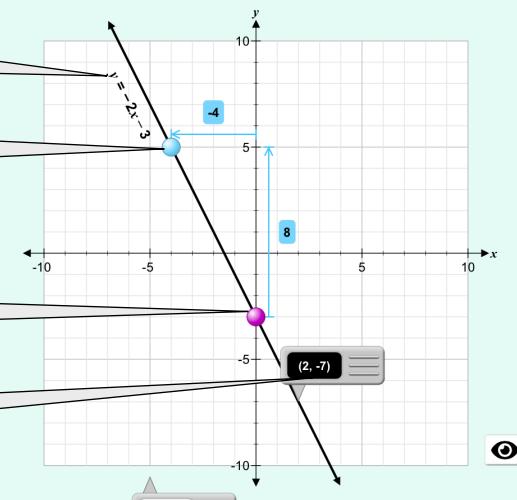## Slope-Intercept Screen

Explore the parameters of the slope-intercept form of a line.

VIEW Simplified equation of line

DRAG the blue point to change the slope

DRAG the pink point to change the y-intercept

USE the point tool to get the integer coordinates of any point

MANIPULATE the slope and/or y-intercept from the equation

SAVE a line to compare multiple lines simultaneously

SHOW reference lines of $y = x$ or $y = -x$

Graphing Slope-Intercept

Game Screen

Challenges are random within each level, but increase in difficulty.

LEVELS 1-2: Set the Slope or Set the Y-Intercept by manipulating either the equation or the graph
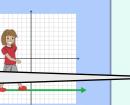
Your Equation:

$y = \dfrac{1}{1}x - 3$

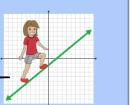Your Equation:

$y = \dfrac{2}{3}x + 0$

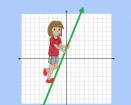**LEVELS 3-4:** Make the Equation, Graph the Line, or Put Points on Line

Your Equation:

$y = \dfrac{1}{1}x + 0$

Choose Your Level

Level 1

Level 2

Level 3

Level 4

lope-Intercept
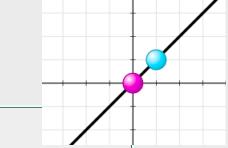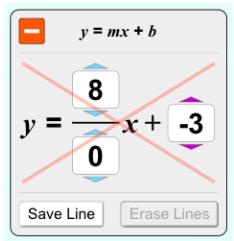
Complex Controls

- If two points are stacked vertically on any screen, the slope will be displayed as undefined and a red x will appear over the equation.

Customization Options

Query parameters allow for customization of the simulation, and can be added by appending a `'?'` to the sim URL, and separating each query parameter with a `'&'`. The general URL pattern is:

`…html?queryParameter1&queryParameter2&queryParameter3`

For example, in Graphing Slope-Intercept, if you only want to include the 1st screen (`screens=1`), with the external links disabled (`allowLinks=false`) use:

https://phet.colorado.edu/sims/html/graphing-slope-intercept/latest/graphing-slope-intercept_all.html?screens=1&allowLinks=false

To run this in Spanish (`locale=es`), the URL would become:

https://phet.colorado.edu/sims/html/graphing-slope-intercept/latest/graphing-slope-intercept_all.html?locale=es&screens=1&allowLinks=false

⚙ Indicates this customization can be accessed from the Preferences menu within the simulation.

Query Parameter and Description	Example Links
`gameLevels` - specifies which levels appear in the game screen.	`gameLevels=1,2`

`screens` - specifies which screens are included in the sim and their order. Each screen should be separated by a comma. For more information, visit the Help Center.	`screens=1`
	
	`screens=2,1`

`initialScreen` - opens the sim directly to the specified screen, bypassing the home screen.	`initialScreen=1` `initialScreen=2`
⚙ `locale` - specify the language of the simulation using ISO 639-1 codes. Available locales can be found on the simulation page on the Translations tab. Note: this only works if the simulation URL ends in "_all.html".	`locale=es` (Spanish) `locale=fr` (French)
⚙ `regionAndCulture` - Select the portrayal of people, places, or objects in the sim. Images are not intended to represent the entire diversity of a region or culture. Possible values: `africa`, `africaModest`, `asia`, `latinAmerica`, `oceania`, `random`, `usa`	`latinAmerica`
`allowLinks` - when `false`, disables links that take students to an external URL. Default is `true`.	`allowLinks=false`

See all published activities for Graphing Slope-Intercept here.
For more tips on using PhET sims with your students, see Tips for Using PhET.