

## Introduction

Lines has a powerful level editor that can be used to make new levels for the game. You can then share those levels on the Workshop for others to play. What will you create?

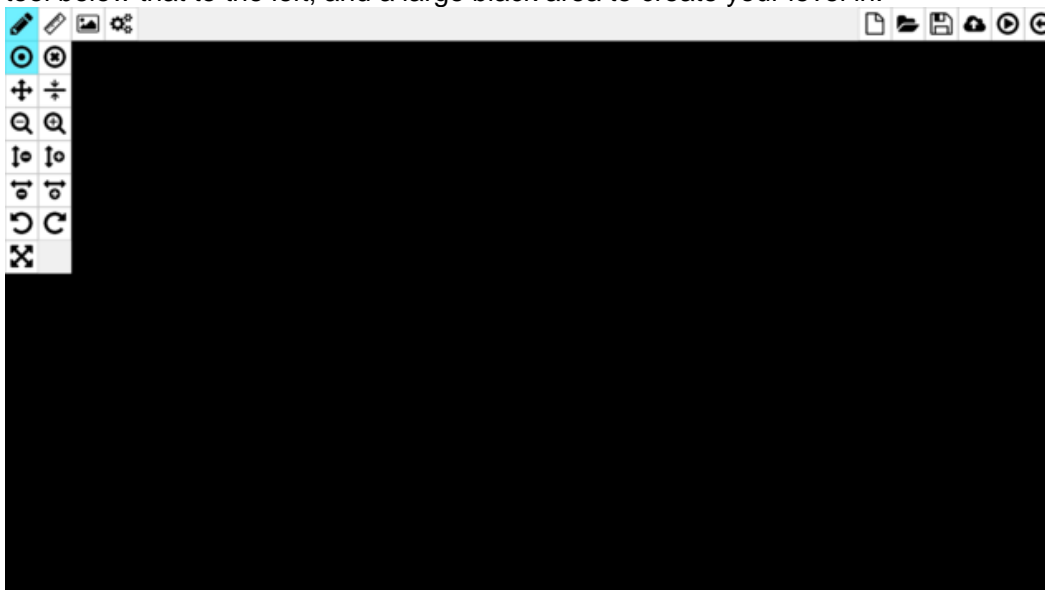


To open the level editor, choose the Level Editor option from the main menu. It looks like a light bulb and is located to the right of the play button.

Make sure to save your level often!

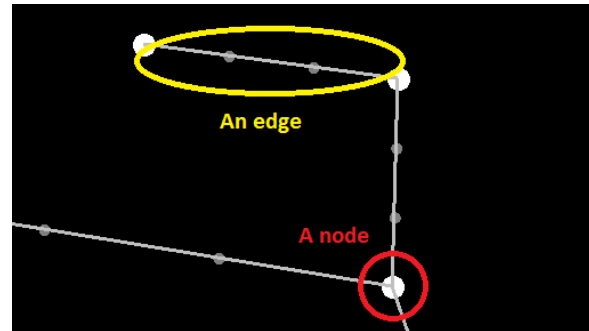
## The basics

When you open the level editor, you will see a toolbar at the top, extra options for the selected tool below that to the left, and a large black area to create your level in.



First, it may be useful to know the basic structure of a level.

Each level consists of **nodes** and **edges**. An edge is a line (straight or curved) between two nodes. A node is a connection point for any number of edges. The level editor contains many tools and options to manipulate nodes and edges. You can add nodes at any place in the level (and move them later, too), create edges between them, change the curve of these edges, and more.



The next sections will explain each of these tools. You can also get some quick help while in the level editor; just hover over any tool and a tooltip will show up which shows you what it does. Most tools also have a keyboard shortcut; this will be shown in this tooltip as well.

## The "Edit level" tools

The main tools are located under the "Edit level" button. This contains the following tools:



**1. Place nodes and edges:** This tool allows you to place nodes by clicking anywhere in the main area. You can also move them by clicking and dragging. Click on a node to select it, then click on another node to create an edge between them. You can drag the gray circles of edges to create a curved edge. Finally, you can use the right mouse button to delete nodes and edges.

**2. Delete nodes and edges:** With this tool active, click on nodes and edges to delete them, or click and drag to delete everything in a part of the level.

**3. Move nodes and edges:** Click and drag to move the level. You can also use this tool by pressing and holding the mouse button.

**4. Straighten edges:** Click on edges to straighten them, click on nodes to make edges form a straight line between them, or click and drag to straighten all edges in part of the level.

**5+6. Zoom out/zoom in:** Use these buttons or the scroll wheel to zoom out or in.

**7+8+9+10. Stretch/shrink:** Use these buttons to stretch or shrink the level vertically or horizontally. This works similar to zooming in or out, but will affect one dimension at a time.

**11+12. Rotate:** You can use these buttons to rotate the level in a direction of your choice.

**13. Fit level to window:** Use this button to fit the level to the window. Nodes that are not connected to the drawing will not be taken into account and might fall outside the window. This will automatically happen when you load or play a level.

## The selection tools

The selection tools can be opened by clicking on the button to the right of the edit tools. With this button activated, you can select nodes by clicking on them, or by holding and dragging. While a node is selected, most tools and options only work on the selection. For example, the Move tool only moves selected nodes.

Also, guide lines will be shown while you have an active selection. These can help you to place nodes exactly at places where you want them. For example, this allows you to create precise shapes like squares, diamonds and circles.

There are also some advanced selection options and actions:



**1. Add to selection:** Normally, nodes you select will replace the current selection. With this option active though, any nodes you select will be added to the current selection.

**2. Remove from selection:** With this option active, nodes you select will be removed from the

current selection.

**3. Negative selection:** With this option active, when you select something any nodes that were already selected will be deselected, while nodes that were not selected will now be selected.

**4. Clear selection:** This button will deselect everything.

**5. Delete selection:** This button will delete all selected nodes.

**6. Duplicate selection:** This button will duplicate all selected nodes and the edges between them. The duplicate will then be selected so you can move or transform it.

**7+8. Zoom out/zoom in:** Use these buttons or the scroll wheel to zoom out or in.

**9+10+11+12. Stretch/shrink:** Use these buttons to stretch or shrink the level or selection vertically or horizontally. This works similar to zooming in or out, but will affect one dimension at a time.

**13+14. Scale selection:** These buttons can be used to make the current selection bigger or smaller.

**15+16. Rotate:** You can use these buttons to rotate the level or selection in a direction of your choice.

## The "Trace image" options

**Please note:** these tools are only available on the Windows platform. You will have to reload the trace image when you save and reload a level.

If you'd like to base your level on a picture, the level editor can show a picture within the level editor. You can then place nodes and edges at the desired positions within the picture. Click on the "Trace image" button for the following options:



**1. Load picture:** Click on this button to load a trace image. This must be a \*.png image.

**2. Remove picture:** Click on this button to remove the picture.

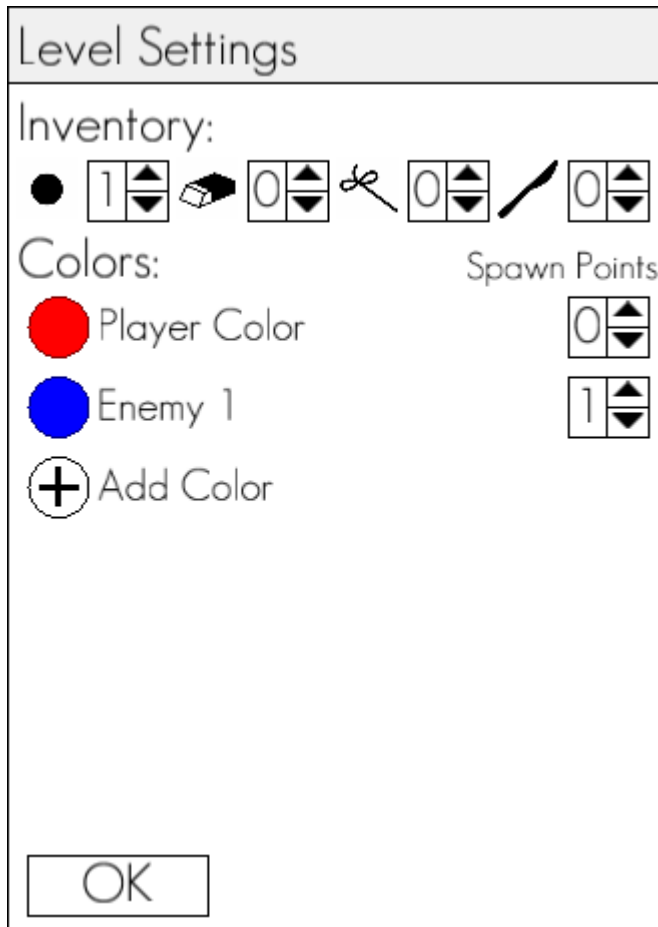
**3+4. Decrease/increase picture brightness:** You can use these buttons to make the picture more or less transparent.

**5+6. Scale picture:** You can use these buttons to make the picture smaller or larger.

**7+8. Rotate picture:** These buttons allow you to rotate the picture in any direction you like.

## The Level Settings

The last button at the left of the toolbar opens the level settings. These settings allow you to change the following things:



- 1:** How many points, erasers, ropes and knives the player can use. Change this by using the up/down buttons next to the icons under Inventory. Please note that you can't play or share the level if the inventory is empty.
- 2:** The color of the player and enemies. Change this by clicking on the colored circle to the left of the player or an enemy. Then, click on the desired color.
- 3:** The amount of spawn points each player or enemy has. A spawn point is a point that's placed in the level by default. Change this by clicking on the up/down buttons to the right of the player or enemy.
- 4:** The amount of enemies. Click on the + sign next to Add Color to add a new enemy. Click on the cross next to an enemy to remove it (there must always be at least one enemy in a level).

Finally, click on OK to close the dialog.

## The other toolbar buttons

The previous sections covered all the buttons at the left of the toolbar, but there are also buttons at the right of it. Here's what they do:



- 1. New Level:** Click on this button to clear the level and create a new one.
- 2. Load Level:** Load a level you saved with this button. Simply click on it, then click on the level you want to load.
- 3. Save Level:** You can use this save your level. Simply enter a filename and press enter (or click Save), or choose an existing file to overwrite.
- 4. Upload level to Workshop:** You can use this to upload your level to the Steam Workshop. Click on it, then enter a name for your level and press Enter (or click Upload). A screenshot will be taken and the level will be uploaded. After this is done, you will be sent to the Workshop where you will be able to add a description and change other settings if you want.
- 5. Playtest level:** You can use this button to play your level at any time. A random solution for your level will be generated and you will be able to see how your level looks and to try it. Be sure to use this often to ensure that your level is fun to play.
- 6. Return to menu:** Click this button to go back to the menu (a confirmation dialog will be shown first). Your level won't be saved, so make sure to save it first if you made any changes you want to keep.

## Workshop levels

After having made a level, you can subscribe to it in the Workshop. You can also, of course, do so with levels made by others. These levels will then show up in the Custom category. A restart isn't normally required, but may be needed if your custom level doesn't show up within a minute or so. Please note that loading a custom level may take slightly longer than other levels because a solution has to be generated first; this shouldn't take more than a second in most cases, though.

## Conclusion

We hope this guide will help you to make awesome new levels for Lines and we're excited to see what you'll create! Good luck, and, above all, have fun!