# Playing in 3D with Minecraft Pi and Python

# Bite Size Learning

## **Getting Started**

- Open Minecraft from the Menu under Games
- Select Start Game and Create new
- Minecraft will display "Generating world Building terrain"

#### Get a feel for the 3D world

Move around using the keyboard controls

W (forward)

**S** (backward)

A (step left)

**D** (step right)

Space (Jump)

**Double Space** (Fly and Sink)

**Tab** - release mouse to select other programs (Python)

Look around using the mouse

Scroll mouse wheel to select sword or bricks

Break block (**left click**)

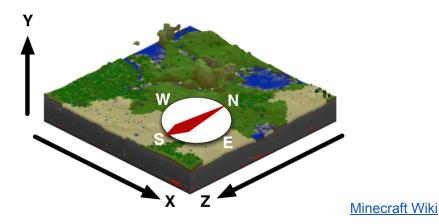
Place block (right click)

## Find your 3D coordinates

 Look in the upper left corner of your Minecraft screen and you should see pos: followed by three numbers (x, y, z)



### Learn how direction works in Minecraft



#### X = east / west (longitude)

- To move east (positive) increase the x value
- To move west (negative) decrease the x value

#### Y = elevation (range from 0 to 255)

- To move toward the sky (positive) increase the y value
- To move toward the ground (negative) decrease the y value

## Z = north / south (latitude)

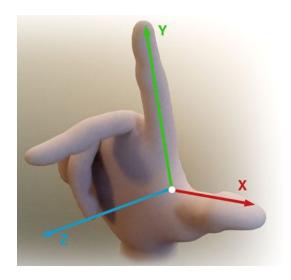
- To move south (positive) increase the z value
- To move north (negative) decrease the z value

#### Use your right hand as a guide

X = Thumb (points east)

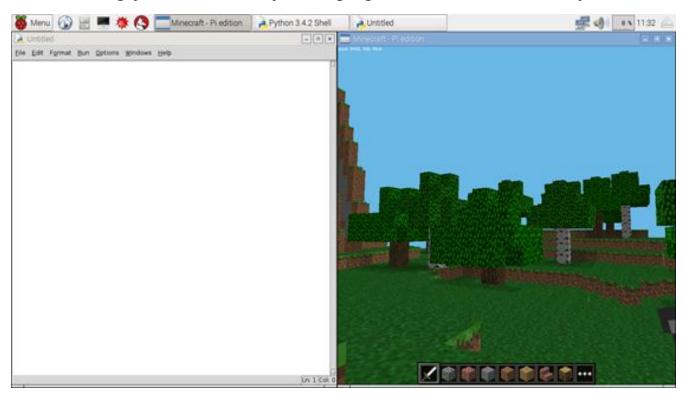
Y = Index (points toward the sky)

Z = Middle (points south)



## Control your player with code

- Press tab to release your mouse from Minecraft but leave the game open
- Open Python 3 (IDLE) from the Menu under Programming
- Double-click and open the Teleport.py file on your desktop or open with the using File > Open
- Run the code by pressing F5 or selecting Run > Run Module
- The program printed your current location
- Delete the # sign from the last line of code
- Save by pressing CTRL + S or by selecting File > Save
- Double-click and open the "Teleport.py" file on your desktop or open using File > Open
- Run the code by pressing F5 or selecting Run > Run Module
- Experiment with moving in different directions with the keyboard and altering your location by changing the numbers in the Python file



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