

PogWorld User Guide

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<http://shaunwagner.com/projects/pogworld.html>

What Is PogWorld?





PogWorld is a browser-based simulation where students program a Pog to survive in a tile-based world full of food, hazards, and creatures. There's no typing code. Students build the Pog's "brain" by setting up rules using button grids. Each rule follows a simple logic:

The Pog looks at [a location] and if it sees [something], it does [an action].




The game runs entirely in a single HTML file with no installation, no accounts, and no internet connection required.

The Goal




The goal of PogWorld is simple. You want your Pog to survive as long as possible. It isn't easy to do so in PogWorld:

-  Moving takes health away.
-  Resting is OK to conserve health, but you lose health if you just rested.
-  Stepping on a dangerous square loses a lot of health.
-  Stepping on a snake loses a lot of health also.

So, how do you get health?

-  Eat food to gain health. Once you eat it, it goes away.
-  Eat bugs to gain health. Once you eat it, it goes away.
-  Sprouts are not ready to eat, but they will turn into food soon.

The world has some features that may be helpful as you build a strategy:

-  You can't do anything with a wall. You have to go around it, but so do snakes.
-  You can push a rock as long as there isn't a wall or rock behind it. It destroys whatever was behind it (except rocks and walls, of course). That can be good to kill a dangerous square or snake, but it is bad to destroy food.
-  A burrow is a safe space. Snakes cannot enter burrows. Also, seeds that have been scattered around might turn into sprouts while you are in your burrow. You can make more burrows by digging in an empty square.

You begin with 100 health. How many turns can you keep your Pog alive?




The Interface

When you first open the game, it will be set to a random world. You can see the world's name in the top box, such as:



World 123456789
Restart World
Random World

You can type in a different world name and click Restart World to load that world. For example, type in "hedgehog" and click Restart World. You will see that new world appear. You can also click Random World to load a random new world.

There are three buttons for controlling the game:

-  This moves the world one turn.
-  This starts the world going, turn after turn.
-  This pauses the running world.

You will also see controls to save and load your list of commands:

-  This will save your current list. Expect it to be saved in My Downloads as pogprogram.json
-  This will load a command list from your computer.

Finally, your progress is measured in Turns. How many Turns can your Pog last until Health reaches zero? Those are shown clearly:

Health 100	Turns 0
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Notes:

- Save your command list! If something happens (like power going out), you will lose all your work and there will be absolutely no way to get it back!
- Remember to pause. If your Pog isn't behaving as you want it to, pause. Alter your command list. Start it running again (or go step by step).
- There is a "thinking" line above the command list that tells you what the Pog saw and what it chose to do. Use that if you aren't sure why the Pog is doing something.

The Command List

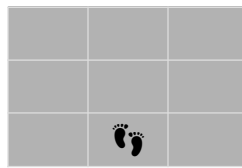
You control your Pog with a command list. The command list is a set of commands in the form:

1. Look at a certain area.
2. If you see something specific...
3. Perform an action.

An example command might be:

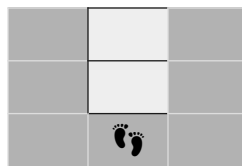
1. Look at the square in front of you and the square just past that.
2. If you see food or a bug...
3. Walk forward.

You enter the commands using a grid of buttons. The grid on the left is the “Where to look” grid. It looks like:



The footprint icon indicates where your Pog is standing. The top 3 buttons are further away from the Pog. The middle 3 buttons are right in front of the Pog. The squares to the left and right of the footprint icon are the squares to the left and right of the Pog. You can also see where your Pog is looking in the world map because those squares will be highlighted.

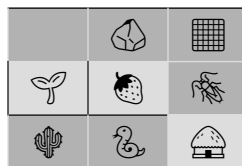
For each command, select the squares you want the Pog to look at. For example, if I want the Pog to look at the square right in front and one square beyond that, I would select the top-middle and middle-middle buttons:



The next button set is the list of items to look for. It looks like this:



The top-left means “Nothing.” If selected, the Pog is looking to see if nothing is in one of the selected squares. The rest are the objects found in the world. You can select more than one button. For example, if I want the Pog to look for a sprout or food or a burrow, I would select:



Keep in mind that it only takes seeing one item to trigger the action.

The last set of buttons is for selecting an action. If the Pog sees a selected object in a selected square, it will choose to perform one of the selected actions. They look like:



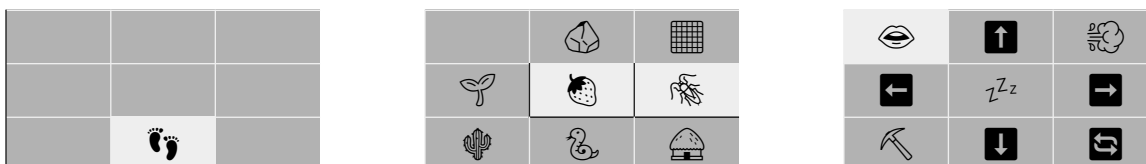
The actions are:

- Eat/Bite: If the Pog is standing on a or , it will gain health. If it is standing on a , it will scare the snake away so it doesn't hurt the Pog. If the Pog is standing on anything else, this just uses one health for the turn.
- Move Forward: The Pog attempts to walk forward. If there is a ahead of the Pog, it will lose extra health for walking into a . If there is a ahead of the Pog, it will try to push the . As long as there isn't a or behind the rock, the Pog will push the and whatever was behind it will be destroyed. Note: The outside border of the world is considered to be all .
- Huff: The Pog makes a huff to scare away any (or) that are adjacent to it.
- Turn Left: The Pog turns left, staying in the same square.
- Rest: The Pog rests, conserving health. But, if the Pog rests more than one time in a row, consecutive resting does not conserve health.
- Turn Right: The Pog turns right, staying in the same square.
- Dig: If the Pog is on a square with nothing in it (except the Pog), the Pog creates a . It takes an extra health to dig a burrow.
- Back Up: The Pog moves one square backwards as long as there is no or there.
- Turn Around: The Pog spins around, facing the opposite direction, staying in the same square.

If you select more than one action, the Pog will randomly pick one of the selected actions.

Tip: It is hard to get started. Keep it simple. You need your Pog to eat when it can. So:

- When can your Pog eat? When it is standing on a or .
- So, if your Pog is standing on a or , what should it do?
- It should .
- That is this command:



In plain English: Look at where you are standing. If you see food or a bug, eat it.

Now: What comes next? If the Pog can't eat, what should it look for? What should it do? Remember, the commands run in order from top to bottom every turn. Once it performs a command, the turn is over. If it gets to the bottom of the command list and hasn't chosen an action, it will rest.