



# Handheld Digital Cities Coding Guide

Coding is like a set of instructions put together to make something happen on a computer. This guide explains how to use block coding to make your characters and objects in your Digital Handheld City move and come to life! Some children may need extra support in learning these steps.

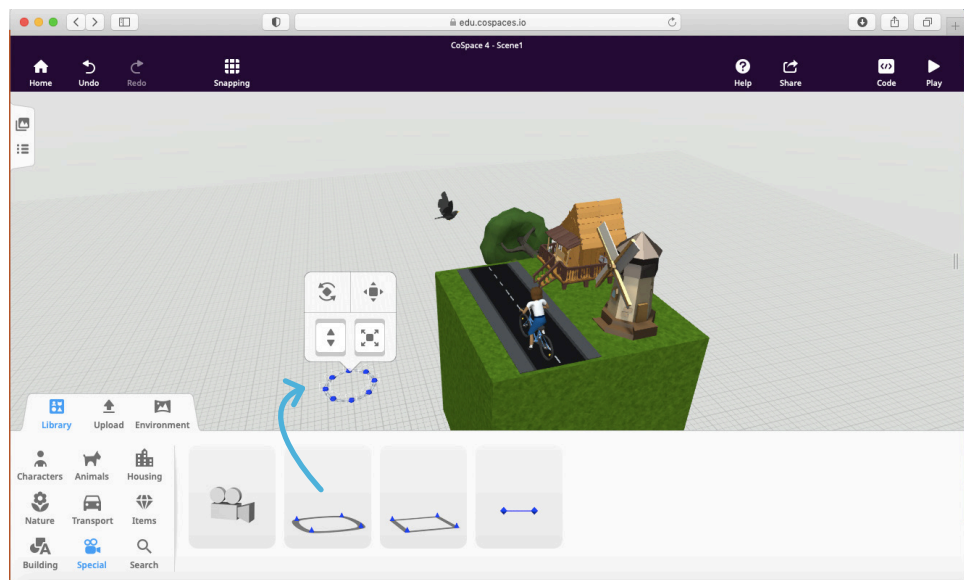
## Coding Guide

**YOU WILL NEED:**

- A digital device that can access the internet
- CoSpaces website

### Step 1

Choose '**Library**' in the bottom left menu, then '**Special**' and drag out the round path to your work area.



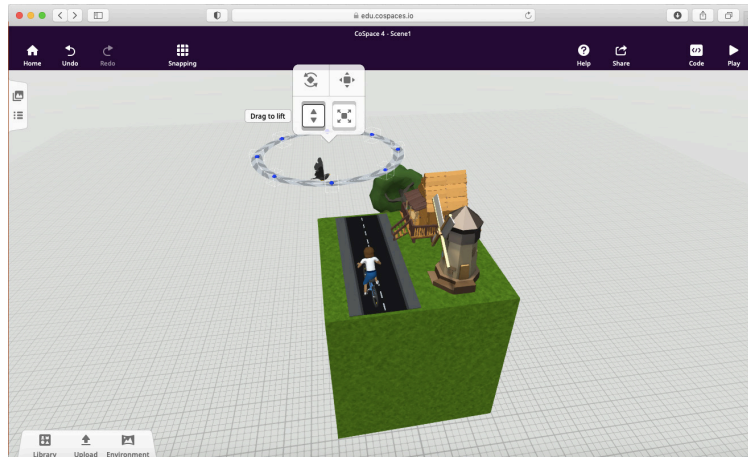
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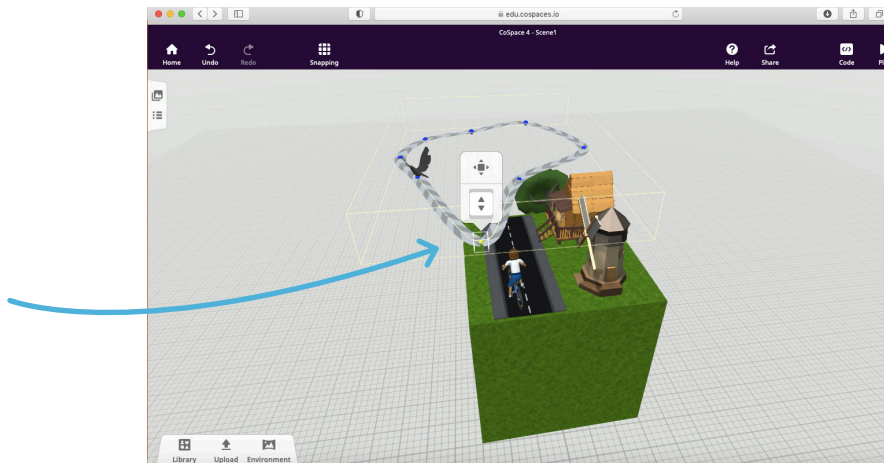
# EXPERIMENTAL CITIES: Handheld Digital Cities Coding Guide



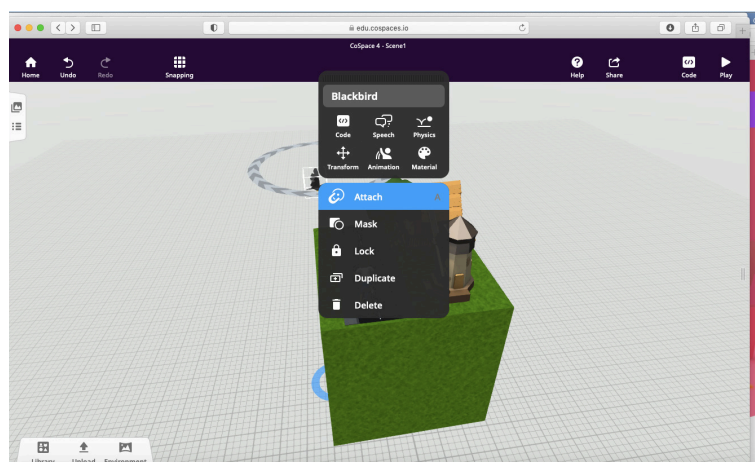
**Step 2:** We are using this path to make the bird fly in the air. Lift up your path to the height needed, make it a bit bigger and put it in the position you want.



**Step 3:** You can change the shape of your path by clicking on the blue dots and dragging them out, this will make the bird fly in different directions.



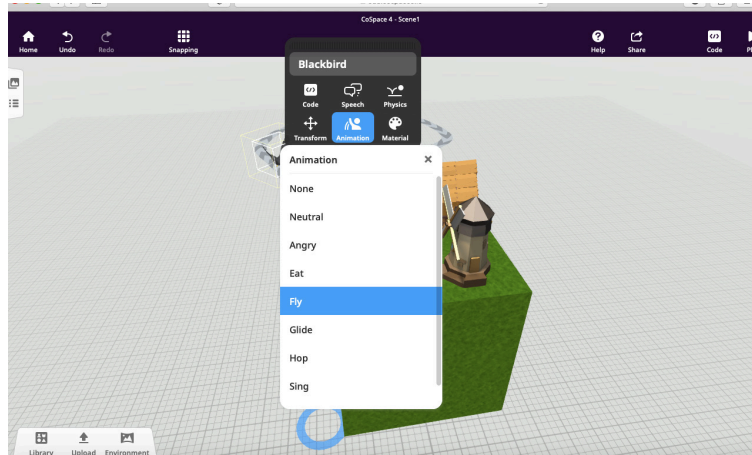
**Step 4:** We now need to **attach** the bird to the path. Double click on the bird and choose 'Attach'. Some small blue dots will appear on the path, choose the blue dot of the place you would like the bird to start flying from.



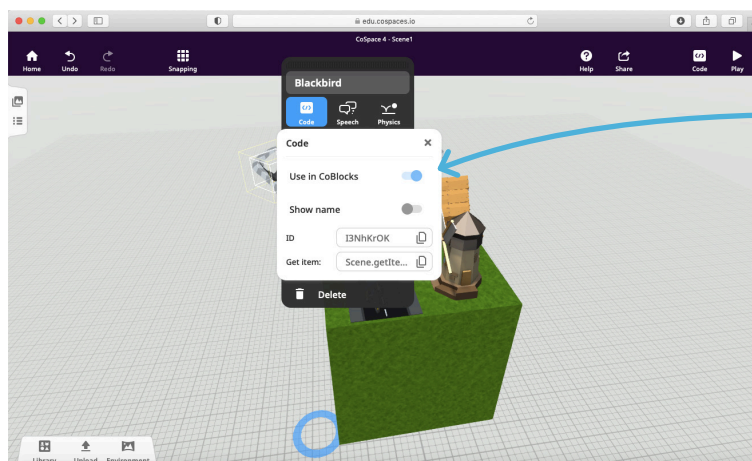
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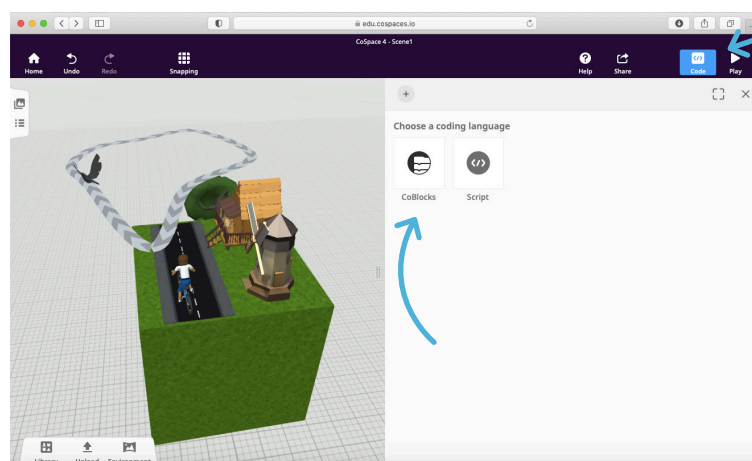
**Step 5:** To make sure your bird looks like its flying, double click on it and choose **'Animate'** then look down the list and choose **'Fly'**. You should see it flap its wings.



**Step 6:** Before coding any character or object you need to allow it to move. Double click on the bird and choose **'Code'**. Where it says **'Use in CoBlocks'** click the button so it turns from grey to blue. This means the bird will appear in the code instructions so we can make it move.



**Step 7:** Next find the **'Code'** button in the top right corner, click on it and in the options below click on **'CoBlocks'**.



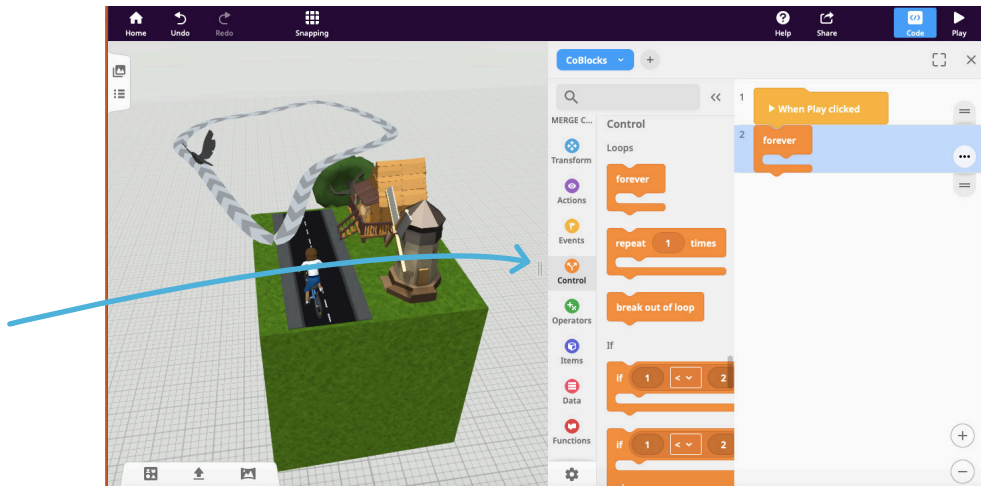


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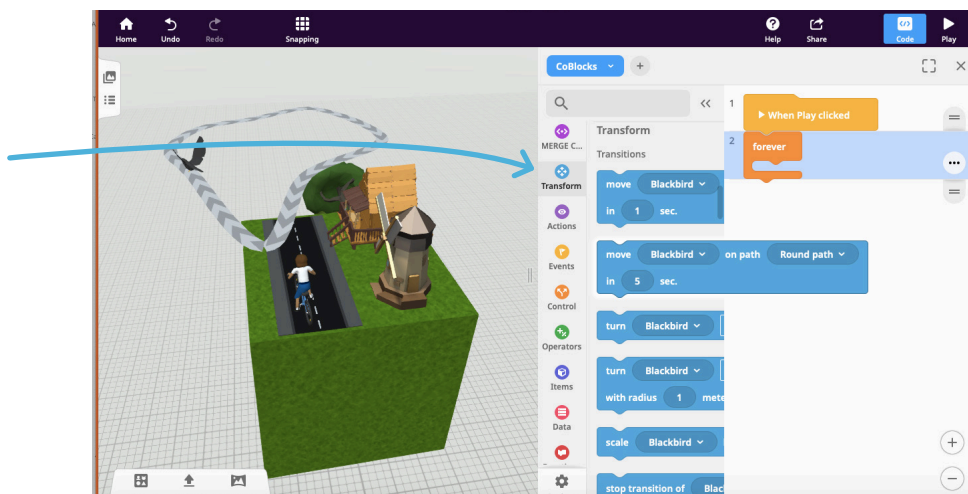


**Step 8:** We are now going to create a set of instructions to make the bird move around the path. All the instructions will sit below the yellow block that says 'When Play clicked'.

Find the orange 'Control' section in the list on the left. Click on the orange block labelled 'forever' and drag it over to fit underneath the yellow block.



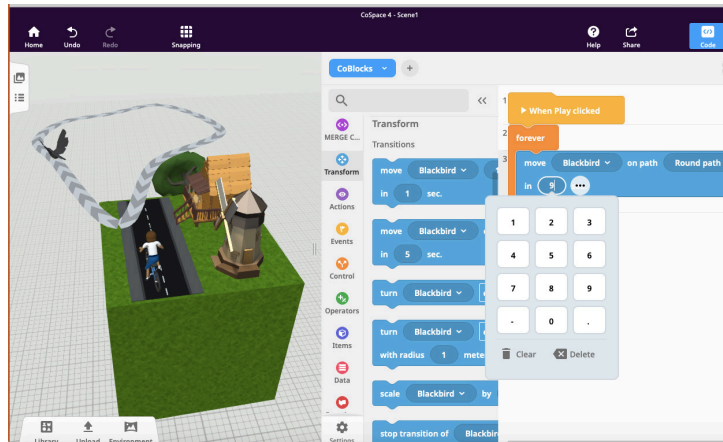
**Step 9:** Find the blue 'Transform' section in the list on the left. Look for the instruction block that says 'move [blackbird] on path [Round path] in [5] sec.' Drag this block over and place it inside the 'forever' orange block.



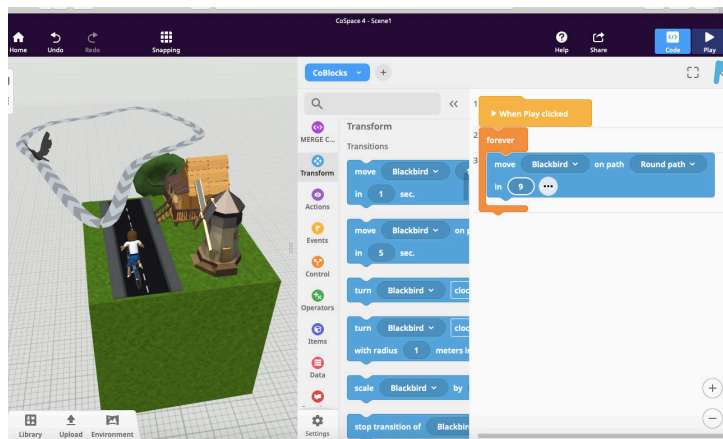
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**Step 10:** Make sure the blue code block has the correct character and path selected in the drop-down boxes. You can see this one says 'Blackbird' and 'Round path'. You can also change the number of seconds it takes for your character to move around the path. To make them go slower, choose a higher number of seconds.



**Step 11:** Check your coding has worked by pressing the 'Play' button in the top right corner. If your coding is working you should see the bird flying in the air.



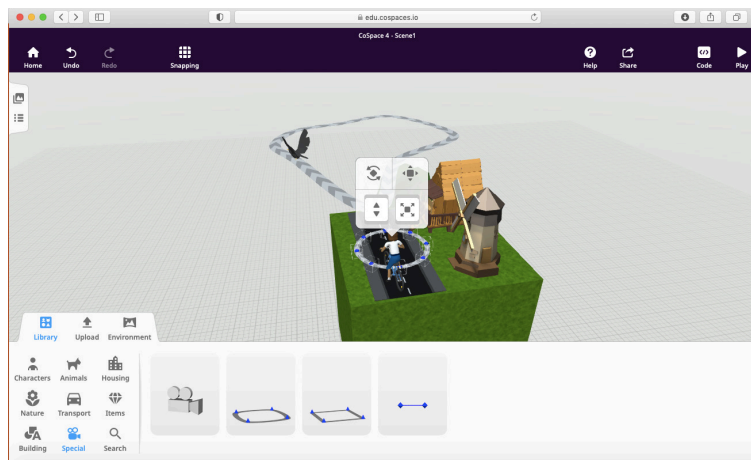
**Step 12:** When you press 'Play' your screen will change to show you your merge cube design. You can explore your design by zooming in and out and dragging the cube to change your view. Check your coding has worked by seeing if your character moves.



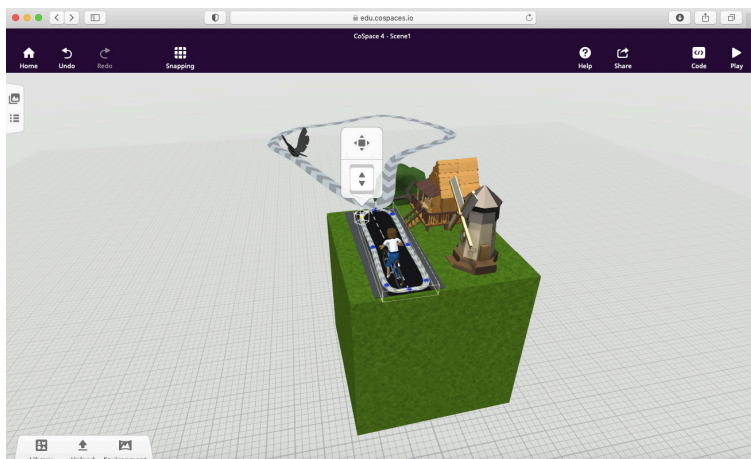
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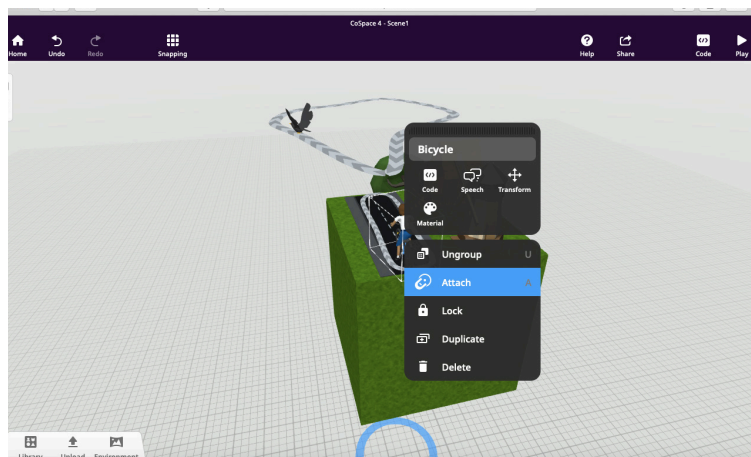
**Step 13:** As you build your city you can have many different characters moving at the same time. We are now going to make the character on the bike cycle along the road. Choose **'Library'**, then **'Special'** and drag out a path. Lift it up and place it where you want it.



**Step 14:** Using the **blue** dots, change the shape of the path by dragging the **blue** dots into a different position. We have changed this path to follow the shape of the road.



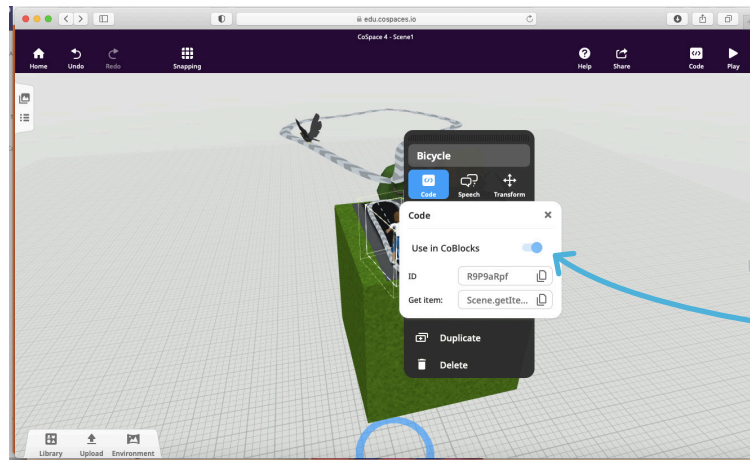
**Step 15:** Attach the bicycle onto the path by double clicking on the bike and choosing **'Attach'**. Click on one of the **blue** dots on the path and the bike will move onto it.



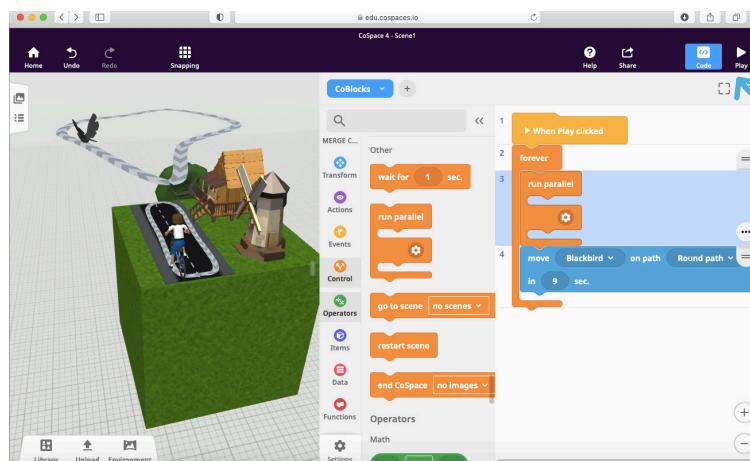
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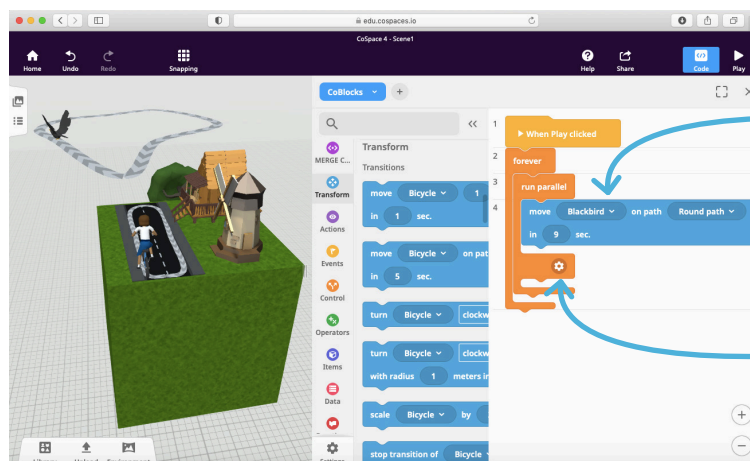
**Step 16:** Double click on the bicycle and choose **'Code'**. Where it says **'Use in CoBlocks'** click the button so it turns from grey to **blue**. This now means the bike will appear in the code instructions so we can make it move along the road.



**Step 17:** We are now going to add in more instructions to the code. Find the orange **'Control'** section in the list on the left. Click on the **orange** block labelled **'run parallel'** and drag it over to fit inside the **'forever'** block. This will allow two characters to move at the same time.



**Step 18:** Drag the first **blue** code block up to fit in the first space underneath the words **'run parallel'**. Next, we are going to add in another instruction block to sit in the second space of the **'run parallel'** block.

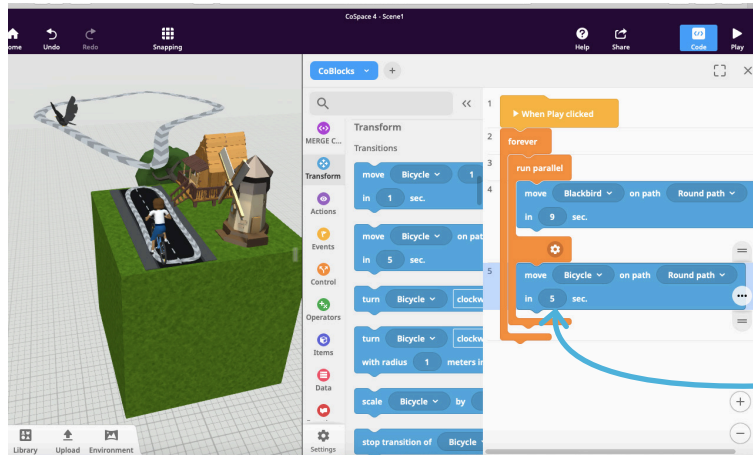




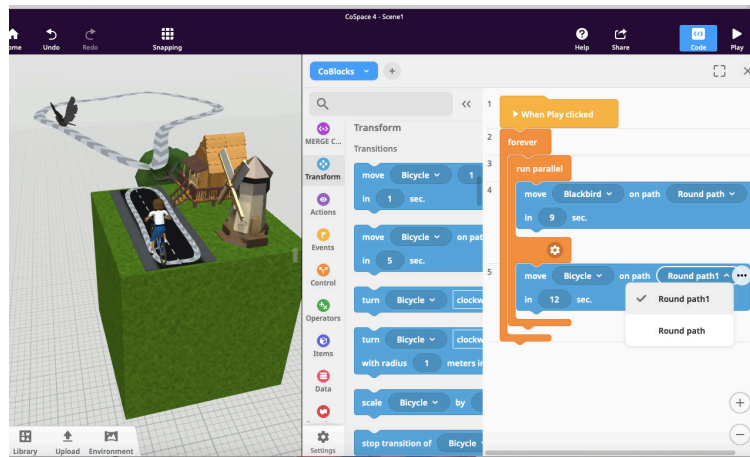
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**Step 19:** Find the **blue** 'Transform' section in the list on the left. Look for the instruction that says 'move [Bicycle] on path [Round path] in [5] sec.' Drag this block over and place it in the empty second space of the **orange** 'run parallel' block



**Step 20:** Make sure the **blue** code block has the correct character and path selected in the drop-down boxes. You can see this one says 'Bicycle' and 'Round path 1'. You can always check the names of characters and paths by double clicking on them.



**Step 21:** Check your coding has worked by pressing the 'Play' button in the top right corner. If your coding is working you should see both of your characters moving.



Look through and experiment with the different coding instructions and see all the different ways you can make things happen in your digital city!

