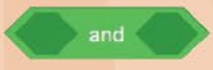
Author: Rana Dajani

2ST GRADE

3.0

SCRATCH PACK

CODING PROJECTS



Creative Coding Book for Kids

Scope and Sequencing

Lesson 01 Introduction to Scratch

Students get introduced to the Scratch App interface and terminology. Students get introduced to different coding blocks in different categories.

Lesson 02 Super Cat

This lesson will introduce students to the concept of position. All movement that happens in the stage depends on changing the positions of characters.

Lesson 03 Cat and Mouse

This lesson will introduce students to the repeat until block and how to create a variable.

Lesson 04 Space Rockets

This lesson will teach students how to move characters horizontally and vertically by changing the x and y values.

Lesson 05 Space Dog

This lesson will teach students how to move characters horizontally and vertically by changing the x and y values.

Lesson 06 Space Shooters

This lesson will introduce students to the if else block.

Lesson 07 Farm Animals

This lesson will teach students how to add graphic effects to the program and to create a new character with multiple costumes.

Lesson 08 Concert Composer

This lesson will teach students how to add sounds to their programs.

Lesson 09 Storyteller

This lesson will teach students how to send and receive messages.

Lesson 10 The Magnet

This lesson will teach students how to put to use the knowledge of all the coding blocks they learnt to use so far in a project.

Lesson 11 Even or Odd

This lesson will teach students how to put to use the knowledge of all the coding blocks they learnt to use so far in a project.

Lesson 12 Family Tree

This lesson will teach students how to interact with the user of the program by asking them a question and then saving that answer in a variable.

Lesson 13 Working People

This lesson will teach students how to put to use the knowledge of all the coding blocks they learnt to use so far in a project.

Lesson 14 Water Cycle (Open Project)

This lesson will have students create a whole project from scratch.

Lesson 15 Recycle Game (Open Project)

This lesson will have students create a whole project from scratch.

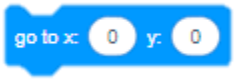
Lesson 2 – Super Cat

This lesson will introduce students to the concept of position.

All movement that happens in the stage area of Scratch depends on changing the positions of characters.

Position is made up of an x value/number and a y value/number

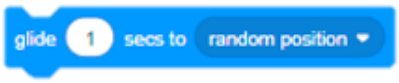
Anywhere you place your character you can save that x and y position so that after you play the program if you want to put the character in its original place you can give it the command block that says go to x y position



Remember: It is always useful to create a Start Position Block.

After you start the program with the start position stack block under the Start on Green Flag Block, you can continue your program to tell the character what to do next.

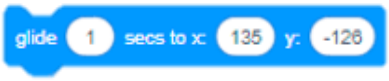
To make the cat fly to random positions in the stage, you can use this glide to random position block.



You can repeat this a number of times and if character reaches edge bounce back into the stage.

And finally set up the final position where you want the cat to land back on the ground and the direction you want it to face (left or right) and the final costume it should have.

The extra challenge: the students should add multiple glide to x y positions that are the positions they have decided they want the cat to go to want.



SUPER CAT

Create a super flying cat!

- Design a background
- Redesign a character
- Move the cat randomly around the screen by changing its positions

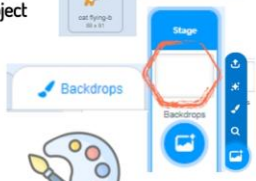
1. Choose a character

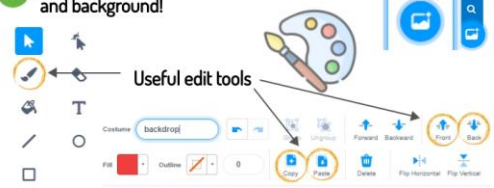
REMEMBER

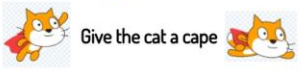
Check what costumes the character has that you can use in you project

2. Paint a background

3. Redesign your character and background!







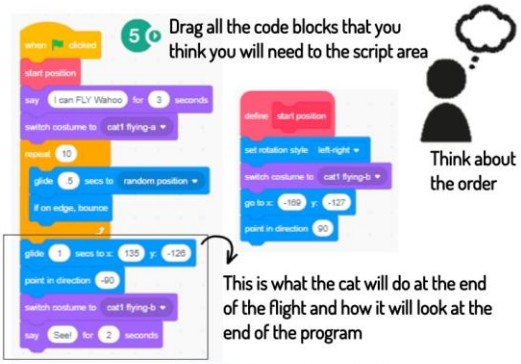
Give the cat a cape

SUPER CAT

4. Create a plan to follow

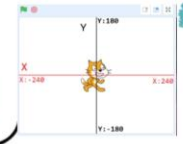
- decide the initial characteristics of your character and create and define the start blocks stack
- decide how many times you want your character to fly to a random position
- decide how you want your program to end (decide the position, size, direction, costume of your character at the end)

5. Drag all the code blocks that you think you will need to the script area



Think about the order

This is what the cat will do at the end of the flight and how it will look at the end of the program



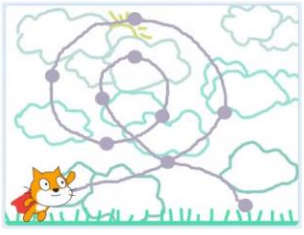
Position: is x and y coordinate numbers

Drag your character to the position you want, then copy the x and y values into your coding blocks

SUPER CAT

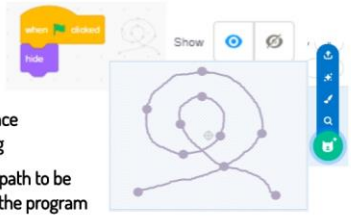
Check out the lesson's gallery to find additional characters and background options

CHALLENGE YOURSELF!



Modify your program to fly the cat along a certain path (you decide the cats positions, not random)

Hint: You can create a new character and paint a path with dots that you can use as reference points for the cat to move along



You can choose if you want the path to be shown or hidden at the start of the program