Computer Science

Creating

Plan, make, assess

Creating video sensing game

https://www.youtube.com/watch?v=8vHEqVdWn08

Click on the link to see what a video sensing game is. I will show you Mr Viney's game when we are back in class! The programme is a slightly updated version but for now this video will give you an idea.

Creating

Plan, make, assess

What do you want your programme to do?

Creating
Plan, make, assess

Draw and label what your programme will look like (how will the sprites move, what will they say, what sounds will be used.

Tinkering
Try things out

Edit your design with green pen to show how you improved your design.

Creating

Plan, make, assess

Example

Creating
Plan, make, assess

Draw and label what your programme will look like (how will the sprites move, what will they say, what sounds will be used.

The purpose of the game is to keep the ball in the air.
Use motion when there is contact with the sprite

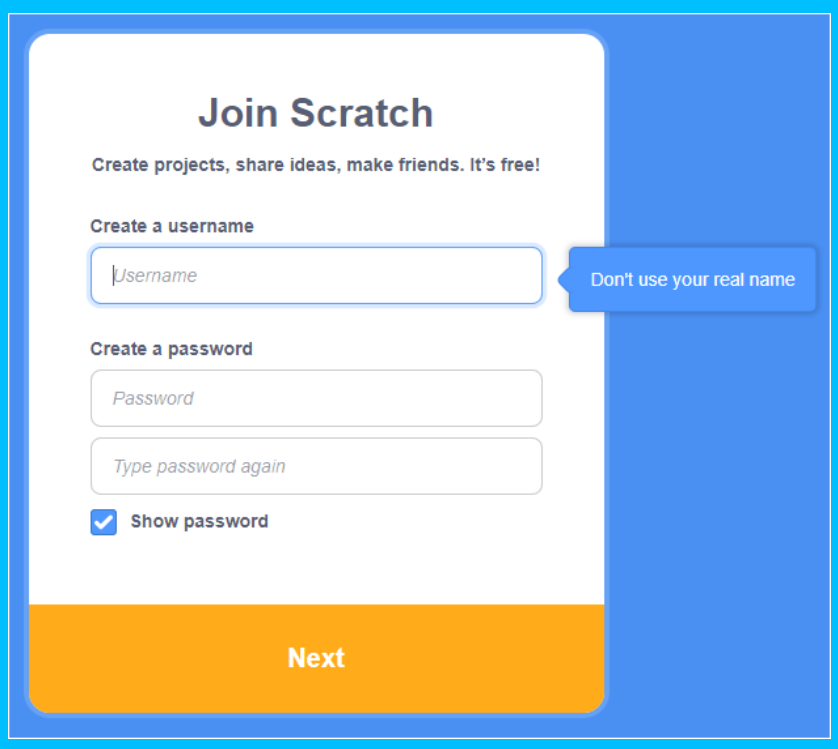
Tinkering
Try things out

Edit your design with green pen to show how you improved your design.

Logging in

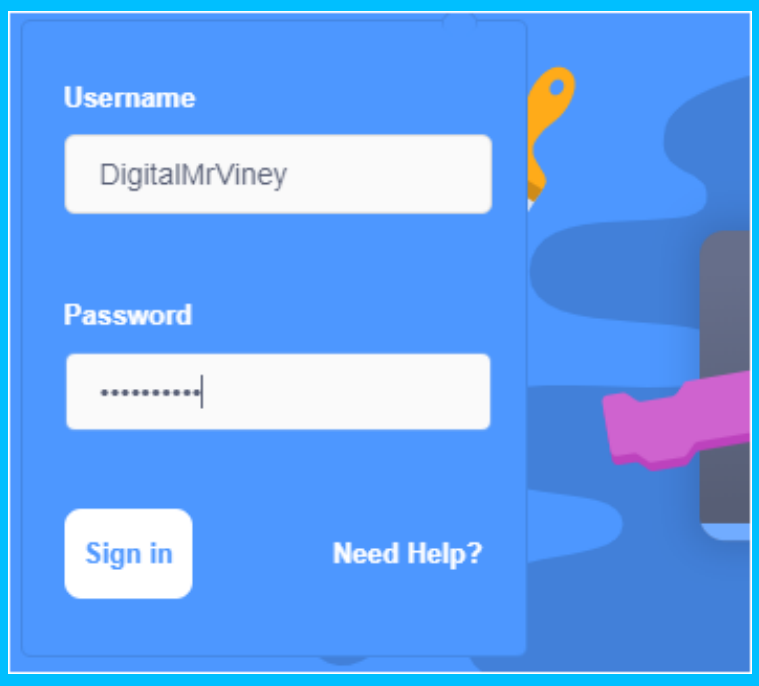
Creating an account and logging in

https://scratch.mit.edu/join



1. Create an account by making up a username and password

2. You will need to create a username and password that you can remember!



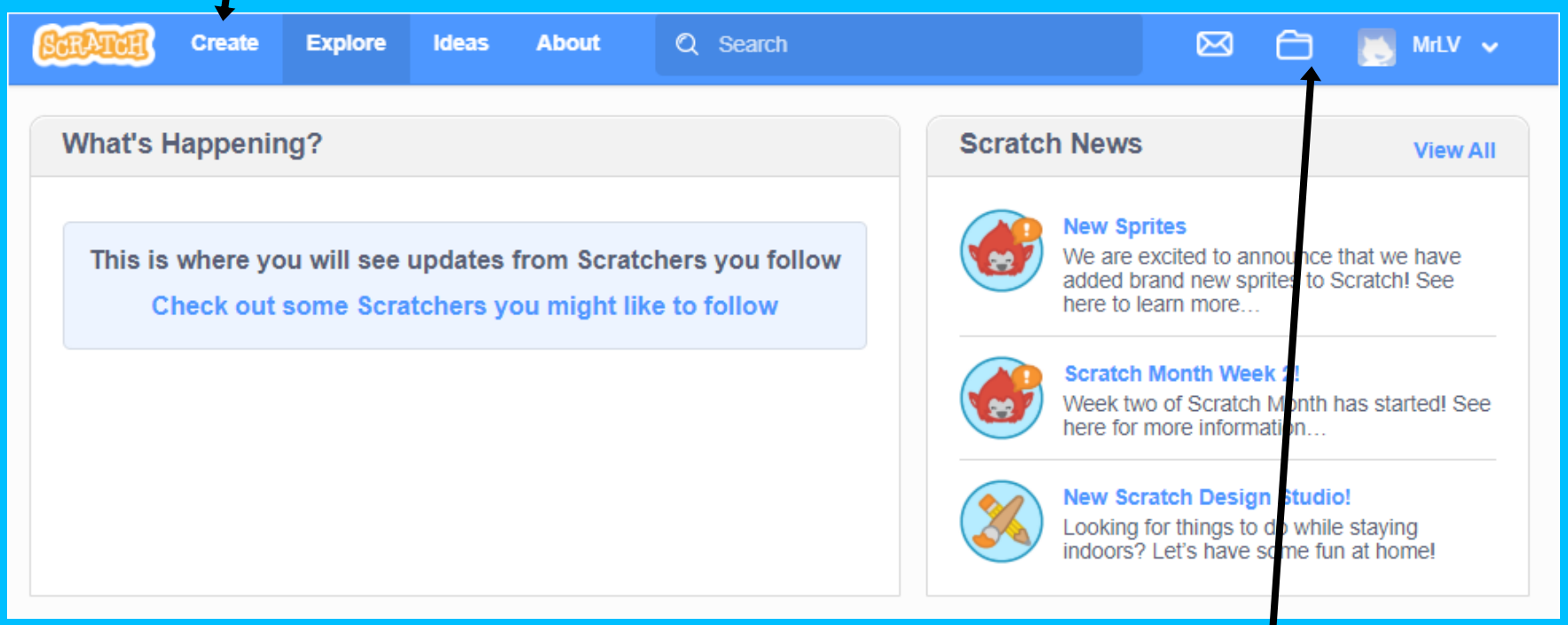
E-Safety: Make sure you use a strong password and do not use your real name.

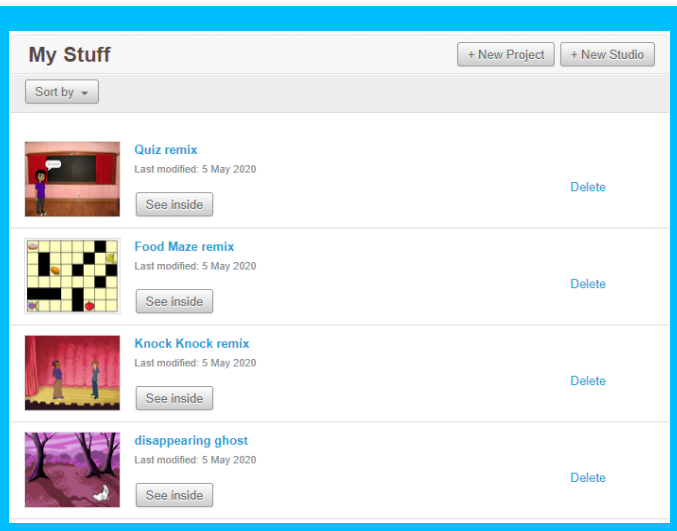
Computer Science

Introduction
to the platform

Where to go to create your own programmes

Your profile and log out





Where your work is saved

Create

These are command BLOCKS which are grouped to make them easy to find.

How to start and stop your code

Staging area where your coding will come to life!

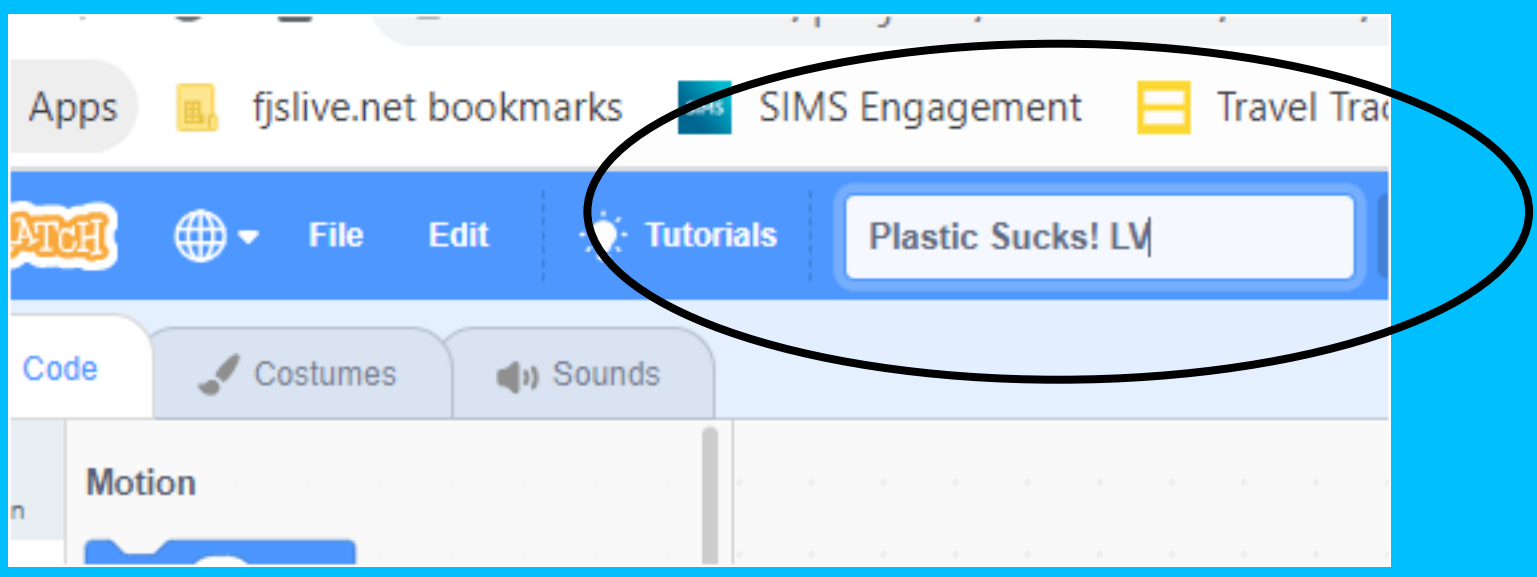
Scripting areas where you will drag the blocks to build your to code programmes

Sprites pane which are the objects you will coding to do something

Make your code look great with a background (backdrop)

Name your creation

Change the name of the project

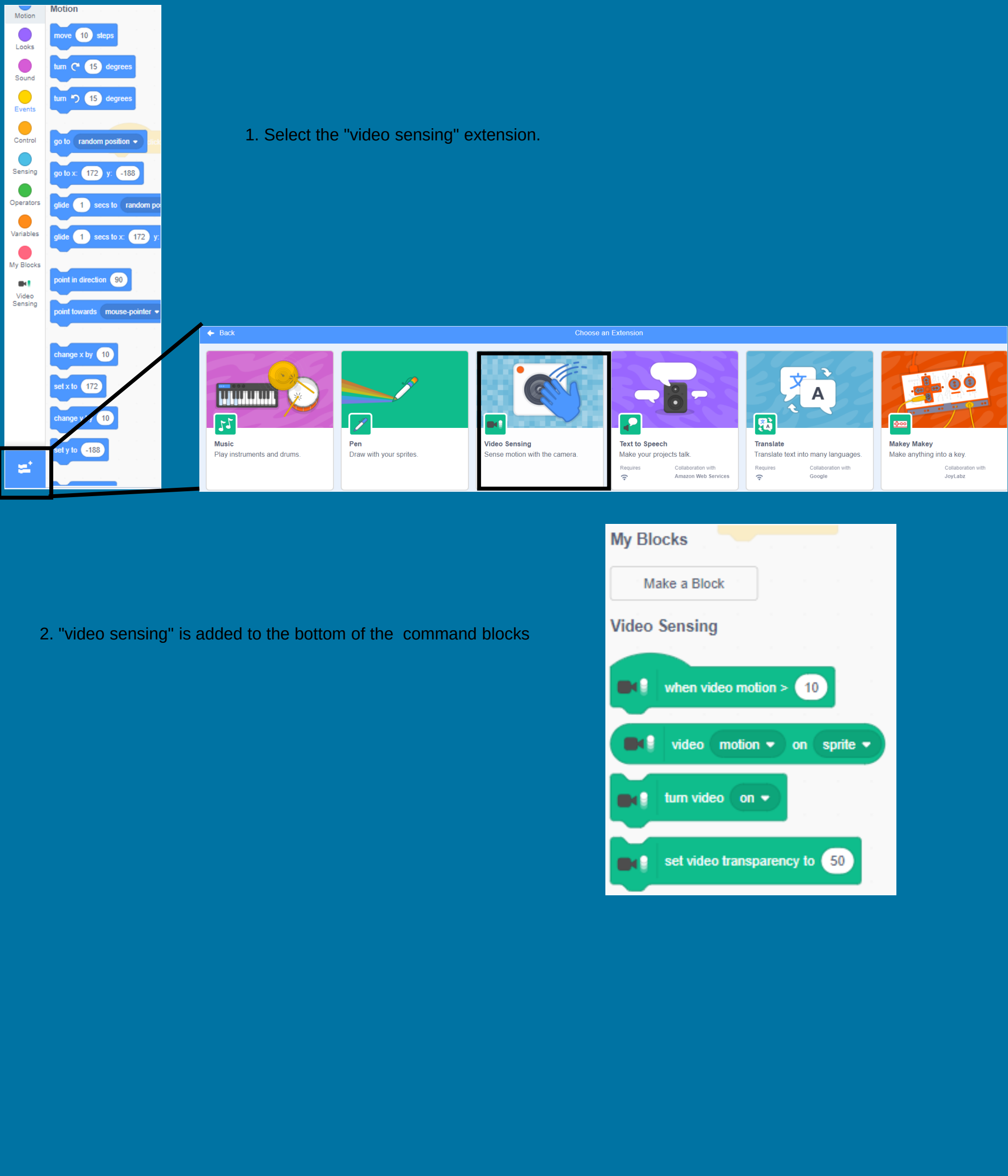


E-Safety: Make sure you do not use your whole name, just initials please.

Video is ladybird

Creating

Plan, make, assess

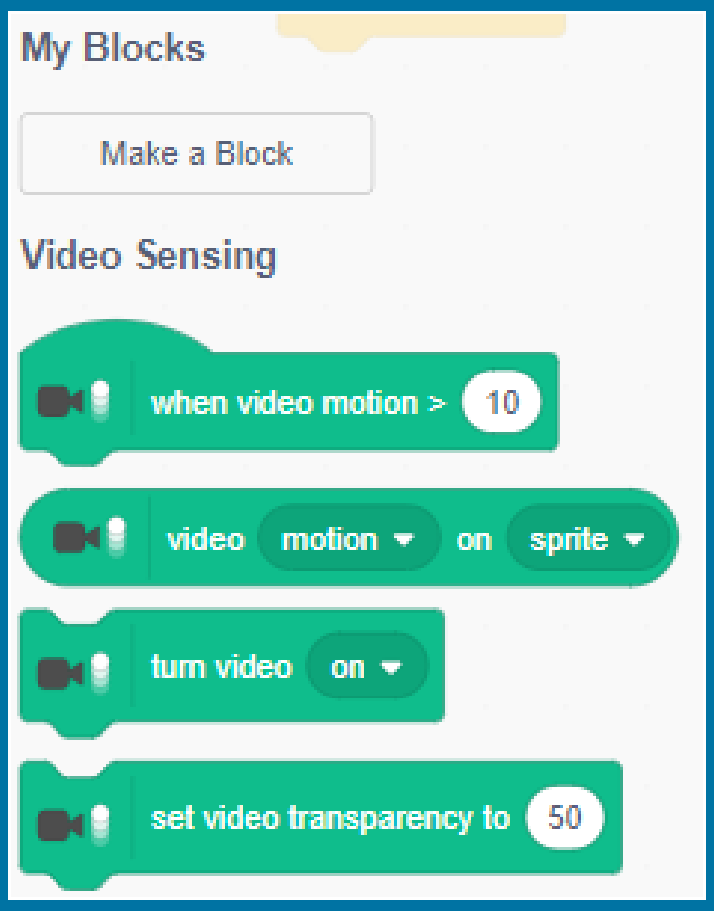


1. Select the "video sensing" extension.

2. "video sensing" is added to the bottom of the command blocks

Video is ladybird

Video motion: This sets how sensitive the movements are. It goes from 0 where there is no movement on camera to 100 where the video senses a lot of movement.



Video motion on sprite: Sense the motion on the sprite so when the sprite is touched it moves.

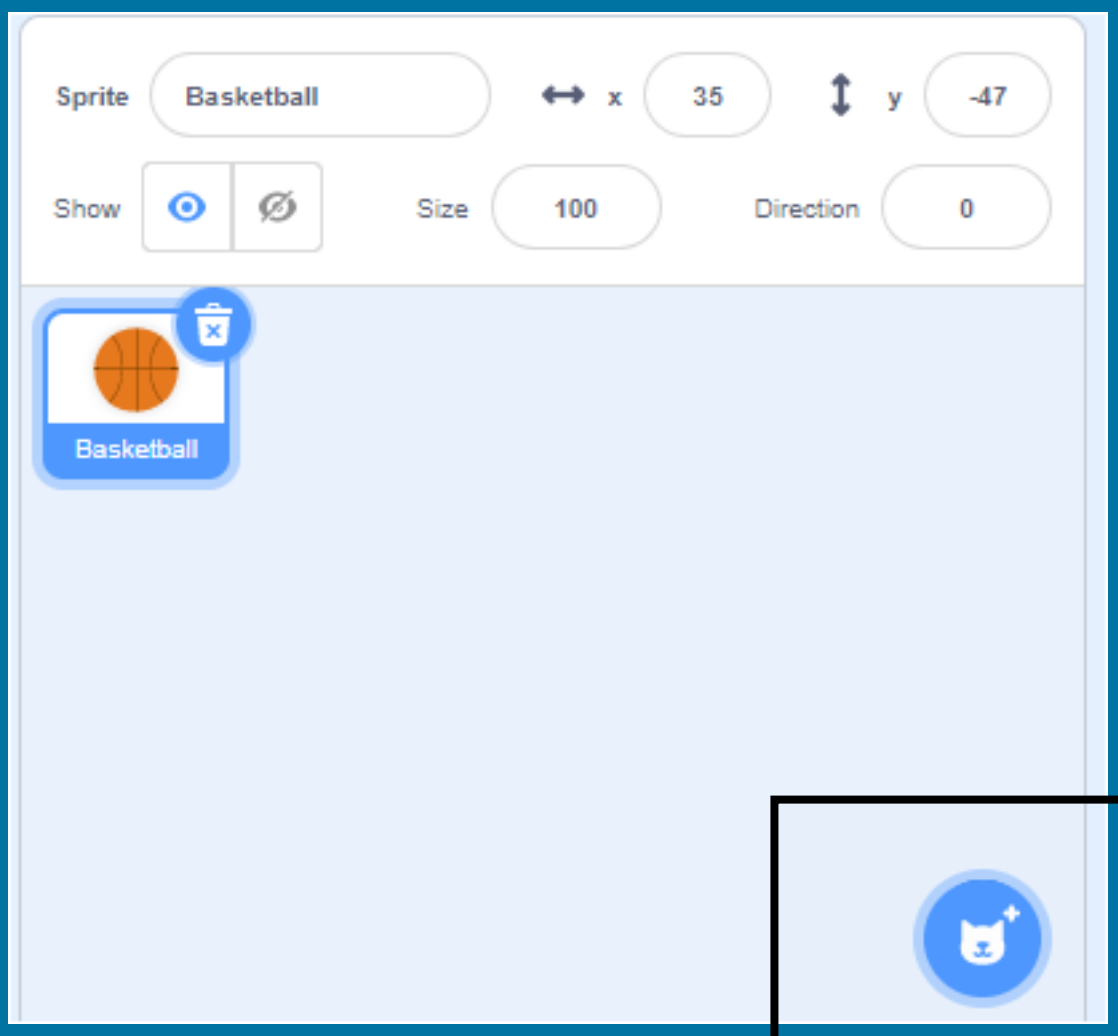
Turn video on/ off: Command to turn the webcam on/off

Transparency: The backdrop is set to white (0 = 100% transparent, 100 = white backdrop)

https://www.youtube.com/watch?v=8vHEqVdWn08

Choosing sprites

1. Add the sprites you need (you may want to create your own better sprites!). Place them on the backdrop.

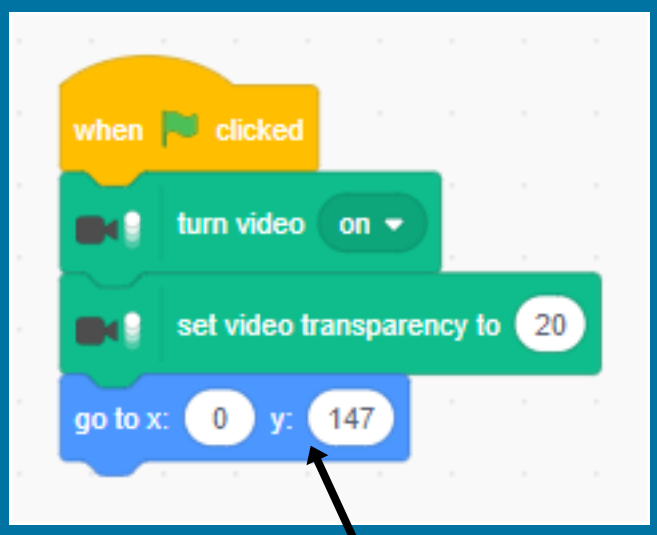


Use the sprite search to select a basketball

Creating

Plan, make, assess

Turn video sensing on



1). Use the video sensing blocks to turn the video on.

2). Set the video transparency to 20 (tinker with this to see how it changes the video view).

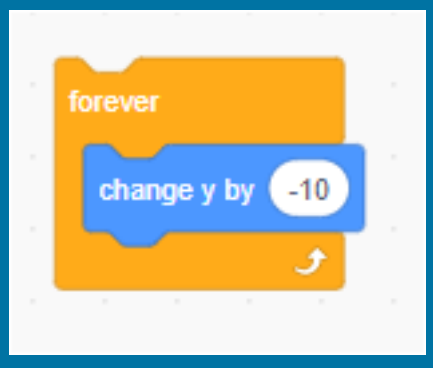
3). Position your sprite on the back drop.

Video Sensing

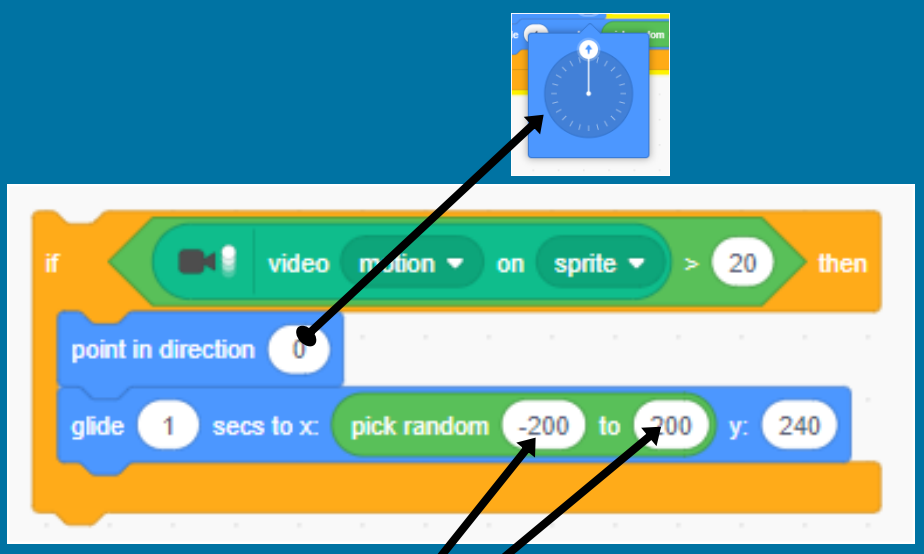
Creating

Plan, make, assess

Describe what the code is doing.



Makes the sprite fall 10 steps (y axis) continually (for ever)



When some motion (level 20) is detected on the sprite it will move in direction 0 (upwards).
Glide to the top (y axis) to a random place on the x axis (horizontal).

The x and y axis goes from -240 to 240

Creating
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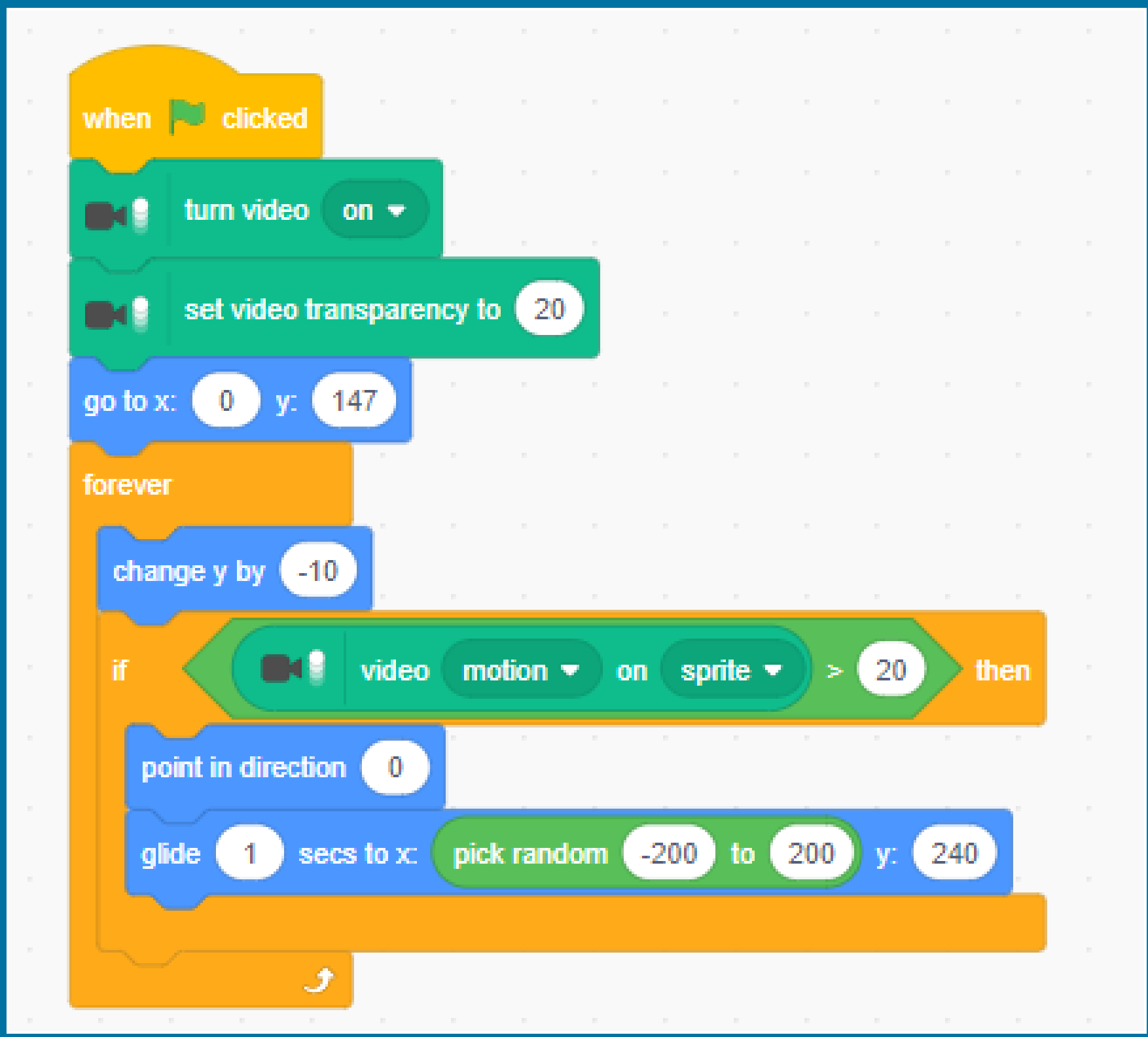
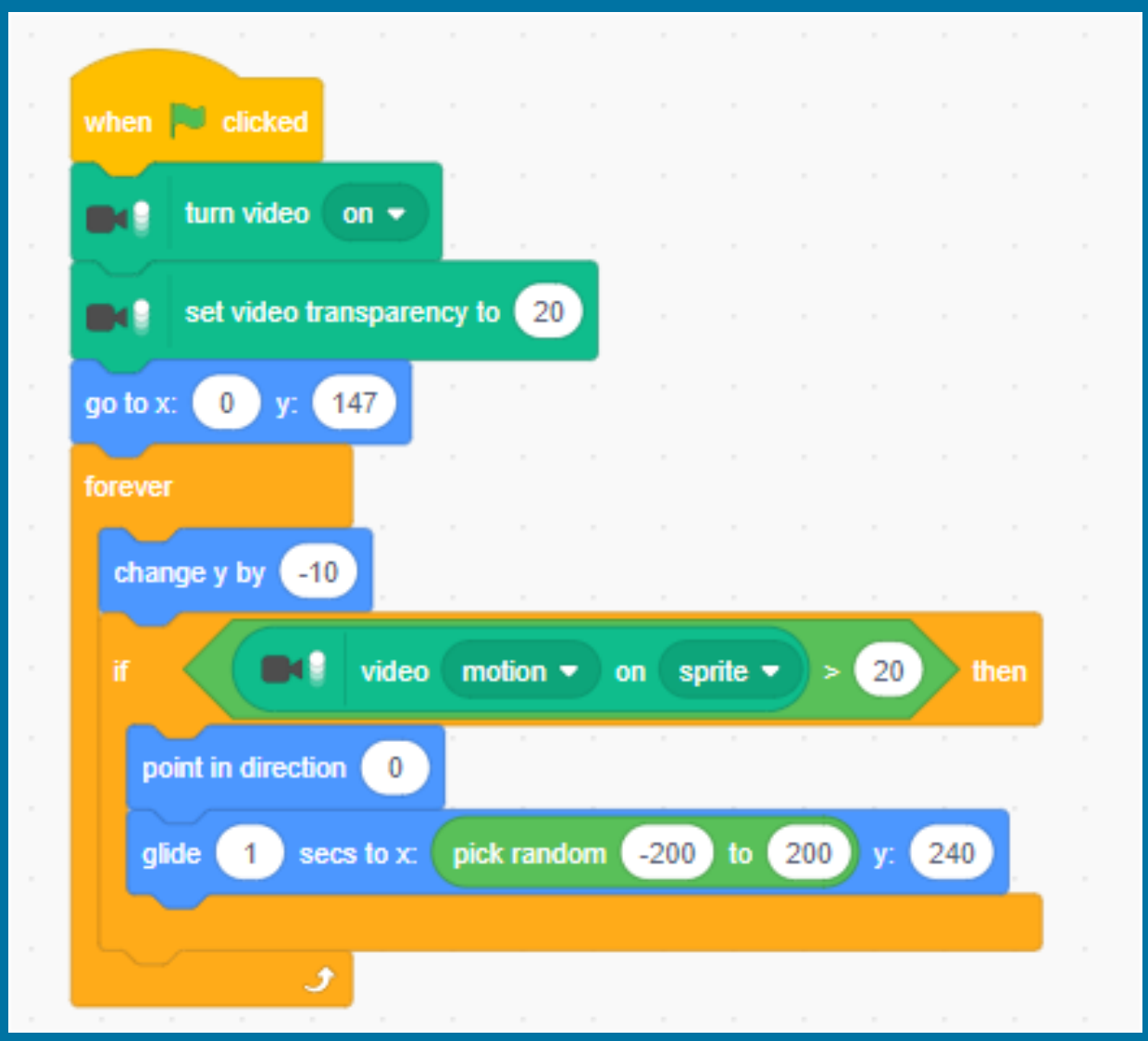
Put the code together like this...



Play your keepy uppy game!

Tinkering
Try things out

Let's review our code.
What do you think?



What can you change to see how the game could be improved?

How can you improve the game?

Add a bounce sound
Change colour

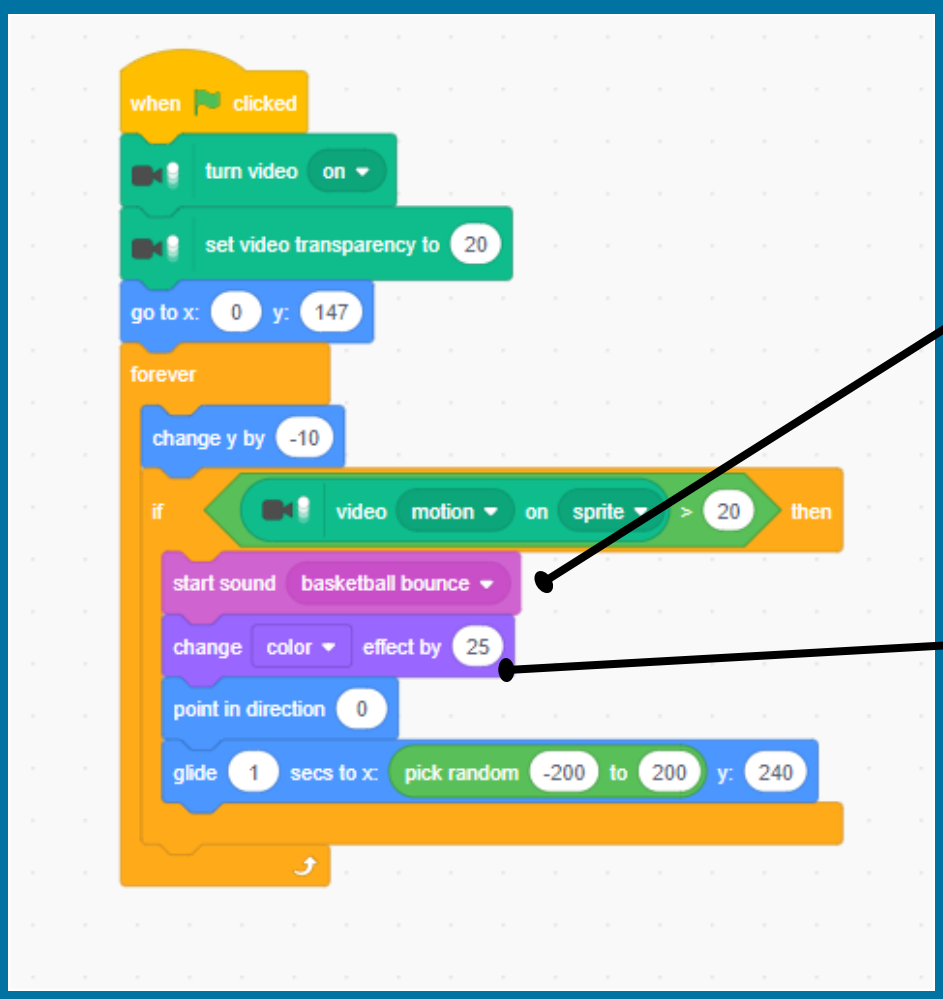
Add more sprites using the same code

Make sure you test your code EVERY TIME you make a change!
Use the stop button to reset the programme

Tinkering

Try things out

Add a bounce sound
Change colour



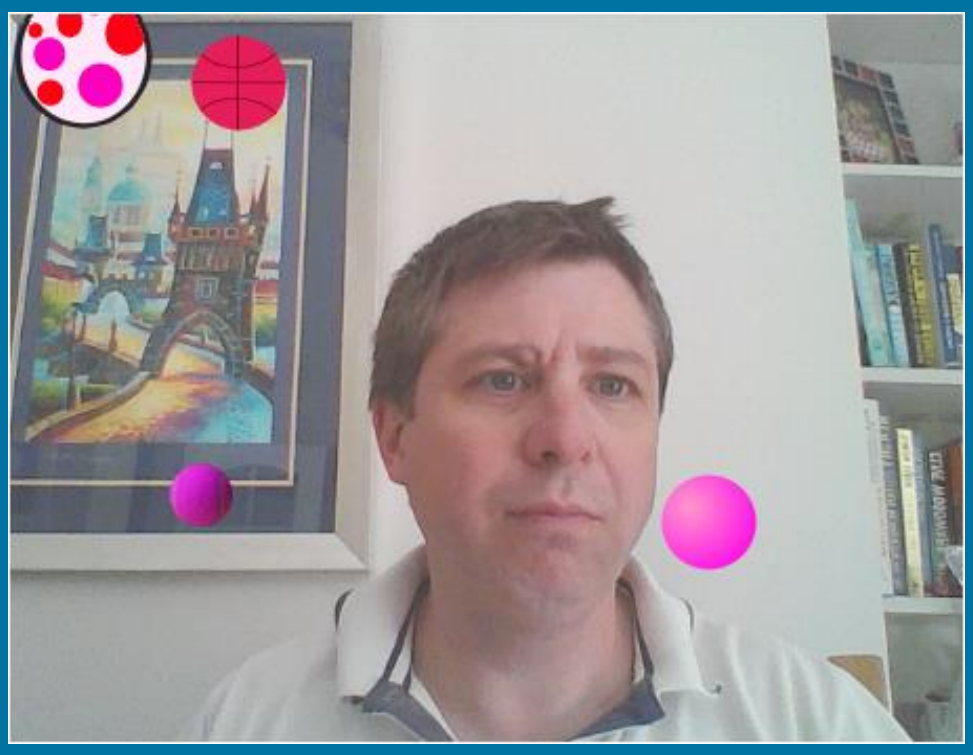
Add the start sound

Change colour of sprite

Tinkering

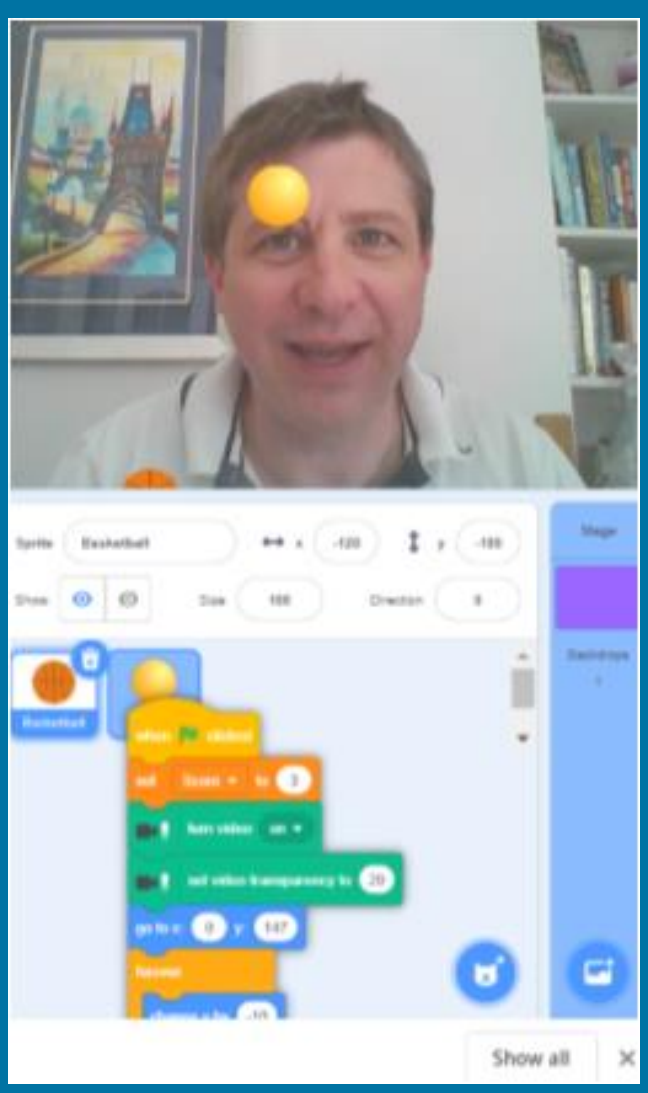
Try things out

Add more sprites using the same code



1). Add new sprites

2). Drag and drop the code on to the sprite in the sprite area



Tinkering
Try things out

Use green pen to annotate your design with the new ideas for your programme.

Creating
Plan, make
assess

Draw and Label what your programme will look like (how will the sprites move, what will they say, what sounds will be used.

The purpose of the game is to keep the ball in the air.
Use motion when there is contact with the sprite.
Use a score variable.
Use sound and change the colour of the sprite to make the game more interesting.

Tinkering
Try things out

Edit your design with green pen to show how you improved your design.

De-bugging

Identify and correct mistakes, evaluate

What have you had to de-bug today?

What skills do you need to "de-bug"?

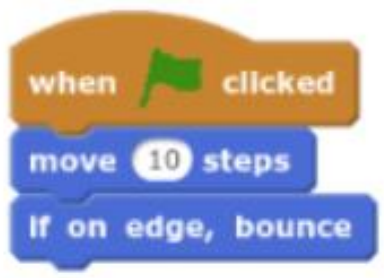
Test

De-bugging

Identify and correct mistakes, evaluate

What's wrong with this code and how would you correct it?

Here is some code for a ball sprite:



Why will this code not result in the ball constantly bouncing from one side of the screen to the other?

- ○ The 'if on edge, bounce' block is not needed.
- ○ The code needs to be within a repeat block.
- ○ The code needs to be within a forever block.
- ○ It needs another 'move 10 steps' block after the 'if on edge bounce' block.

The code needs a forever block because the ball would only move 10 steps then stop.

Saving your project

You do not need to save your project but if you are able to take a screen shot of your game, I would like to see it!