

## Year 3 – Programming Scratch

### Autumn 2



#### Lesson 1: Tinkering with Scratch

### *Learning objective*

- ✓ To explore a programming application.

### *Success criteria*

- ✓ I can identify that Scratch is a coding application.
- ✓ I can make predictions about what blocks of code will do and check if my code does what I expected.
- ✓ I can explore the various blocks in Scratch.

We began our lesson by having 5 minutes to remind ourselves what we can do with scratch. We had previously used Scratch Jr but were introduced to Scratch online which looked a little bit different.

We discussed the word 'tinkering'...

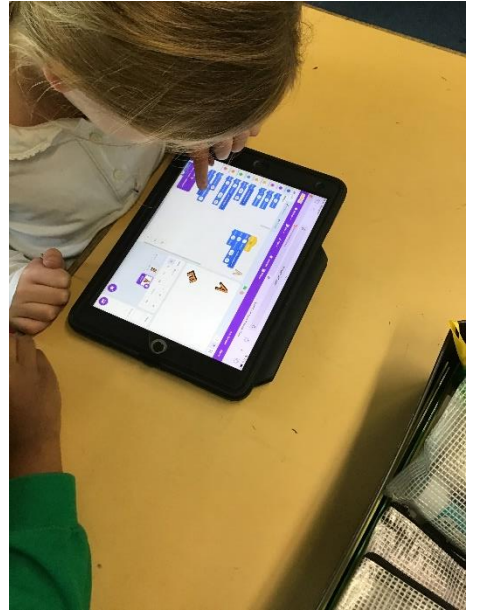
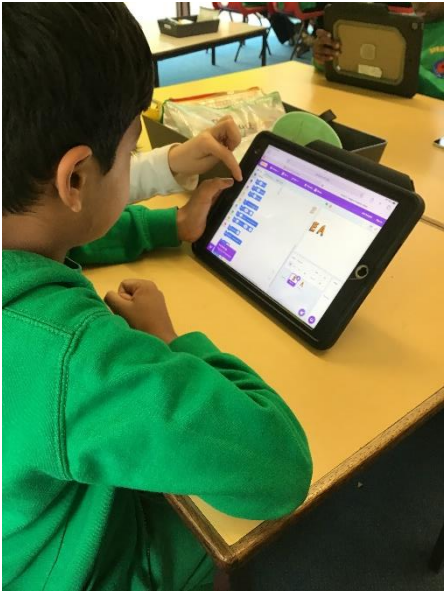
Explain that **tinkering** means exploring and playing with something to discover its key functions. Emphasise that this is important in computing because it allows programmers to explore, make mistakes and learn how code works.

We watched a video all about tinkering with Scratch which introduced us to Scratch's features and demonstrated the activity that we needed to have a go at.

We were asked to...

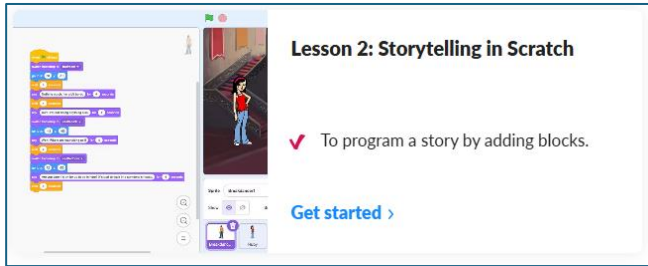
- ✓ Use sprites in Scratch to represent images that move or interact.
- ✓ Create a sprite using the first letter of their name. Support the children in finding the sprite area and changing the cat sprite to a letter sprite.
- ✓ Choose a letter sprite from the library or create one using the letter option. The other two icons allow uploading a file or choosing a random sprite.
- ✓ Delete the cat sprite once the letter sprite has been added.
- ✓ Drag the 'when [green flag] clicked' block from the events section into the script area. Explain that this block tells the computer when to run the code.
- ✓ Tinker with blocks by adding them underneath the green flag block, then press the flag to run the program. Some children might already be familiar with Scratch, so this will be an opportunity to assess prior knowledge.





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### Learning objective

✓ To program a story by adding blocks.

### Success criteria

✓ I can choose appropriate blocks to add to an existing program.

✓ I can add speech and wait blocks to make two characters talk to each other.

✓ I can use motion blocks to move characters during the animation.

## 1: Recap and recall

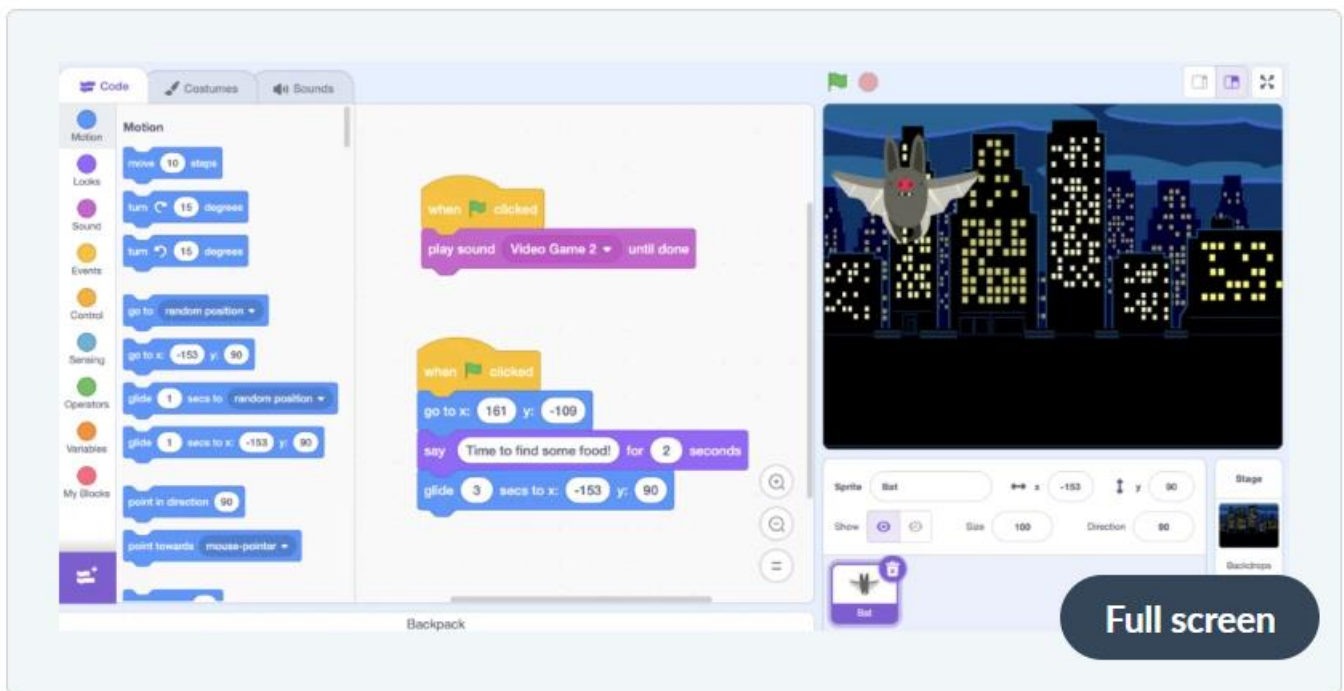
We were able to name SO many things that you can do with scratch. Using retrieval from the previous lesson as well as linking to our prior learning, we were able to recall multiple skills. However, all of these linked to Scratch Jr. as that is what we have used before.



## High five!

Think of five things you remember about Scratch.

Tell them to your partner and then give them a high five!



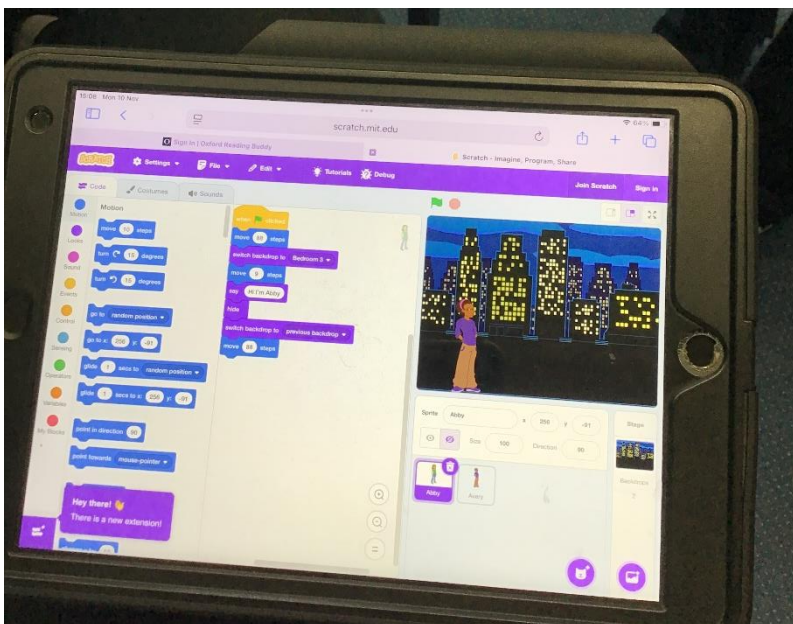
We looked at the code displayed on the board. We discussed what the code could do, which code blocks tell which sprites to do what.

We were then told:

- ✓ The **'say'** block makes a character speak. This helps to show what the character is thinking or feeling.
- ✓ The **'glide'** block controls how a character moves. This shows action or travel.
- ✓ The **'play sound'** block helps set the mood or signal that something important is happening.

We then worked in pairs to try and recreate the story. We were able to find the correct code blocks to be able to:

- ✓ Add code to both sprites to create a conversation.
- ✓ Use matching wait times so the characters speak in turn. When one character is talking, the other is 'waiting' for the same number of seconds so that they can speak once the other character has finished.
- ✓ Use **'go to x: y:'** when the backdrop changes to place sprites in the correct position. Discuss with the children what 'x' and 'y' refer to in maths and point out that each sprite shows its current coordinate in the sprite information box.
- ✓ Look at the sprite info box to find coordinates or drag the sprite first to generate them. If the sprite is moved before placing the **'go to x: y:'** block, the correct coordinates will already be there.
- ✓ Locate and add backdrops using the stage menu.
- ✓ Add new characters if needed and use the **'hide'** block to stop them from appearing too early. (Let the children discover the **'show'** block independently.)





### Lesson 3: Planning a remix

## Learning objective

- ✓ To plan a remix of an animation by altering existing code.

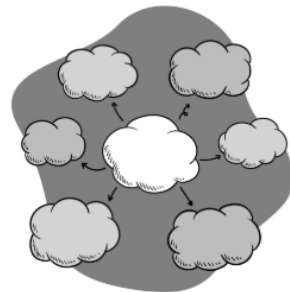
## Success criteria

- ✓ I can use decomposition when looking at a project.
- ✓ I can identify which parts of the animation I want to remix.
- ✓ I can explain how I will alter the code to create my remix.

## 1: Recap and recall

Speaking

We can make them move



We have to choose different actions for them to follow

### Mind map

Create a mind map to show everything you remember about programming an animation.

Use words, phrases or pictures.

We can change the backgrounds

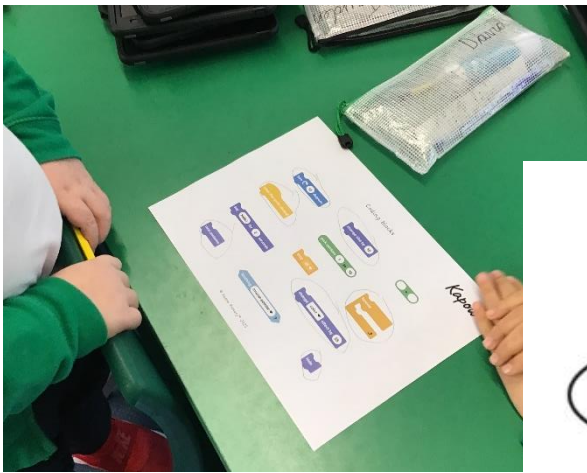
We can change our sprites

They can talk to each other

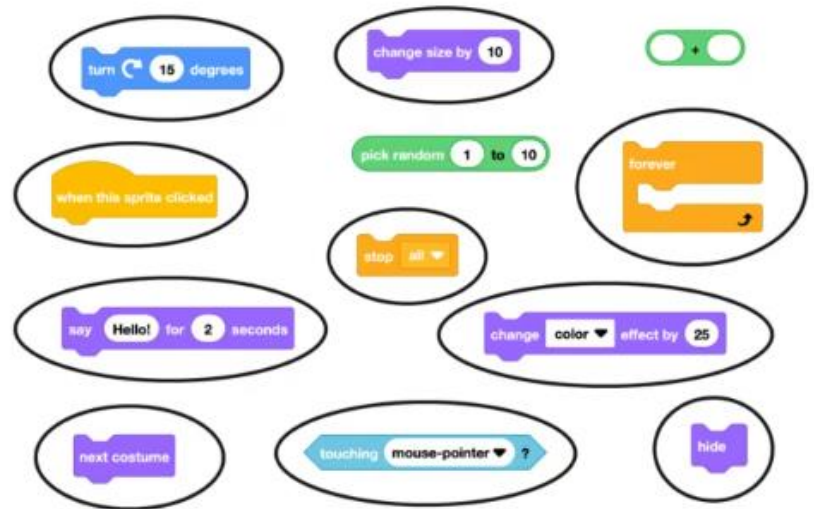


We watched an animation that was created in scratch.

We found out that an **animation** is a series of images or movements shown one after another to create the effect of movement or change. In Scratch, this is done by coding sprites to move, switch costumes or backdrops and play sounds.



We watched the animation again and circled which blocks we thought were used to create the animation.



Main event:

We were introduced to the term **remixing** and it was explained that this means using an existing piece of code and changing it to make it your own.

We were asked to consider...

- What changes would you make to the sprites?
- What could you add to make the animation more fun or exciting?
- How might you use loops to make something happen more than once?
- What sounds or music would you change to match the action in your version?

<p>The Earth could spin</p>	<p>The Rock could 'bounce' off of the monkey</p>	<p>Monkey says 'Ow!' when hit by the rock</p>
<p>Flying saucer/UFO could appear</p>	<p>Star could become a 'shooting' star</p>	



## Lesson 4: Remixing an animation

### Learning objective

- ✓ To remix an animation by altering the program's code.

### Success criteria

- ✓ I can change parts of the code to make the animation different.
- ✓ I can select the correct blocks to achieve my goals.
- ✓ I can fix any problems I notice in my remixed animation.

## Recap and recall

Remixing means that we change something that someone has already made

**Speak like an expert**  
Spend one minute talking to your partner about remixing a project in Scratch. Use key vocabulary to sound like an expert.

We can change sprites to different things. We can even put our faces on some of them.

### Main event:

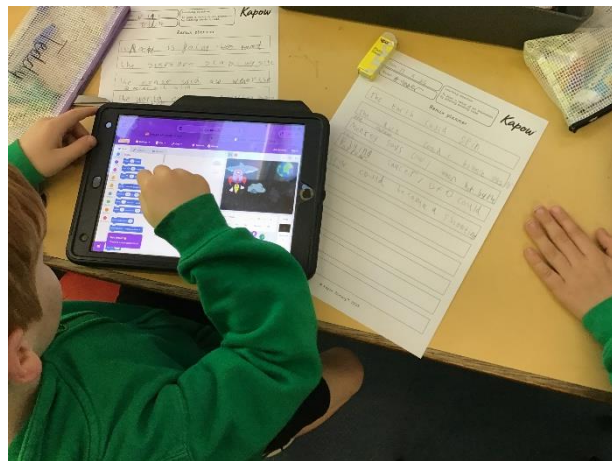
Spot the difference Click to reveal. *Kap*

- ✓ **What is different between these two sets of code?** (In the second code, there is a 'move' block, a 'play sound' block and the sprite says more.)
- ✓ **How might that change what the program does?** (The sprite will move, a sound will play and the speech will be longer in the second snippet.)

Explain that the second version is more exciting because:

- ✓ **Movement:** the sprite moves 10 steps so something happens rather than staying still.
- ✓ **Sound effect:** the 'big boing' sound adds humour and impact, making the animation more fun to watch.
- ✓ **More expressive text:** saying, "Ouch, that hurt!" gives the sprite personality and helps tell a story.

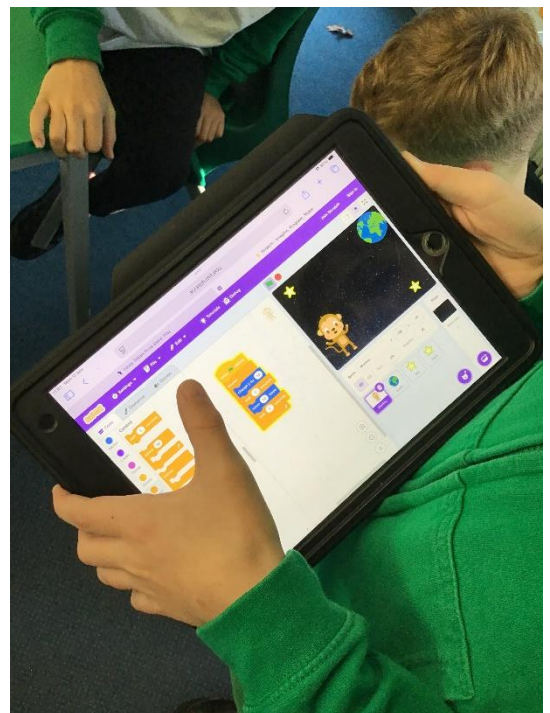
We were then given our remix planners back from before and had a go at changing these on scratch in our pairs.



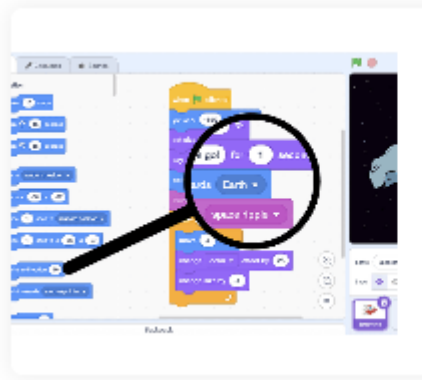
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### Lesson 5: Evaluating an animation

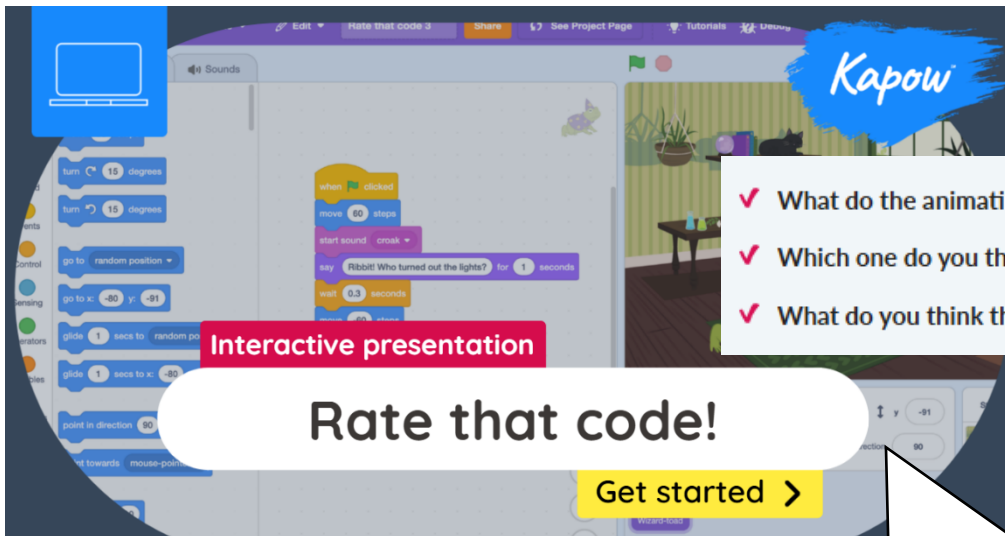
#### Learning objective

- ✓ To evaluate a remixed program by reflecting on the changes made to the code.

#### Success criteria

- ✓ I can test small parts of the code to find and fix errors.
- ✓ I can describe the changes I made and why I made them.
- ✓ I can reflect on what worked well and what I could improve.

## Main event:



- ✓ What do the animations do?
- ✓ Which one do you think is the most effective or interesting?
- ✓ What do you think the code might look like?

Number 3 was the best one because the frog moved, spoke two times and there was some sound at the end.

## Pupil video: Evaluation skills



We then spent some time watching each other's remix projects and evaluating them.

