



COMPUTING: PROGRAMMING

KNOWLEDGE ORGANISER



Overview



Quizzes in Scratch Jr.

- Programming is when we make a set of instructions for computers to follow.
- Scratch jr. is a program that we can use to code programs using a series of command blocks. This can be used to design quizzes.
- We use algorithms (a set of instructions to perform a task) to program the sprite to do different things.

Creating Quizzes

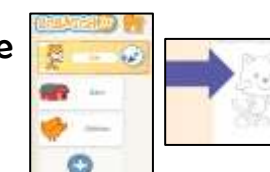
-Outcomes: An outcome is something that happens as a result of us doing something. E.g. in cookery, we can mix and cook ingredients to make an outcome of food! In Scratch Jr. a sequence of commands is followed and this results in an outcome.



-Quizzes in Scratch: We can create simple quizzes in Scratch jr. where the user can select an answer by clicking on a sprite. An outcome occurs when the sprite is clicked.



-Adding and Programming Sprites: We need multiple sprites for the user to select from. To add new sprites, we choose the + option (see right). We can program multiple sprites. The sprite we are programming is the picture in the programming area.



-Programming Sequences: Consider what question to ask your users, e.g. Who lives here? Program each sprite with a command sequence, so that they know if they are right or not when clicking on the sprite.



The Basics of Scratch Jr.

-What is Scratch Jr? Scratch is a website/ app that lets us code our own stories, games and animations.

-Sprites: Scratch Jr. uses characters called sprites. The main sprite is a cat called Scratch.

-Home: Clicking on the house takes you 'home' to your project screen.



-These (right) are the **programming blocks**. We drag them into the **programming area** (right). Clicking the block in the area makes the sprite perform on the stage.



-Sequences: -A sequence is a pattern or process in which one thing follows another. In Scratch Jr. we can stack blocks together side by side in order to create sequences.



-Start Blocks: Start blocks are yellow & are used to start/ run programs. The second block on the right starts the program when the sprite is clicked on.



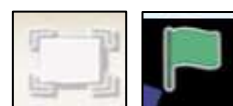
-End Blocks: End blocks are red. These are used to end your program.



-Background: Backgrounds are added by clicking this icon (right).



-Running the Code: Run your animation by tapping the full screen icon, and then the green flag.



Algorithms and Programming

-An algorithm is a set of instructions for performing a task. Designing an algorithm can help us to make the quiz work in the way that we want it to.

Stage	Background	Sprite	Storyboard	Scripts	Looks and Appearance

-Programming is when we move the blocks into the position (based on our algorithm design). Programming uses a code that the computer can understand. In Scratch jr. this makes our quiz animation do the things we want it to.



Debugging

-Sometimes, things don't work exactly how we want them to the first time. This may be a problem with our algorithm, or we could have made a mistake in our programming.



-If the animation does not work correctly the first time, remember to **debug** it. This means finding and fixing the problems.



Important Vocabulary

Programming

Scratch Jr.

Sprite

Quiz

Command

Block

Debugging

Sequence

Algorithm

Outcome