

A large, bright yellow diagonal shape that starts from the top right and extends towards the bottom left, creating a split background of white and yellow.

LEAFS

Programming

2021

**Write your name or draw something
that represents you!**



PB&J Activity

Write a “Program” to Make a PB&J!

- ▶ Take 5 minutes and write instructions to construct a Peanut Butter and Jelly sandwich
- ▶ We will come together as a group and attempt to execute your programs!

PB&J Program - What's the point?

Computers-- much like J-- just can't do it all

- they have specific capabilities that can be used to solve more complex problems
- A programmer's job is to define instructions which make use of these capabilities to produce a greater result

Scratch Programming

A thick, bright yellow diagonal stripe runs from the top right towards the bottom left, separating the white background on the left from a solid yellow background on the right.

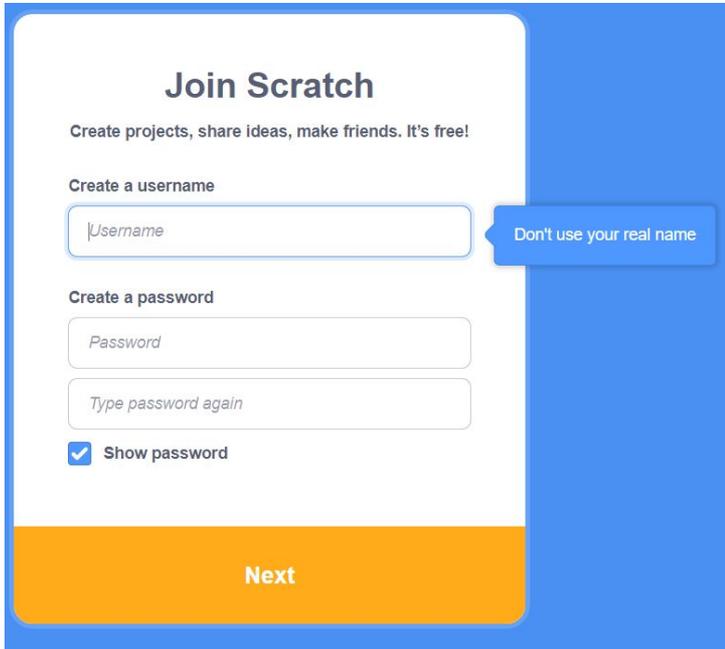
How to Create an Account

You are not required to create an account to use Scratch.

But it makes it easy to save your games in case you want to work on them later!

Click “Join Scratch” to start the process.

<https://scratch.mit.edu/>

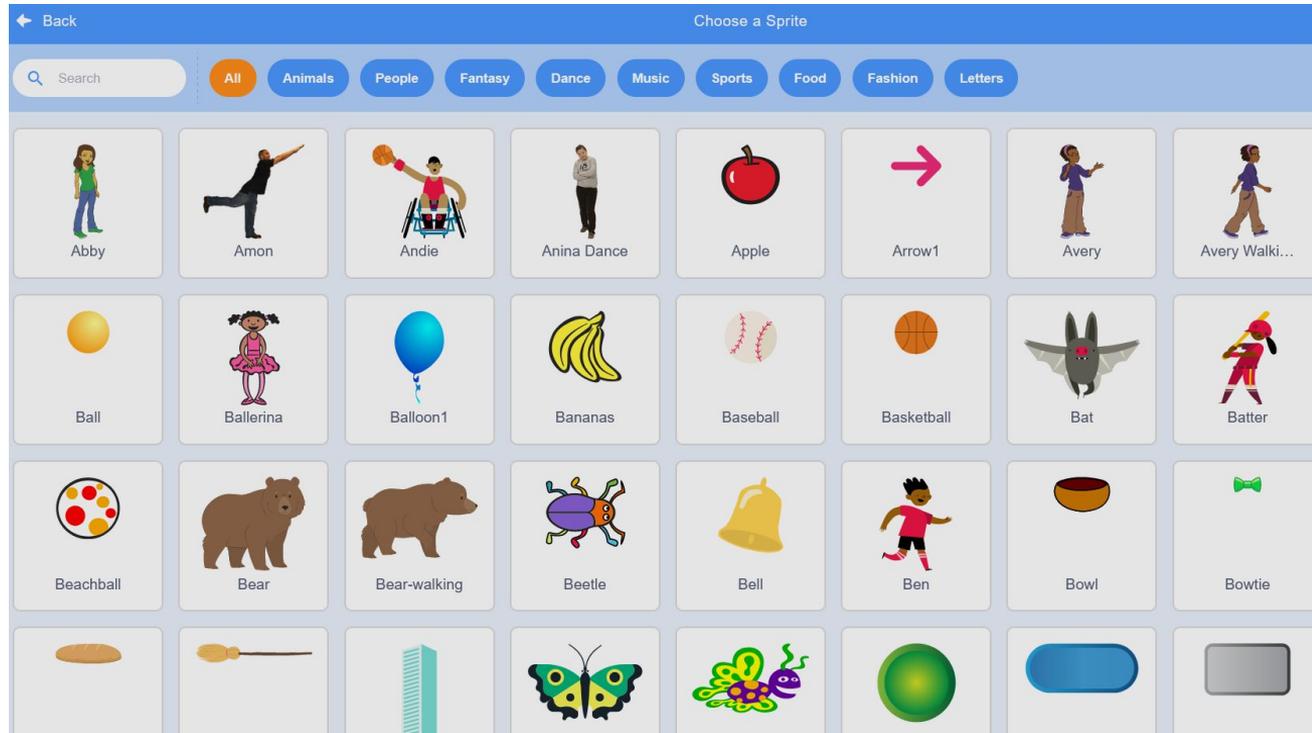


The image shows a registration form titled "Join Scratch" on a blue background. The form is white with rounded corners and contains the following elements:

- Title:** "Join Scratch" in bold black text.
- Subtitle:** "Create projects, share ideas, make friends. It's free!" in smaller black text.
- Section:** "Create a username" in bold black text.
- Input:** A text box with the placeholder text "Username".
- Tip:** A blue callout box with the text "Don't use your real name".
- Section:** "Create a password" in bold black text.
- Inputs:** Two stacked text boxes. The top one has the placeholder "Password" and the bottom one has "Type password again".
- Checkbox:** A checked checkbox followed by the text "Show password".
- Button:** A large orange button at the bottom with the text "Next".

Sprites

Programmable entities with appearances you can modify.



Sprites and Backgrounds Workspace

Sprite ↔ x ↑↓ y

Show Size Direction

 Sprite1

Stage



Backdrops

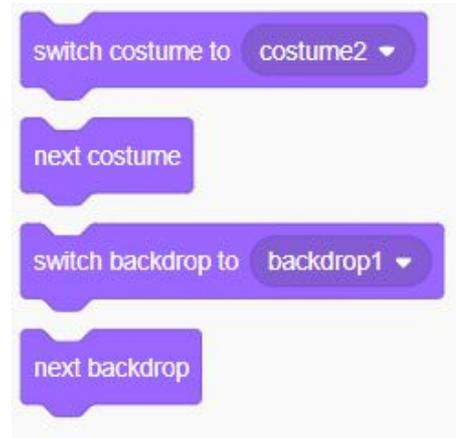
1

Working with Sprites and Backdrops

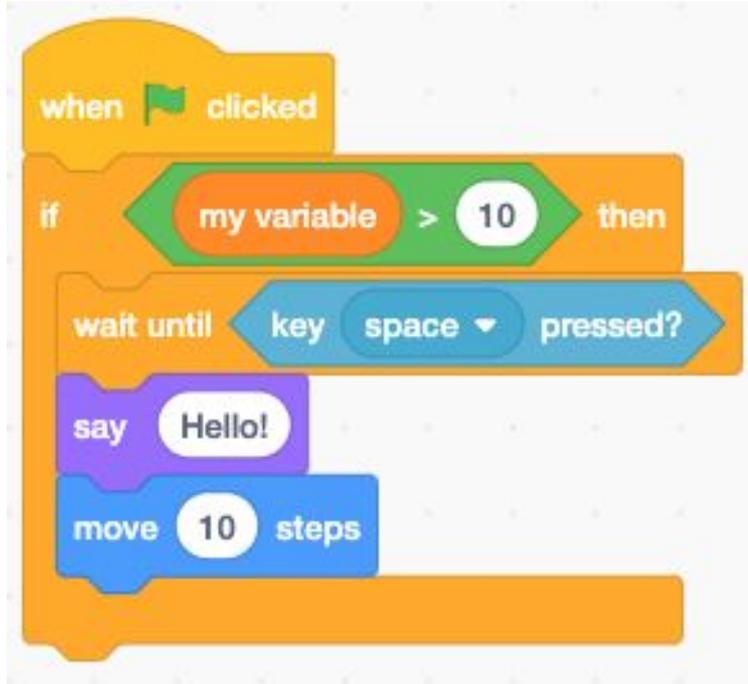
These blocks allow you to change how a sprite looks on the screen.

You can also change the backgrounds for the sprites.



Basic Scratch Blocks to Get You Started

- Events
- Control
- Motion
- Variables
- Operators
- Others



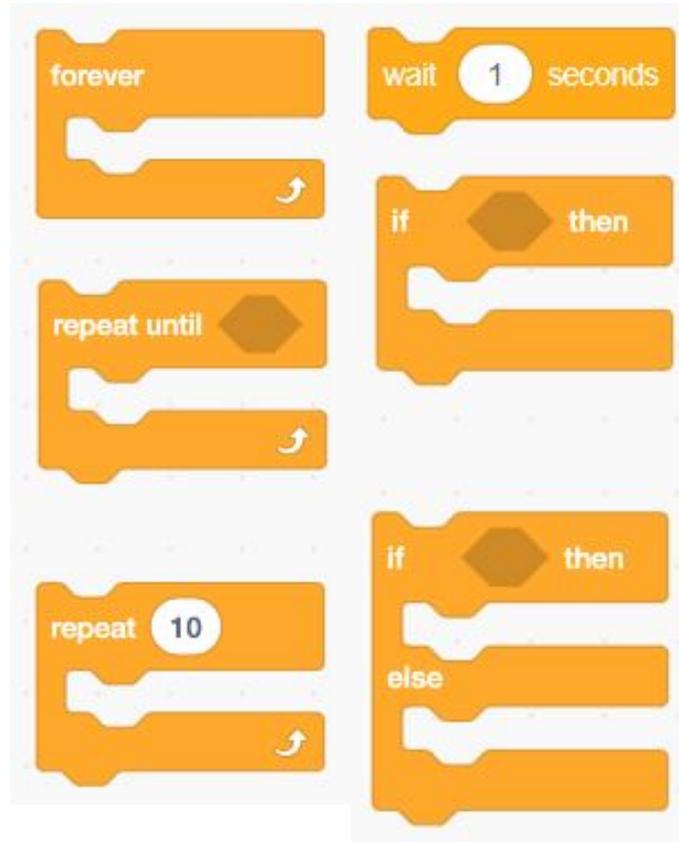
Events

Event blocks are handy for controlling a game or sprite's state. When their condition is met, they execute the code attached to them.



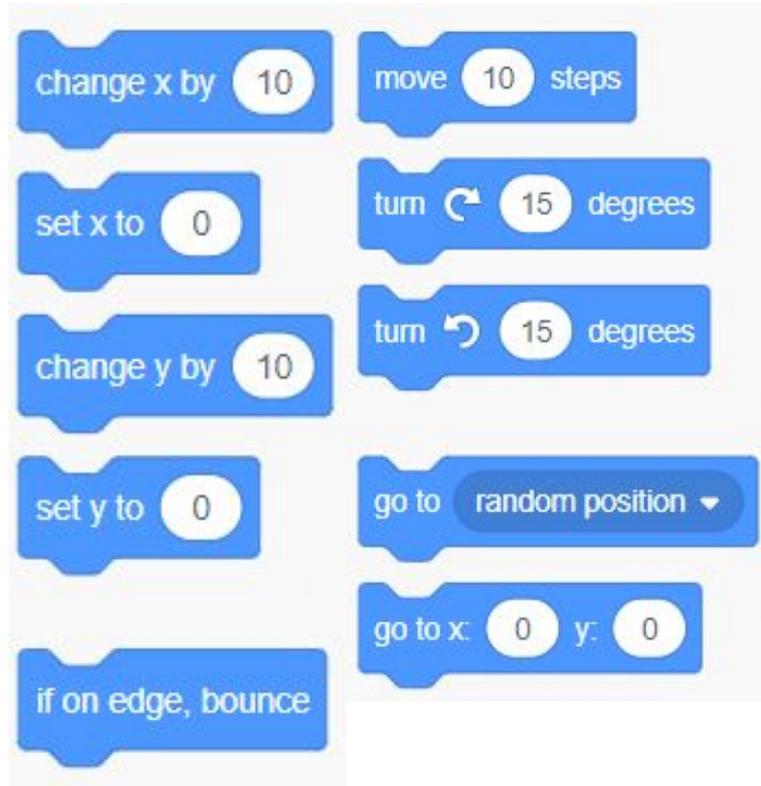
Control

Control blocks will make up the foundation of your code. They enable code to execute in different ways, or based on certain conditions.



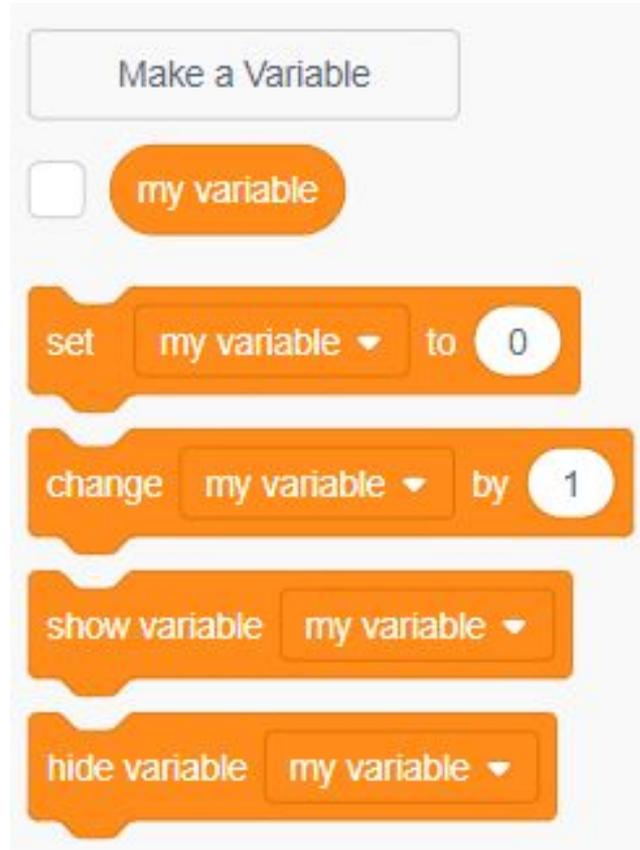
Motion

Motion blocks move, rotate, and alter sprites. They can be used to make controllable characters, NPCs, and other elements of your game.



Variables

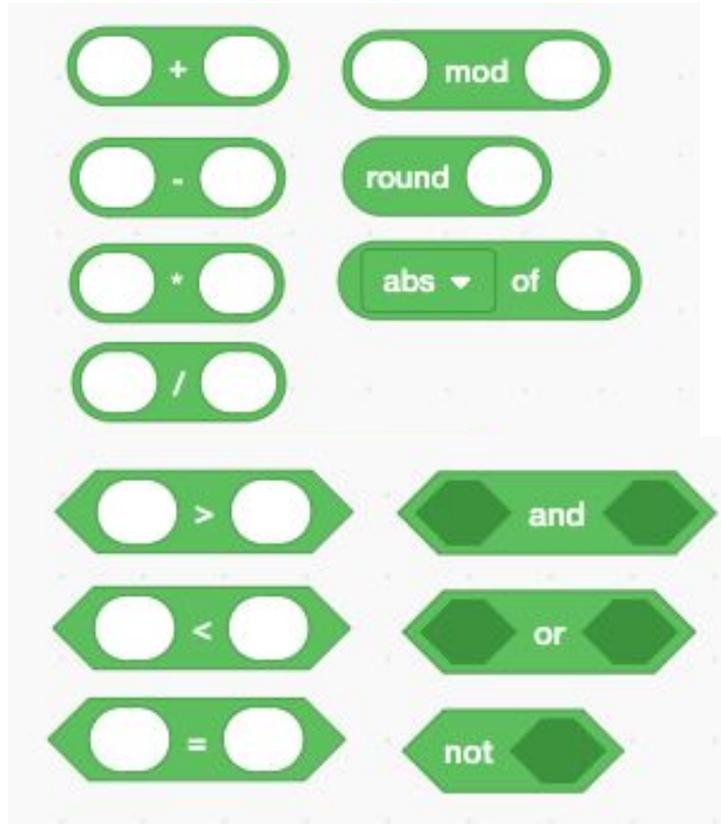
Variables represent a number which can be set and changed using variable code blocks. They can be used to keep score or modify other blocks dynamically.



Operators

Operators fall into two categories:

- Rounded operator blocks modify number values.
- Hexagons evaluate the truth of a statement.



Other Useful Blocks



Templates You Can Use To Get Started

Catch Fruit:

<https://scratch.mit.edu/projects/472615821>

Jump on Bread:

<https://scratch.mit.edu/projects/472615960>

Bear Crossing:

<https://scratch.mit.edu/projects/465683323/>



**Showcase Your
Creations!**

More resources for coding ideas

[How To Make a Platformer Game in Scratch 3.0 | Part 1](#)

[How to Make a Jumping Game in Scratch | Tutorial](#)

[How to Make a Virtual Pet in Scratch | Tutorial](#)

[Snake Game in Scratch 3.0](#)