Lesson 1.2: Getting Started with Scratch

Objectives

In this lesson, students will:

- Be introduced to Scratch
- Review and practice the concepts of events and broadcasting
- Learn and experience remixing a project in Scratch
- Be introduced to journaling

Preparation

- ❑ Create a Scratch teacher account. See appendix A for instructions.
- ❑ View the Scratch teacher account video.
- ❑ Create a Scratch **class** for your students and optionally **studios** for your students' projects.
- ❑ Computers connected to the internet
- ❑ Projector and speakers for video and class demonstration

Agenda

1. Getting Started with Scratch	(10 mins)
2. The Scratch Backpack	15 mins
3. Managing Your Students' Scratch Accounts and Projects	
4. Student Journals	5 mins
5. Remix a Project	5 mins
6. Student Activity: The Astronaut Meets Giga	15 mins
7. Wrap Up and Reflections	5 mins

Resources & Links

- ❑ Scratch Teacher Account: https://tinyurl.com/yb4elakb
- ❑ Remix demonstration project: Starter project: https://scratch.mit.edu/projects/309605549

1. Getting Started with Scratch

Engage students in a brief discussion and instruction:

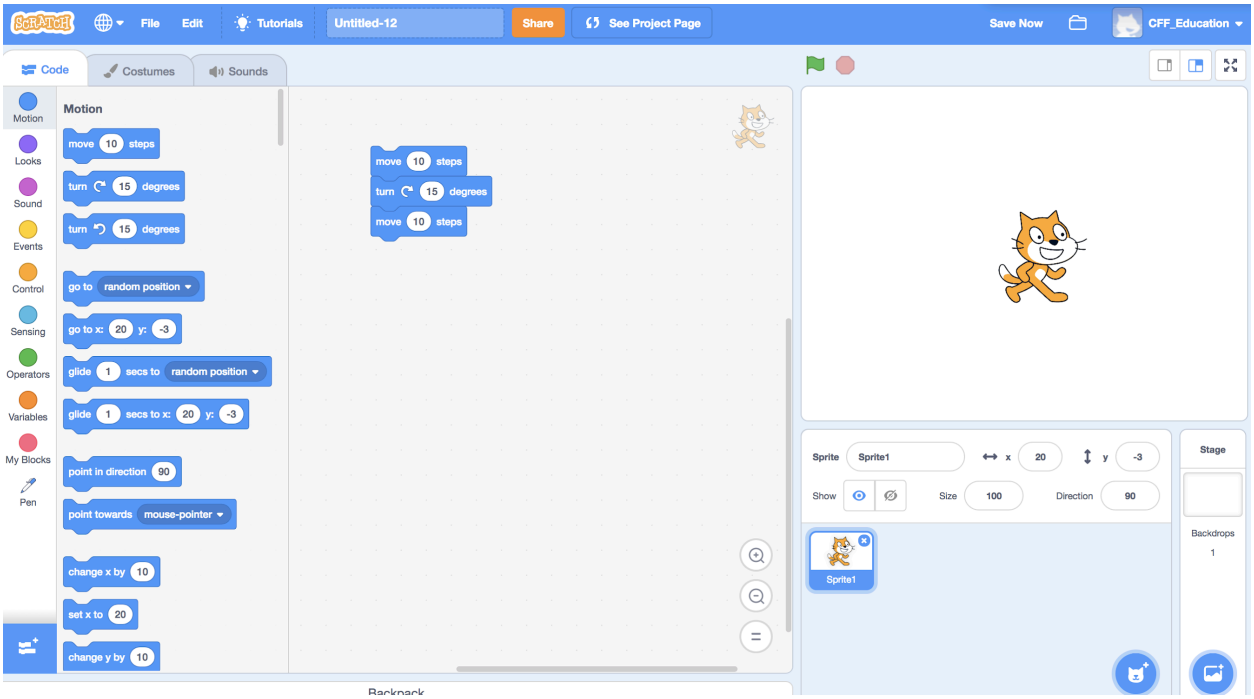
In the last lesson we learned about software and hardware. Software are all the programs and apps that tell the computer what to do. Programmers use programming languages to write programs. Today we are going to get started with a programming language called Scratch.

Note: This section is only necessary if any of your students have not used Scratch before. Scratch is a programming language. You can program your own projects, share your projects and get help from others by using other people's code.

The following video gives a good introduction to Scratch:

https://tinyurl.com/yyh24ykc

It could be helpful to give a quick overview of how to code a couple of instructions to make the cat move back and forth or as shown below make the cat move in a circle by clicking on the top block of the script multiple times.



You may want to give a quick tour of the different sections of the Scratch tool such as:

1. The colored categories with blocks
2. The stage
3. How to create, name and save a project
4. How to create new sprites
5. How to delete blocks from the work area

2. The Scratch Backpack

Demonstrate the use of the Scratch backpack by placing scripts and entire sprites in the backpack and retrieving them in a different project (click on the link for detailed information about the Scratch backpack) . This is a very valuable tool to copy code between projects and to save code or sprites in case of accidental deletion.

3. Managing Your Students' Scratch Accounts and Projects

It is recommended that you use a Scratch Class for your students which allows you to create Scratch accounts for all your students. You will want to have your Scratch Class, your students' accounts and a studio created already.

See appendix A for information on how to create a teacher account, students' accounts, a class and studio.

Tell your students what their usernames are, how to sign into Scratch and how you want to manage their projects. You will decide throughout the lessons which of the students' projects to share and when to place them in a scratch studio you created.

4. Student Journals

Introduce students to the idea of the design journal, a physical or digital notebook where they can brainstorm ideas and share personal reflections, similar to a personal journal or diary.

Explain that students will be prompted to update their design journals throughout their Computer Science adventure, and encourage them to add to their journals anytime during the process of learning about Computer Science. The design journal is a good place to capture ideas, inspiration, notes, sketches, questions, frustrations, triumphs, etc.

Students could start by writing down their Scratch username and any other notes about Scratch.

5. Remix a Project

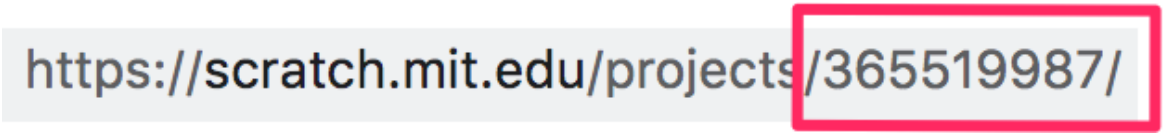
Explain to students what it means to remix a project. Since students will be remixing starter projects during the student activities, focus the demonstration on how to remix a project when given a project number.

The other way to remix a project is while exploring existing projects in Scratch. Once a project of interest has been found, you click on the project, then click on the green remix button and save it with a new name.

Remixing a project given a project number:

1. Open a browser, go to scratch.mit.edu and sign in to your Scratch account.
2. Select an existing project in your account:

   Point out the url in the browser, specifically the project number shown in the red box (your number will be different).



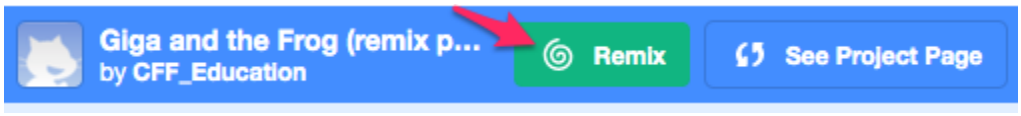
3. Replace the project number between the slashes with **365519987**. Make sure that the forward slashes (/) remain in place. If you double click on the project number, it is selected and you can delete the previous one first. It is easy to make a mistake when typing in a new project number.

   Now the URL should be : https://scratch.mit.edu/projects/365519987/

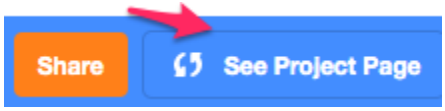
   Click **enter** (return key)

4. If the editor is not already open, click on **"See inside"** in the upper right corner

3. Click on "**Remix"** and **save** your project with a new name



4. Start working or exploring the new project or you can go back to the project page.



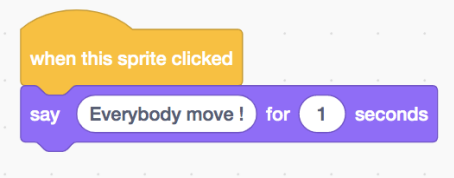
Tell students when they are working on a project to save it frequently. Remind them also to save a remixed project and give it a meaningful name immediately after remixing it. You may have to remind them to do this throughout the year.

6. Student Activity: The Astronaut Meets Giga

In this activity, students will practice re-mixing a project. They will also create a conversation using broadcasting and events.

Begin by reviewing the concepts of events and broadcasting.

Display your screen and show the following script in your Scratch account:



Ask a student to read the code. Then ask them: What type of block is the yellow block? Answer: an event block.

An event is an action that causes something to happen. What are some examples of real life events? Examples: alarm clock going off, your mom tells you to clean your room, a traffic light turns red. What happens when these events occur?
In Scratch all event blocks are in the Events category.

What if we want one sprite to let another sprite know it is time to do something? How does a sprite send a message to other sprites? Prompt for answers. Answer: Broadcast message.

Broadcasting is used in our daily lives. In the media, when a program is broadcast (on the TV or social media), it is sent from one party for anybody else to listen to it. You can decide to listen to it or not.

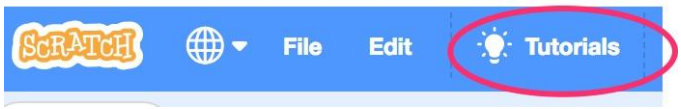
Another example of a broadcast message is a singer shouting to a crowd: “Hello everybody!” . You can choose to say hello back or simply go on with what you were doing.

The broadcast message is another type of event in Scratch. One sprite sends a ***broadcast message***. Other sprites that are interested in receiving that message use the ***When I receive <message>*** block to take action when they receive the message.

Let's practice using these events in a fun project.

Give students the following instructions:

1. Remix the following project: https://scratch.mit.edu/projects/309605549
2. Create a dialog between Giga and the astronaut using broadcast blocks to synchronize the dialog. Start writing a script for Giga.
3. Copy Giga's script into the backpack. Retrieve it from the backpack for the astronaut and modify it to make a meaningful dialog. The dialog should go back and forth at least 2 times.
4. Giga then invites the astronaut to join her to do the "Welcome to the Moon" dance
5. If time permits, watch the "Create Animations That Talk" tutorial by clicking on **Tutorials** in the upper blue bar and then click on the given tutorial. Add some words to your dialog.



7. Wrap Up and Reflections

Reflection Points:

- Did you write down your username in your design journal?
- What did you learn about Scratch today?
- What is a broadcast message?

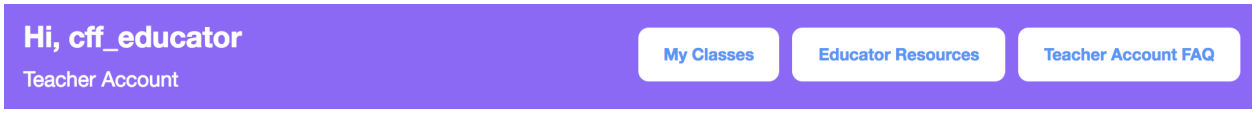
Appendix A: Scratch Teacher Accounts and Scratch Classrooms

What are Scratch Teacher Accounts

A Scratch Teacher Account provides teachers and other educators with additional features to manage student participation on Scratch, including the ability to create student accounts, organize student projects into studios, and monitor student comments.

To request a Teacher Account, go to the teacher account request form:
https://scratch.mit.edu/educators/register

It takes up to 24 hours to get your teacher account approved. Once you have the account and log in, you will see the purple banner with the features only available to teacher accounts.



Creating Student Accounts, Classes and Studios

This video tells you just about everything you need to know about teacher accounts and how to create classes and add students:

https://tinyurl.com/yb4elakb

Tips On Using Teacher Account Classes and Studios:

Classes allow you to manage your students' accounts and projects.
Studios allow you to group and track projects for the Class.

Once you have your teacher account, you can create a **Class** as demonstrated in the video. After you add your students to your class, you will be able to see all the activities of your students, including when students:

- ❏ Love or Favorite a project
- ❏ Create a project
- ❏ Change their profile page
- ❏ Receive an alert and why
- ❏ Remove inappropriate comments

- ❏ Unshare students' projects
- ❏ Change a student's password

  You can change a student's password in two ways. You can prompt the student to change their password at the next login, or manually change their password.

Once you have a Class created, you can also create a class **Studio**. Your students will be automatically added as curators of the studio.
Studios can be used for a number of different reasons. It is a place where you can store a collection of projects. For example, it can be used as a general space for your students to add their completed projects, for a specific assignment, based around a particular theme, or even used as a place to collect projects you are inspired by (among so many other possibilities).

Create studio with example projects, remixed projects (all projects that will be remixed by students)