



# imagination hub: digital making

## Coding in Augmented Reality

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# coding in AR: CoSpaces

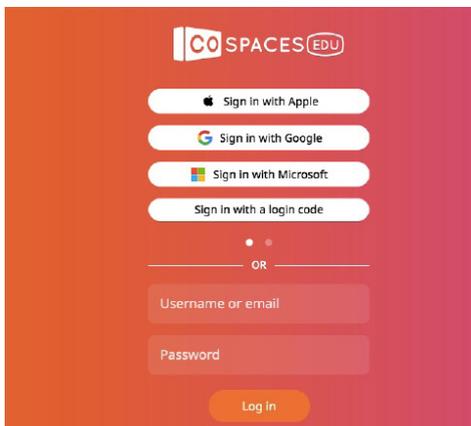


Augmented Reality using Co Spaces is about creating worlds, adding sound, speech, characters, as well as using block coding so that the world you've created can come to life and be explored.

For this activity you will need:

- A laptop or a tablet or a smartphone
- This link: <https://edu.cospaces.io/Auth>

If you would like a login, please email [imaginationhub@ioi.london](mailto:imaginationhub@ioi.london) and we can send you one.

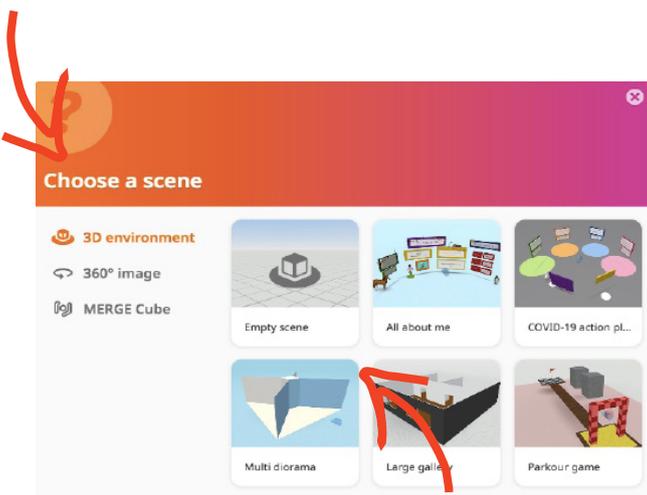
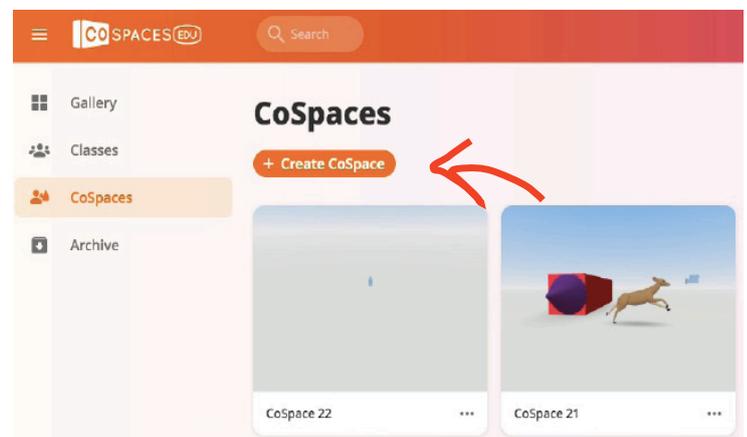


## Step 1: Getting started

Log in with the username and password.

## Step 2: Creating your Co Space

Click on 'Cospaces' (it might also be called 'Free play'). Now choose 'Create Cospace'.



Choose 3D environment.  
Now click on 'Empty scene'



## Step 3: Understanding the layout of Co Spaces

This takes you back to the homepage

These buttons will take you back to your last step or forwards to re-do

'Share' your space with your friends

Create new scenes here

This is the camera

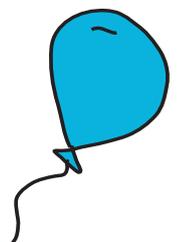
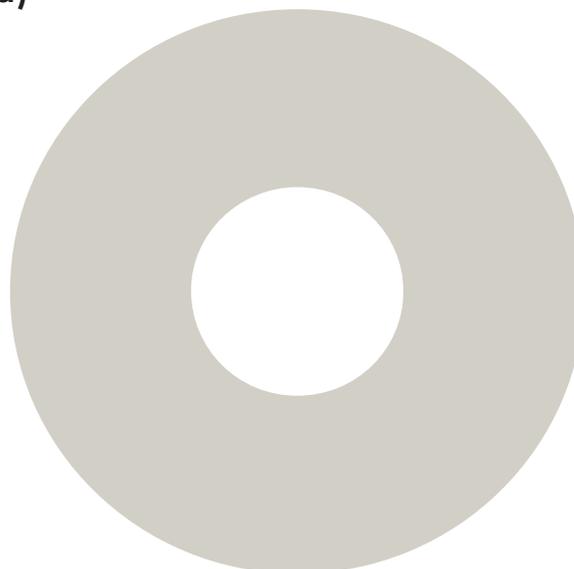
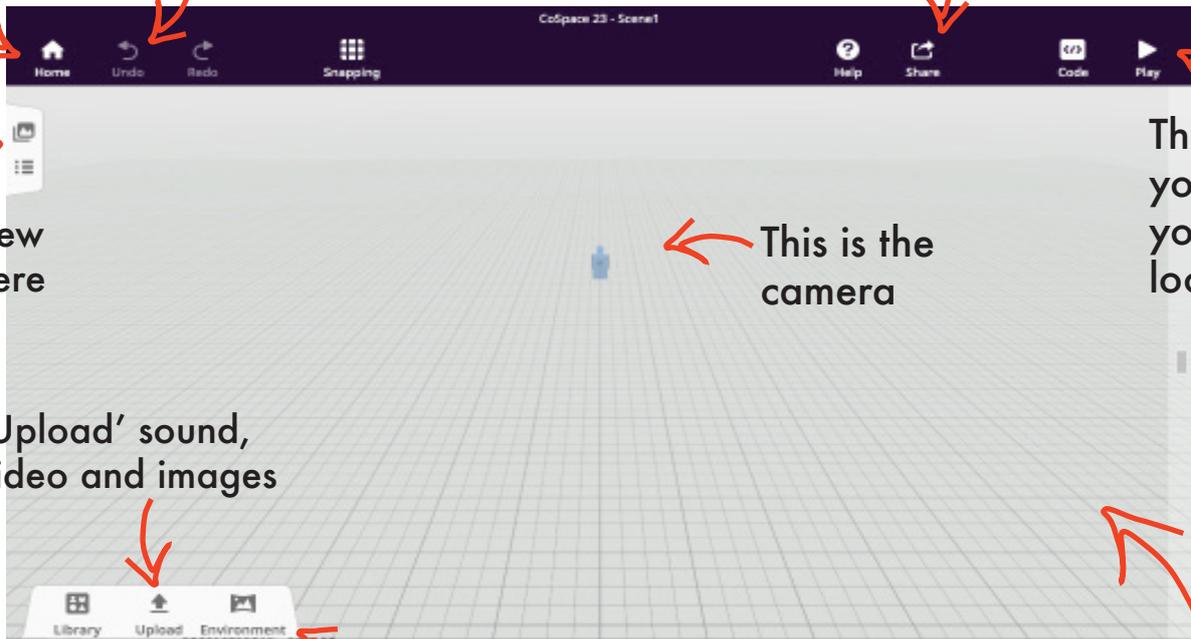
This shows you what your world looks like

'Upload' sound, video and images

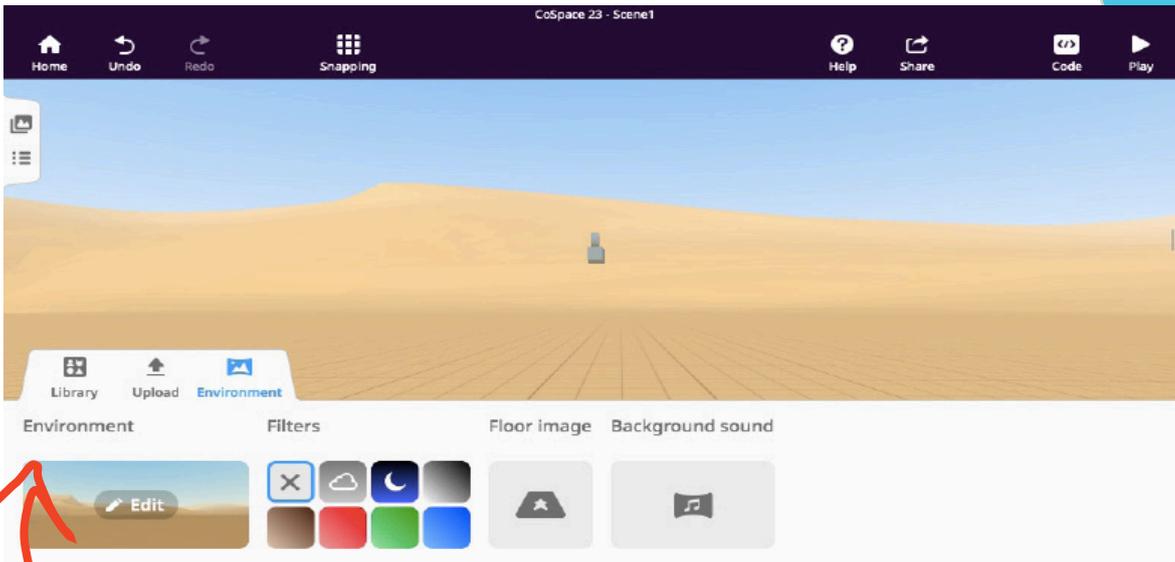
'Library' has all of the characters, animals and objects

Choose your environment (or background)

Everything you create will show up here

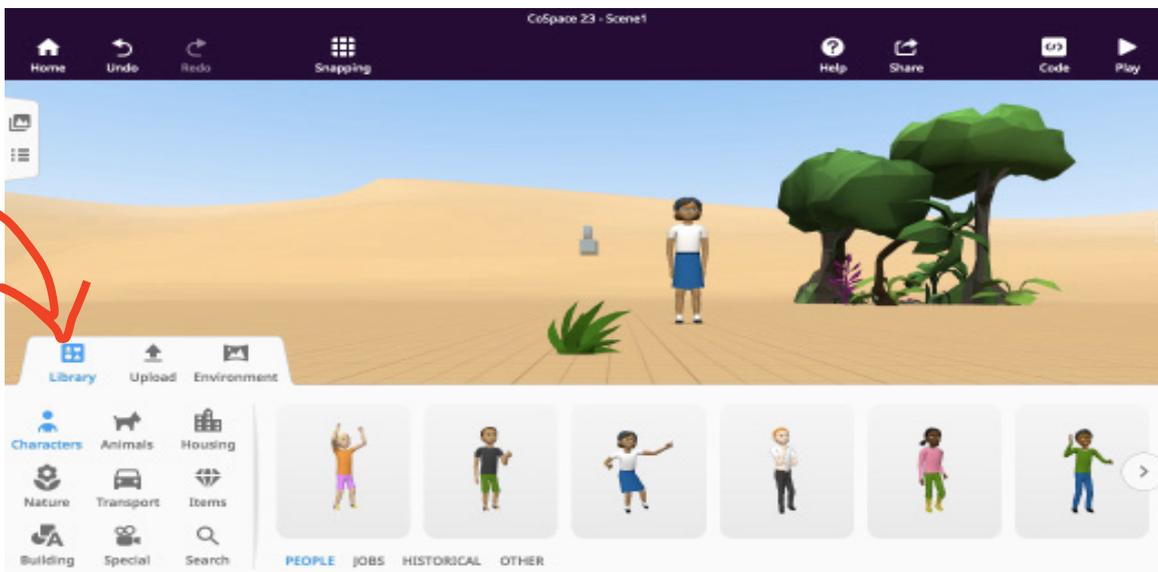


## Step 4: Designing your Co Space

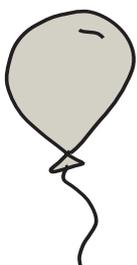


1. Click on 'Environment'.  
Then choose 'Edit' to select  
your background.

2. You can also choose a  
'Mood' for your environment.

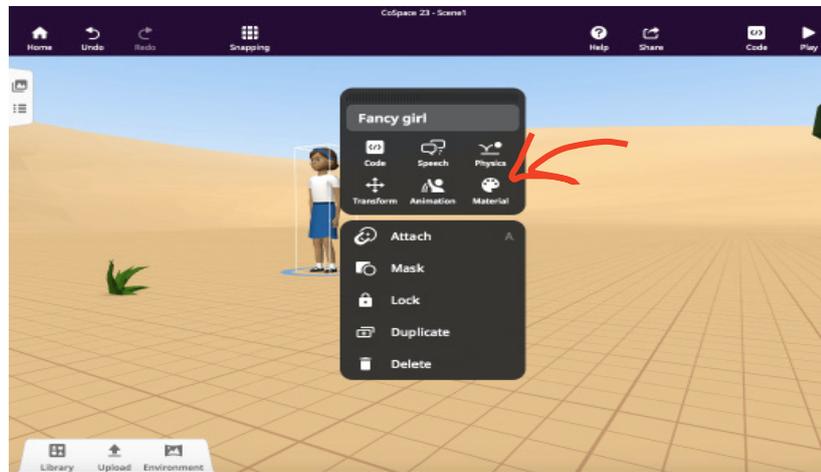


3. Click 'Library' and start choosing characters, animals and nature to  
go in your world. Click and drag your favourite things into the space.



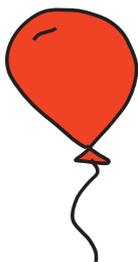
## How do you edit your character?

1. Double click on a character/animal.
2. Click on 'Material' now you can change the way your character looks.



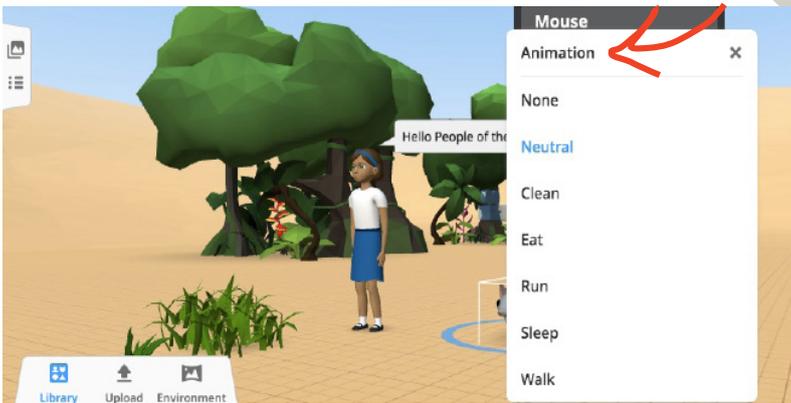
## How do you make your character think or say something?

1. Double click on a character/animal.
2. Click on 'Speech'.
3. Type what your character will think or say.



## How to make things move?

This is how to animate your characters:



1. Double click on a character/animal.

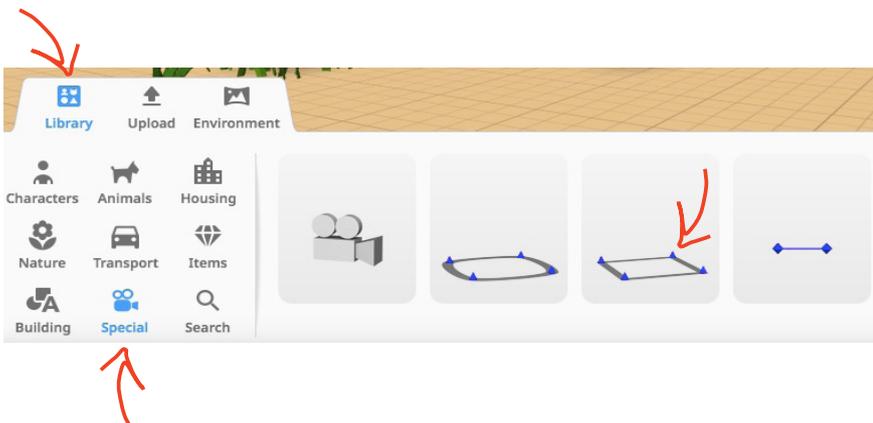
2. Click on 'Animation', now you can choose what you want your character/animal to do.



This how to make your characters move around your scene:

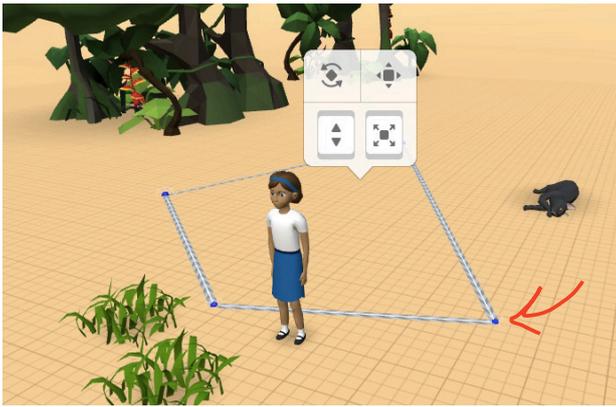


1. First we have to code it. Double click on a character, click 'Code', then 'Use in Co Blocks'.

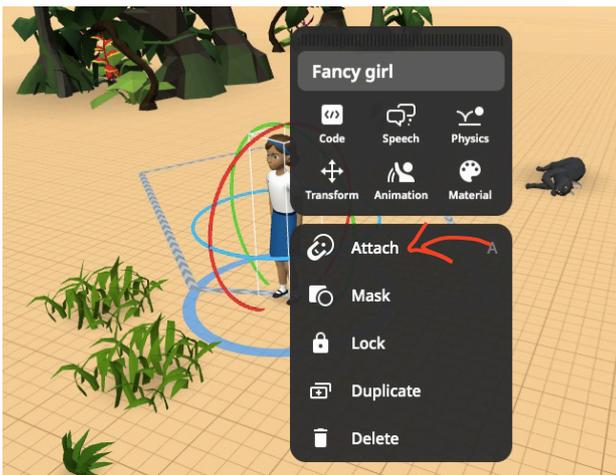


2. Go to 'Library', 'Special' and choose the a path, for example 'Square Path'.

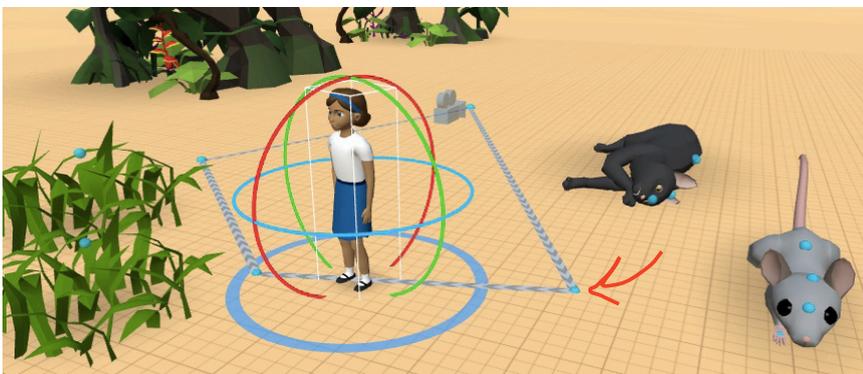




3. To make your Square Path bigger, click and drag each blue dot.

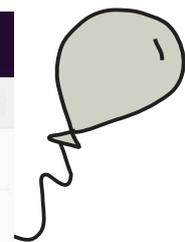
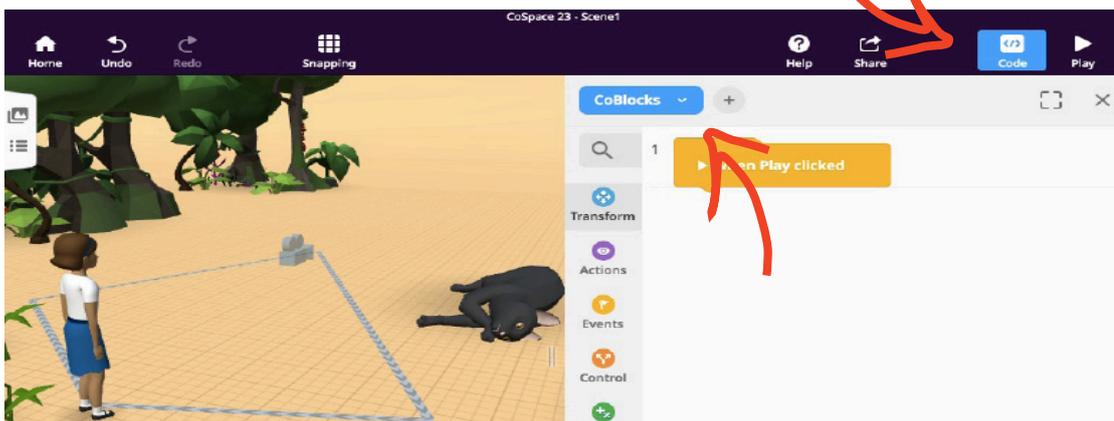


4. Double click on your character and select 'Attach'.



5. Lots of blue dots will appear - we want to click on a blue dot on our Square Path.

6. Now at the top of the page go to 'Code', then 'Coblocks'.

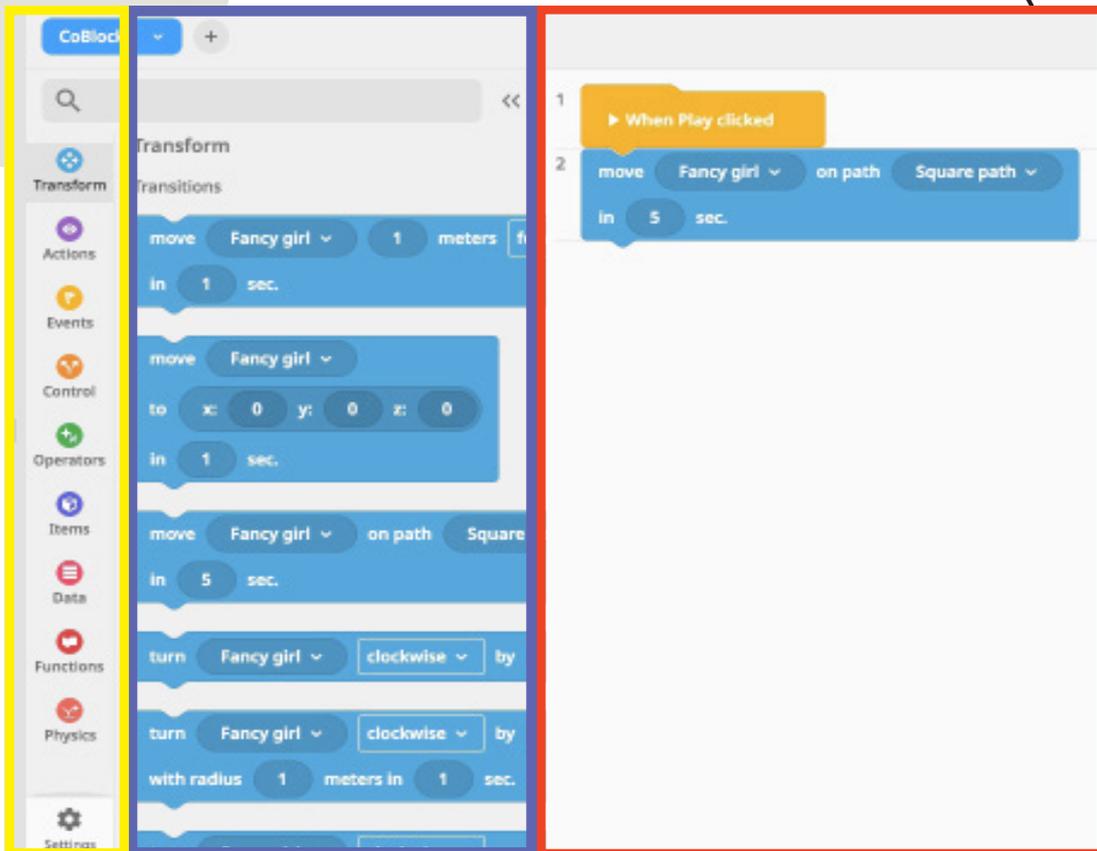
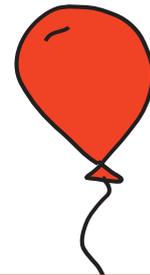




6. Under the coding block 'Transform', find the block that looks like this one. You can change the amount of time your character moves for too.

7. Click the x to close the coding panel, then the 'Play' button on the top of the screen and your character should be moving. You can keep adding in as much code as you like.

Top tip! The coding panel is split into three parts!



Here are the coding blocks

These are the different codes

Your code appears in this red section.

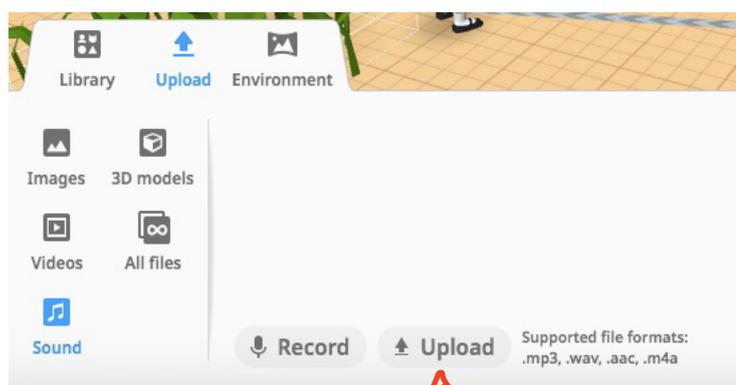


## Step 5: Adding new scenes and audio

Click on this button at the top and



Then select 'New scene' to create a new scene for your world. Just like in a film where there are different scenes, your world is even more interesting with several scenes. You can choose an environment and characters the same way you did before.

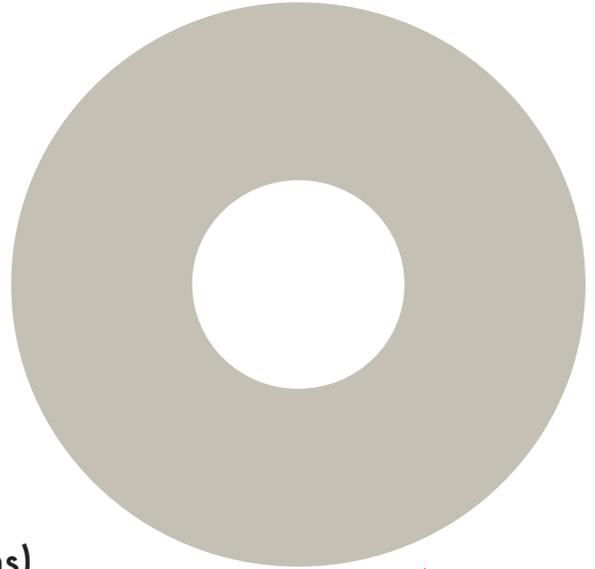
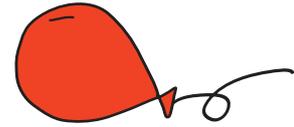
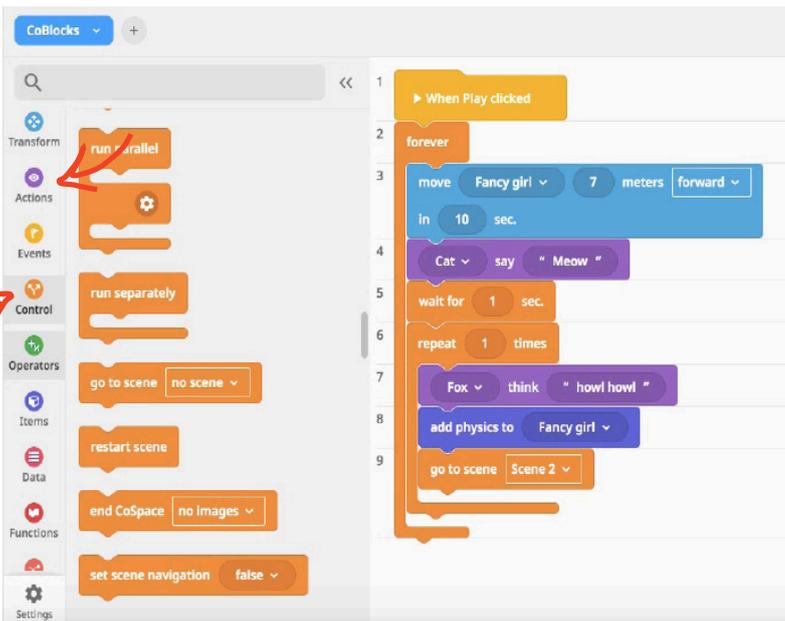


To add in sound:

Go to 'Upload', then 'Sound'. Now you can record your own sound or upload a song or sound you may have already on your device. Click 'Play' at the top of the screen to see if it worked.



Hack, code and experiment! There is so much to explore with CoSpaces. It is worth having a look through each of the Block Coding Sections to see what you can find.

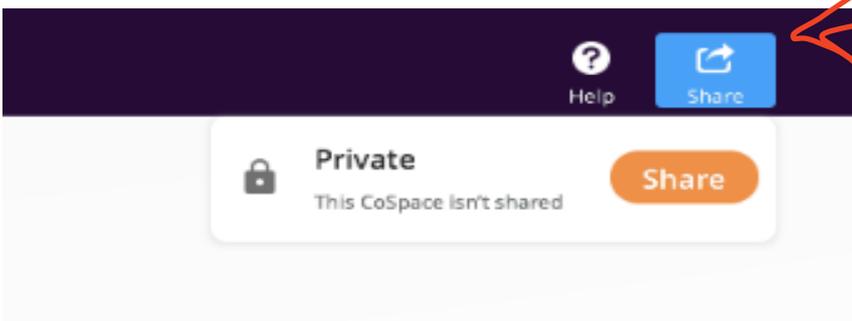


Try coding that will jump to a different scene (Controls) or maybe adding some sound (Actions).

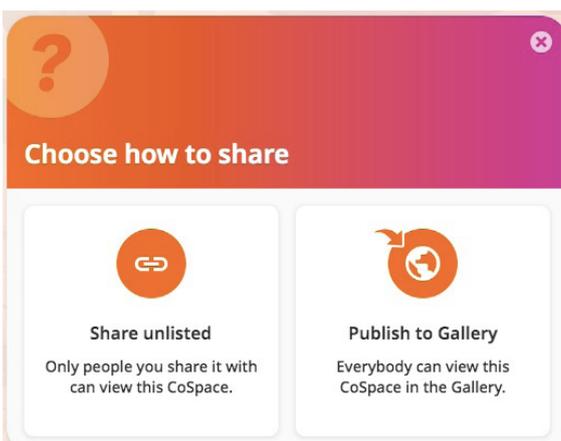
What about adding a new 'Codeblock panel' so that you can add more code? You can use this to create separate codes for each scene too. How about experimenting with changing the view of the camera to orbit, fly or walk?



Share your AR space:



1. At the top of the screen click on the 'Share' button. Then click 'Share' again.



2. You can choose to share it with just the people you know using 'Share Unlisted'. To let everyone on CoSpaces see choose 'Publish to Gallery'.

3. Now just follow the instructions and that's it!

Well done!

