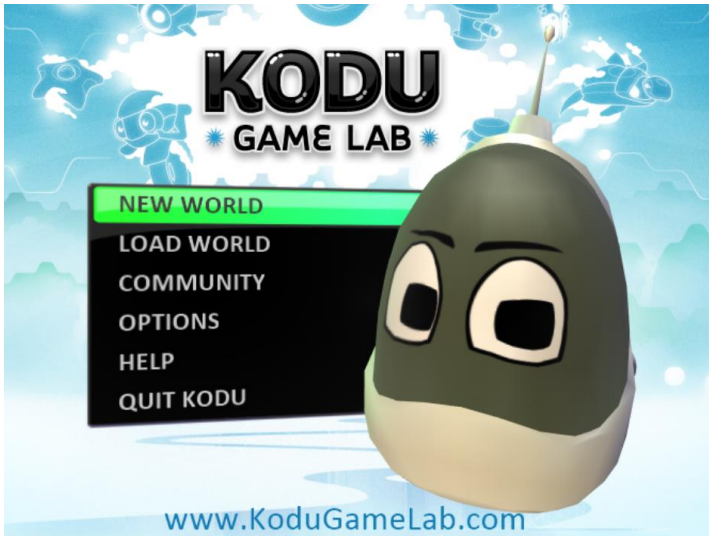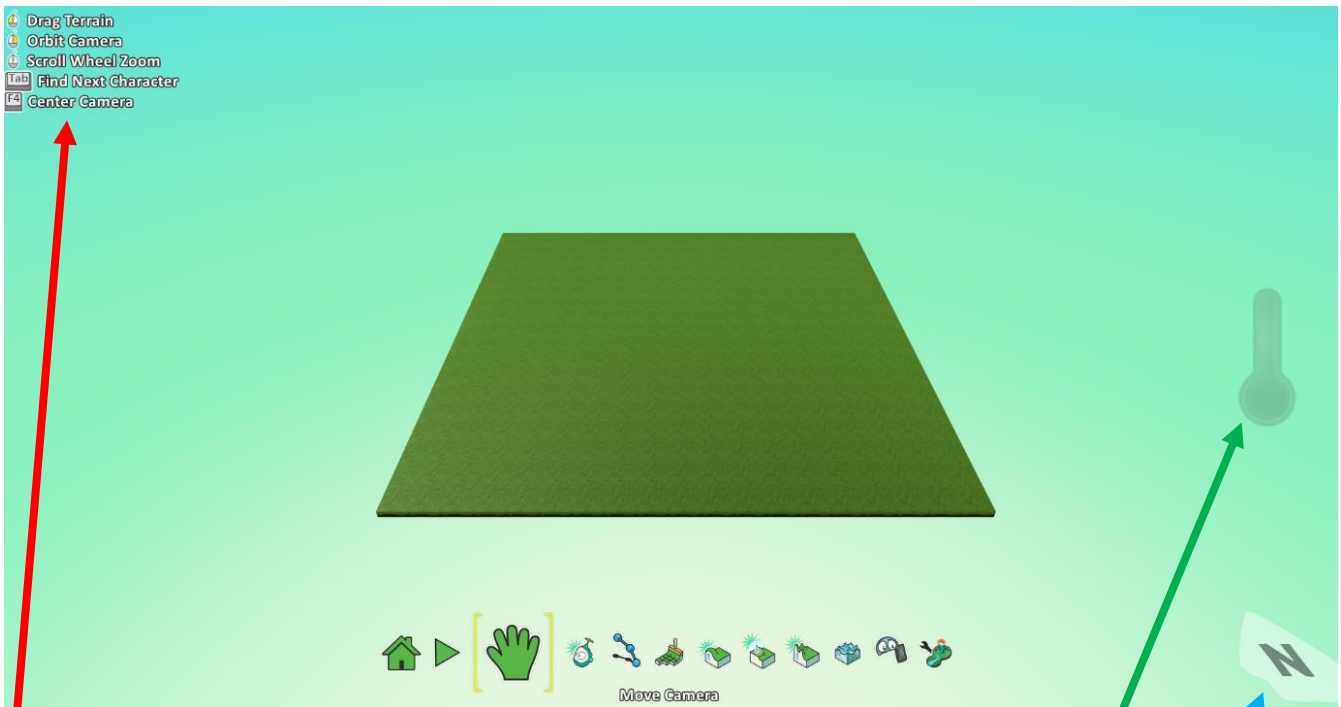# Kodu Workshop

Let's make a video game!

Have you ever wanted to design your own video game? Kodu is a program that allows you to do just that! So let's get to work – design the environment for your game, add some characters and turn your creation into a playable video game!

First of all, let's take a look at the menu for Kodu. To start creating your game, click **New World**.

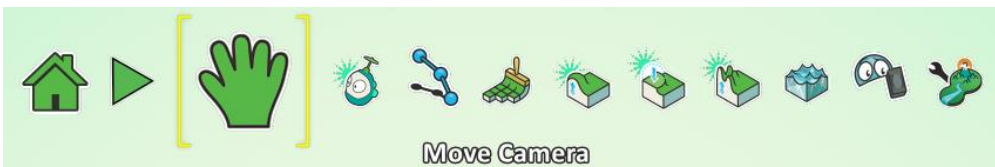*Tip: You can also click "Community" to view tutorials and levels other people have made!*

…and this is the screen that you'll see when you select **New World**. It doesn't look too exciting at the moment, so let's take a look at the tools we can use to transform this green square into an impressive game!

*Remember that, when editing your game, you can **always see the controls in the top left corner.***

If this thermometer fills up, you'll need to delete some things to make more room!

This arrow shows which direction you're facing.

On the next page, we'll take a look at the tools you can use to make your game.

Now we're going to take a look at the tools along the bottom of the screen and find out what they do.

For each button, try experimenting and seeing what it does before you move on to the next one… and remember, if you get stuck, the controls will always be in the top left corner of the screen when you're editing.

Home Menu: This shows a menu with various options, and is also where you can save or exit your game.

Play Game: Click this when you've added some characters (and programmed them!) to test your game.

Move Camera: Use this to look around your world. *Note: If you are using a laptop, you can pinch the touchpad to zoom in and out (just like you would on a smartphone).*

Object Tool: This is an important one! This is what you use to add objects and characters to your game, as well as program and customise them.

Paths Tool: You can use this to add paths for certain characters to follow.

Ground Brush: This is like a paintbrush that paints ground and terrain instead of just paint! Use the cubes on the left to choose a terrain you like, and use the shapes on the right to choose the shape of the brush. Then paint away! *You can also remove terrain with this tool.*

Up/Down: This allows you to add some interesting features to your world like **hills** and **valleys**. *Note: To create valleys, you'll first need some raised ground that you can lower/create a valley in.*

Flatten: Make ground smooth (for example, if used on a hill, it will make the slope smoother) or level (which can both raise and lower ground so it is at the same level).

Roughen: Use this to make hilly or spiky ground. This can look impressive, but may be more difficult for characters to traverse than regular hills (from the "Up/Down" tool).

Water Tool: Use this to add water, but be careful – if you add water, it's a good idea to add it to an enclosed area so it doesn't flood your level! But if this happens, don't worry – this tool also removes water. You can also click on the cubes on the left to change the look of your water (including lava!).

Delete Tool: This can be used to delete objects (but not terrain!) – so if you accidentally place 200 apples and need to get rid of them, this is the tool for you!

Change World Settings: You can tweak a lot of settings for your world here, including setting the sky colour, lighting and enabling or disabling Glass Walls, which adds invisible walls around your world to stop characters falling off.

Next, we'll look at some programming.

Before we get programming, let's add a Kodu character and an apple. Select the **Object Tool** and click somewhere in your world to add an **Apple**. Then do the same again and add a **Kodu**.

To program a character, select the **Object Tool** and then right-click on that character and select "Program".
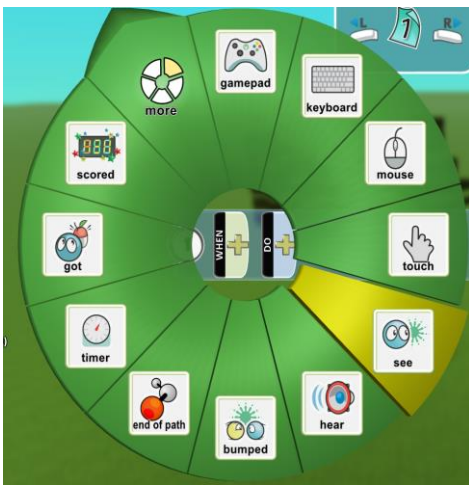
You'll see this box appear:

This screen shows how programming works in Kodu – there is a **When** part and a **Do** part. The **When** part must contain instructions for what needs to happen to make the character **Do** something.

For example, **When** a character sees an apple, what he can **Do** is eat it. Let's take a look at how we would do that:

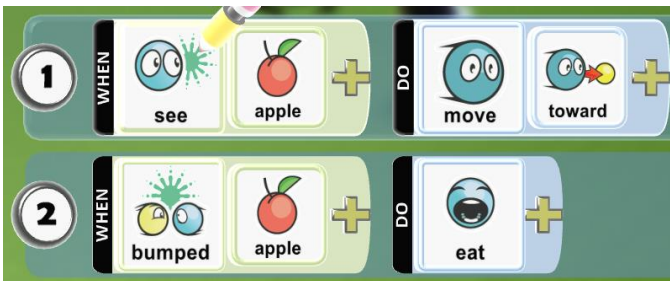Click the + next to **When**, and the below screen appears.

I'm going to tell you which tiles to use, but you'll need to find them! Let's get started:

1. Select "See"
2. Click + again, and find the "Apple" under "Objects"
3. In the **Do** section, click the + and select *Move*
4. Click + again and select *Toward*

Now press **Esc** to close the Program menu, and click the **Play Game** button to test your programming!

Once you've done that, go back to the Program menu again and click the first + on **Line 2**. Now try and copy the code below:
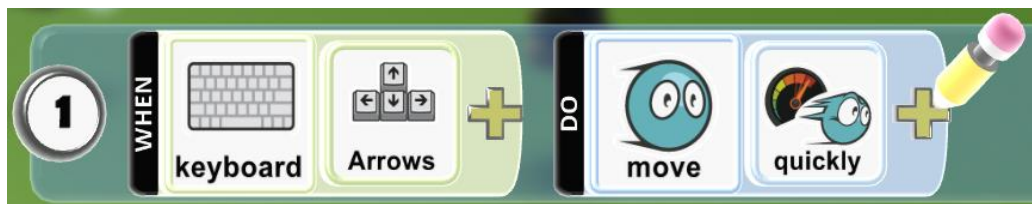

Once you've copied this code, use **Play Game** to test it! Kodu should now move towards the apple and eat it.

If he doesn't, try taking another look at your code and compare it with the picture on the left.

Lastly, let's see how we can control a character. Use the **Object Tool** to add another Kodu. If you want to, you can change its colour by hovering over it with the mouse and using the **Left** and **Right** arrow keys.

I've given you the code you'll need below, but this time you'll need to try and find the tiles for the code yourself!

Once you've added this code, click **Play Game** to test it and move your character around! You can also add up to two more *Quickly* tiles to speed up Kodu, or right-click on him with the **Object Tool** and select Change Settings to make him very fast. Additionally, you can make your characters shoot, eat, say things and you can switch between first and third person view! Or, why not try adding another character controlled with the **W, A, S** and **D** keys to make a **2-player game**?

Now explore all the options Kodu has to offer and see what kind of game you can make – good luck!