



# Minecraft Workshop

## Part 2

### Make a Bridge Over Water

```
1 from mcpi.minecraft import Minecraft
2 import mcpi.block as block
3 mc = Minecraft.create()
4 while True:
5     pos = mc.player.getPos()
6     x = pos.x
7     y = pos.y
8     z = pos.z
9     blockType = mc.getBlock(x, y-1, z)
10    if blockType == block.WATER_STATIONARY.id:
11        mc.setBlock(x, y-1, z, block.STONE.id)
```

This code creates a stone block path beneath your feet when you are above water.

- **Bronze Challenge:** Change the block type to make an Iron Bridge.
- **Silver Challenge:** Change the code so that you create a bridge which is 3 blocks wide (you can use Stone or Iron or some other type of block).
- **Gold Challenge:** Change the code so that the bridge is 3 blocks wide in the North/South direction and in the East/West direction, like a cross, when you walk across the water.

### Making Random Stacks

```
1 from mcpi.minecraft import Minecraft
2 import mcpi.block as block
3 mc = Minecraft.create()
4 while True:
5     pos = mc.player.getPos()
6     x = pos.x
7     y = pos.y
8     z = pos.z
9     blockType = mc.getBlock(x, y-1, z)
10    if blockType == block.GRASS.id:
11        max_height = 3
12        for height in range(max_height):
13            mc.setBlock(x-1, y+height, z-1, block.GRASS.id)
```

If the block under your feet is grass, then this code will place a 4 high stack of grass blocks next to you.

- **Bronze Challenge:** Can you change the code to make it place a random height stack of blocks?
- **Silver Challenge:** Can you change the code to make it place 3 different random height stacks next to each other?
- **Gold Challenge:** Now change it so that it places 9 random stacks in a square grid behind you as you move.

