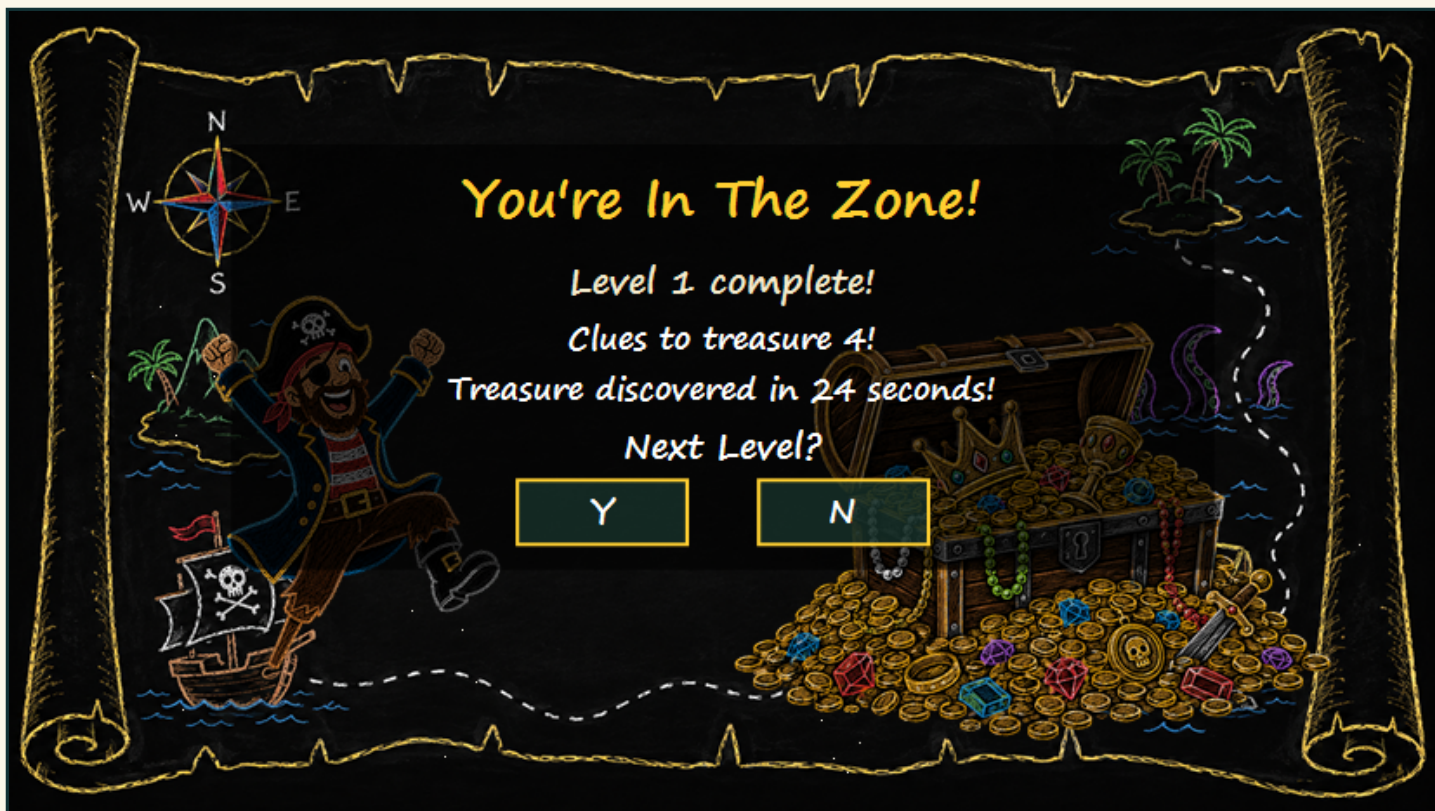
Count equal spaces, not the starting point.

Check

A negative clue must land left of the start.

Celebrate the route, then choose what comes next

The summary is a natural pause for encouragement, reflection, and a decision to continue or stop.



What it reports

A positive affirmation, completed level, clues in the treasure route, and total seconds from level start through the final chest animation.

Choose Y or N

Press or click Y for the next level. Press or click N to exit. Keyboard and mouse choices are equally available.

Timed-level restart

Beginning with Level Five, the summary compares the duration with the target. If the target is exceeded, the screen asks for SPACE and the game returns to Level One. Treat the time as a game condition - never as a grade or measure of ability.

Purposeful play, grounded in number sense

Treasure Line supports fluency by making each operation visible as a change in position. The goal is thoughtful, repeatable reasoning - not speed alone.

Number and space

Locate whole numbers, compare magnitude, and recognize that values increase from left to right.

Operations as actions

Connect addition with rightward movement and subtraction with leftward movement.

Counting and distance

Count equal intervals, use known facts, make five or ten, and decompose larger jumps.

Multi-step reasoning

Carry each confirmed answer forward as the starting value for the next clue.

Signed numbers

Extend number sense across zero and distinguish a value's sign from its distance.

Self-checking

Predict whether an answer should be larger or smaller and whether it fits the visible range.

Important perspective

The game provides practice, not a complete mathematics curriculum. Learners also benefit from counters, drawings, physical number lines, written equations, stories, explanation, and conversation. Treasure Line has not been designed as a diagnostic or standardized assessment.

A short conversation can turn a correct landing into durable understanding. Invite explanation without demanding speed.

Before play

- Confirm that the learner can locate numbers on the first 0-to-10 line.
- Model a move with a counter: start at 3, cross two intervals, land on 5.
- Separate sign from distance: first decide left or right, then count spaces.

During play

"Where is the pirate starting?"

"Which direction does the sign tell you to move?"

"How many spaces will you cross?"

"What number do you expect to reach?"

"Will the answer be greater or smaller than the start?"

"How could you write that move as an equation?"

After play

Revisit one or two clues without animation. Draw the line, write the equation, reverse the move, or create a short story. Use the summary as a conversation starter, not a test report.

A balanced session

One completed level can be a satisfying stopping point. Balance screen practice with movement, books, outdoor play, creative work, and hands-on mathematics suited to the learner.

Every learner is different

Learners vary in vision, hearing, motor access, attention, keyboard familiarity, prior experience, and comfort with time limits.

1

Use arrow keys

Choose precise one-step movement when dragging is difficult.

2

Play collaboratively

One person can reason aloud while a partner handles the controls.

3

Keep the clue visible

The card remains on screen during movement and after an incorrect attempt.

4

Choose untimed foundations

Levels One through Four have no completion target.

5

Adjust sound

Visual cues communicate gameplay even when system audio is reduced or muted.

When the timer gets in the way

Return to an untimed level, reproduce a clue on paper, or use a physical number line without a clock. Mathematical understanding matters more than preserving a game streak.

A compact Windows 11 learning game

Treasure Line is an independently developed native Windows application designed to keep setup simple and the number-line activity responsive.

Display

The window can be resized or maximized. Its 16:9 game canvas scales as a unit so artwork, number positions, and mouse interaction remain aligned.

Audio

Quiet looping background music provides atmosphere. Positive and corrective sounds reinforce feedback without being required to read the mathematics.

Windows controls

SPACE or click to start. LEFT/RIGHT or drag to move. SPACE or double-click to dig. Y/N chooses from the summary. ESC exits.

If something cannot load

Required artwork, audio, and icons are packaged with the application. If an essential resource is unavailable, the game displays an error and exits.



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ID10T Software

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