

# Creating a Microworld in Turtle Art

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Sadly, Turtle Art does not allow users to hide blocks or customize the block palette. There are ways, however, to create your own blocks and to direct learners to use those specific blocks for the purpose of creating a microworld. [playfulinvention.com/webturtleart](http://playfulinvention.com/webturtleart)

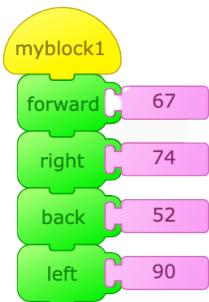
## Create a new block

New blocks are created by putting a “hat” on top of a stack of blocks describing a procedure composed of a list of commands (other blocks).



## Name a new block

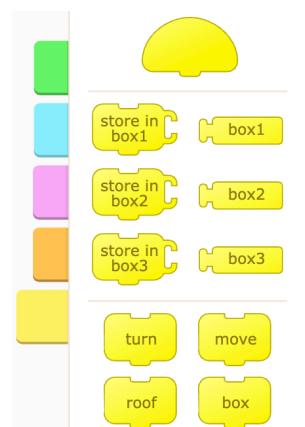
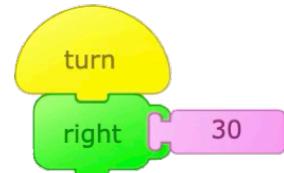
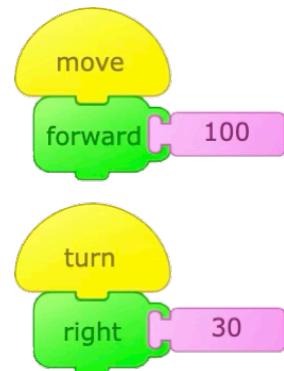
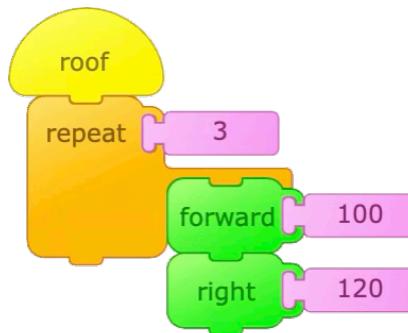
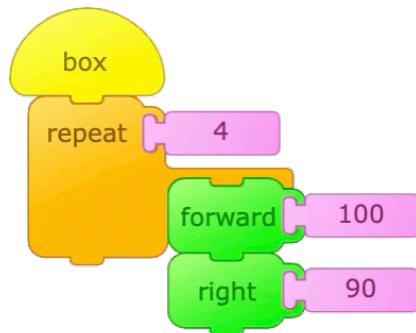
Click on the yellow “hat” and type a one-word name for the new block. Do not use a word already used by a Turtle Art block, or a number, or multiple words. If you wish to name a block *My Block 1*, name it *myblock1*. Most programming languages have limitations and syntactical conventions.



Make sure all the blocks are connected to the naming block (hat) by clicking and dragging the “hat.” Every block below the “hat” should remain connected.

## A simple microworld

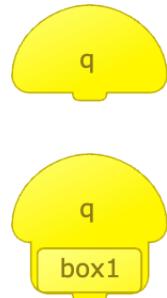
Give learners these four blocks and ask what they can make with them. (there is no right answer). You can print the blocks on card stock or just ask that their creations are limited to the blocks below the line in the yellow palette.



## Adding inputs to a custom block

Turtle Art includes three blocks representing global variables, `box1`, `box2`, & `box3`. There's a trick for creating blocks with inputs. For example, the `forward` block has an input, so does `right`. To create a block with an input, do the following.

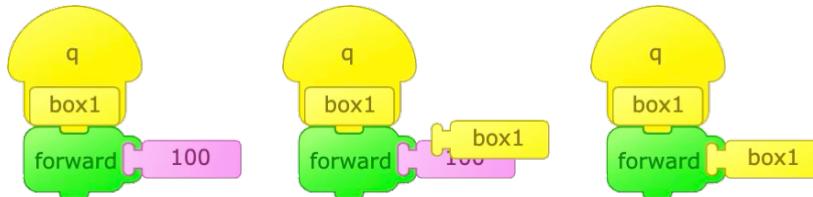
1. Drag a hat/naming block onto the screen or add a hat/naming block to a stack of blocks.
2. Give the stack a name by clicking on the hat block, typing a name, and clicking anywhere else on the screen. You should now see the new block in the (yellow) palette of blocks.
3. Next, drag a `box1`, `box2`, or `box3` block on top of the hat block. It should put a rectangular sign with the name of the input you just added inside the mushroom-shaped hat.
4. That's it. That block now has an input!



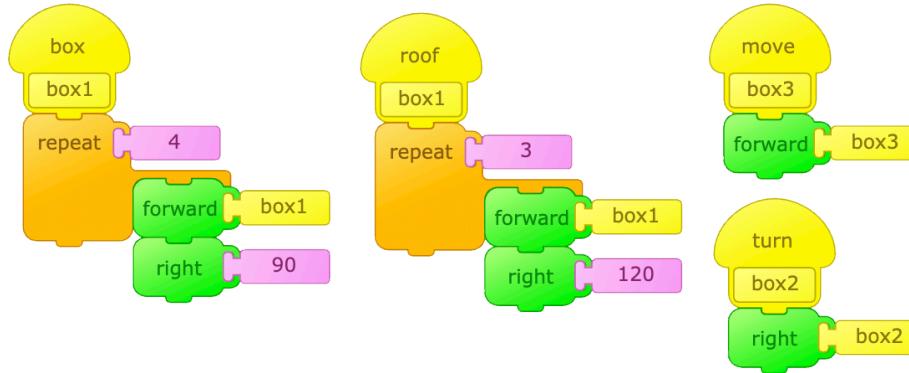
## Using a new block containing an input

The `box1`, `box2`, or `box3` you used as an input may be used to represent a value substituting for a fixed or constant number. For example, instead of `forward 10`, you can say `forward box1`, and the thing inside `box1` will be the value handed to `forward`.

- ◆ Dragging an input block over a pink numerical block will replace the value with an input.



## A new microworld



- ◆ The input you choose, `box1`, `box2`, or `box3` does not matter since its value is local to the particular block you are creating.

## Deploying your microworld

1. Save the project
2. Open Turtle Art on each computer
3. Drag the project you saved into Turtle Art
4. Mess about with the microworld!

