Scratch Jr.

http://cs.oregonstate.edu/~mjb/scratch
What Is Scratch Jr.?

From the Scratch Jr. web page:  https://www.scratchjr.org/

“Coding (or computer programming) is a new type of literacy. Just as writing helps you organize your thinking and express your ideas, the same is true for coding. In the past, coding was seen as too difficult for most people. But we think coding should be for everyone, just like writing.

As young children code with ScratchJr, they learn how to create and express themselves with the computer, not just to interact with it. In the process, children learn to solve problems and design projects, and they develop sequencing skills that are foundational for later academic success. They also use math and language in a meaningful and motivating context, supporting the development of early-childhood numeracy and literacy. With ScratchJr, children aren't just learning to code, they are coding to learn.”

Scratch Jr. can be downloaded from the Apple Store, from the Android Store, or as a standalone Mac or Windows application. See the Scratch Jr. Downloads page.
I hate mornings!
What Kind of People Need to Tell the Computer How to Move Things Around?
Start by clicking the House
Then click the plus sign (➕)
Clicking on the Settings Gear Will Let You Change the Language
Clicking on the Question Mark Will Allow You To Play an Introductory Video (3:28) and Try Some Sample Programs
These 6 buttons are *super-important*! They help you find the puzzle pieces to make your character act in your movie.
What is Hiding Behind the Six Buttons?
Drag Puzzle Pieces Out and Click the Green Flag
When the Green Flag Gets Waved at a Car Race, What Happens?

http://www.skirtsandscuffs.com/2011_03_01_archive.html
So, When the Scratch Jr. Green Flag Gets Clicked (Waved), Your Programs Start
Whatever Your Puzzle Pieces Say, That’s What Your Character Will Do
Start all programs that have a Green Flag Puzzle Piece

Start this program when I touch this character with my mouse or finger

Start this program when another character touches this character
Move the character to the right, left, up, and down

Rotate the character

Make the character hop

Make the character go back to where it started from

Clicking on the number will bring up a calculator to get your character to take longer steps, more rotations, or higher hops

**Hint #1:** the biggest number you can enter is 99

**Hint #2:** entering a number of 12 for a rotation gives a full turn
Adding More Characters

Click on this plus sign (➕) to select a new character from the big list.

Keep scrolling – there are lots more!

**Hint:** to make this new character move, they need to have a program written for them too.
Adding a Background

Click this photograph to select a background from the big list.

Keep scrolling – there are lots more!
The Orange Button -- Control

Wait some amount of time (the number is in \(1/10\)ths of a second)

Stop the character

Set the character’s speed (there will be 3 choices when you click the down-facing triangle)

Whatever puzzle pieces you put in here will get repeated as many times as the number
The Purple Button – Changing Your Character’s Appearance

Give the character a thought bubble (click *hi* to enter new text)

Make the character bigger or smaller

Make the character its original size

Make the character vanish or re-appear
If you are on an iPad, you might have to make the microphone work by going to:

**Settings → Scratch Jr → Microphone slide**

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**The Green Button – Sounds!**

Using this puzzle piece in your program will play a popping sound.

This isn’t a puzzle piece. It is a command to let you record your own sound.
Sounds!

You will now have a new puzzle piece to play the recording you just made.

If you are on an iPad, you might have to make the microphone work by going to:
Settings → Scratch Jr → Microphone slide
The Red Button – Stopping, Looping, and Jumping to a New Room

Stop the program

Re-run the program forever

If you have more than one room, you can also use this puzzle piece to jump to another room
Warning! Scratch Jr. Doesn’t Save Your Movie Program Until You Hit the Home on Your Screen
And, When You Do Hit the Home on Your Screen, Scratch Jr. Will Show You All Your Movies – Just Click on One to Get Back Into It
Painting!

There are times when Scratch Jr. will let you paint! Look for this icon:

- When selecting a character.
- When selecting a background.
Painting!

Clicking on takes you here to the Scratch Jr. paint screen:

- **Draw a squiggle, oval, rectangle, or triangle**
- **Select a line thickness**
- **Select a line or fill color**
- **Select something you’ve already drawn**
- **Rotate the thing you’ve selected**
- **Duplicate the thing you’ve selected**
- **Cut (delete) the thing you’ve selected**
- **Take a photo (maybe of yourself!)**
- **Fill with paint**

Oregon State University
Computer Graphics
Using the Camera

You can use the camera to add photos to the background or a character. You might have already noticed that some of the characters have empty faces:

If you click the paintbrush that is with one of these characters, then click on the camera, then click on the face area of the character, then click on the snapshot icon, whatever your camera sees will be on the character’s face.

Go, Space Beavs!
Adding a Title

Click on the ABC then type your title
Click on this plus sign (➕) to add another room. A room is a whole separate scene where you can add new characters, add a new background, and write new programs for your characters to act out.
Adding another Room

If you have more than one room, you can also use this puzzle piece to jump to another room.
The Yellow Button – Advanced

Start this program when another character shouts a color name.

Shout the name of a color! The down-facing triangle lets you pick the color name to shout.
Clicking on This Little Yellow Tab in the Upper-Right Corner Will Allow You to Give Your Program a Title

Soccer Zebras in Space
So That Your Home Gallery Has Better Titles than “Project N”
A Good Scratch Jr. Book

I like this book. It is an easy read and has lots of color pictures of Scratch Jr. examples.


Kindle: $10, Paperback $20.