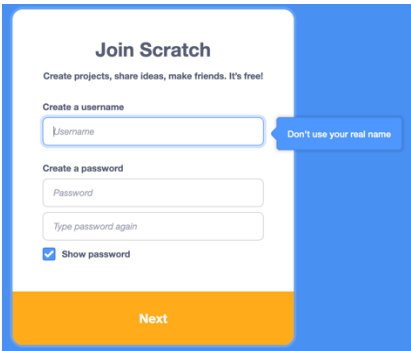# Student Sheet: "SCRATCHing the Surface"

Name: _____ Date: _____ Session #: ___

Part I: Creating Your Scratch Account

When asked to do so, you will log onto a computer (or iPad) and create an account in Scratch. If you already have an account in Scratch, feel free to use that account instead.

JOINING SCRATCH	SIGNING IN IF YOU ALREADY HAVE AN ACCOUNT

1. In your Internet browser, type the following:
 	
   scratch.mit.edu
 	
2. Once the page loads, you will choose either of these "buttons":
 	
(in the upper right-hand corner)
(on the left side, near the middle)
 	
3. Choose a unique username; remember, **do not** use your real name. Then, create a password that is unique to you and you can remember.
 	
4. Write your username and password in the space below.
_____
_____
 	
5. When asked to enter your email address, use an email address that you have access to. An email will be sent to the address you provided and you will be asked to confirm your account. (**Note: If you used your parent/guardian's**
	1. In your Internet browser, type the following:
	
	   scratch.mit.edu
	
	2. Once the page loads, you will choose either of these "buttons":
	
	(on the left side, near the middle) (in the upper right-hand corner)
	Join Scratch **Sign in**
	
	Remember: It is **very important** to keep your username and password safe. Providing it here allows your instructor to help you with this.

email, please ask them to help you confirm your account).	

Part II: Identifying the Blocks

Now that you have created an account, it is time to examine all of the blocks that are available in Scratch. In the bar at the top of the page, select the "Create" option.

SCRATCH **Create Explore Ideas About**

On the left side of your screen, you will see the block colors that are available. In the table below, label/identify the type of blocks associated with each color. **Note: The colors in the table are NOT listed in order as they appear in your Scratch account.**

Block Color	Type of Block	Block Color	Type of Block
⬤	Control	⬤	Events
⬤	Variables	⬤	Looks
⬤	My Blocks	⬤	Sound
⬤	Motion	⬤	Operators
⬤	Sensing	**Note: Some of the colors may be difficult to differentiate. If you need help with this, ask your teacher (or a classmate) to help you.**	

There are three key symbols when assembling your first project.

Identify the following symbols and state what they do or represent. Then, answer the questions that follow.

Symbol	🏳	🐱	⯃
What this symbol does or represents	START - this button tells Scratch to run your code	Sprite - an icon which can be manipulated by code	STOP - stops the program from continuing to run

How would you define what a single block does by itself?

Each individual block is a possible singular command for the sprite to follow

What does a string of blocks (connected together) do?

A string of blocks is a list of commands for the program to enact in a certain order

Click on these buttons [⬜⬜] (found in the upper right-hand corner, under your username). What happens when you click back and forth between these two buttons?

Alters the format of Scratch to either give more visual space to the input (the code) or the output (the reacting Sprites).

Part III: Learning the Moves

Return to the blue bar at the top of the page and click on the orange "Scratch" icon.

Then select "Ideas".

On the next page, select "Choose a tutorial".
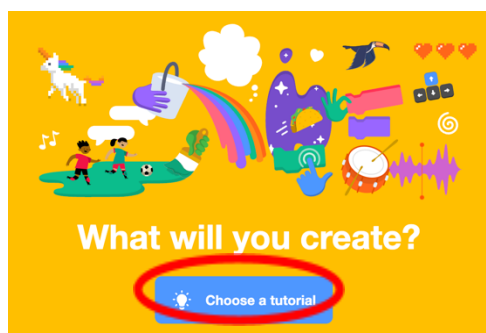
Select the very first tutorial on the left, called "Getting Started", and watch the video. As you watch the video, answer the following questions.

Scratch can be used to create:
_____Stories_____, _____Games_____,
and _____Animations_____
When a block is dragged to the middle pane and it is clicked, what happens?

The command that the block displays is executed

What color are the blocks that tell the code when to start? Yellow (event blocks)

Getting Started
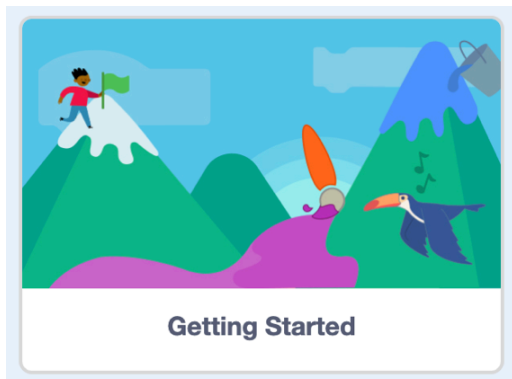
4. (Fill in the blank) There are NINE block categories.

5. (Fill in the blanks) Blocks can be reordered or deleted at any time.

Click on the "Tutorials" button at the top of the page.

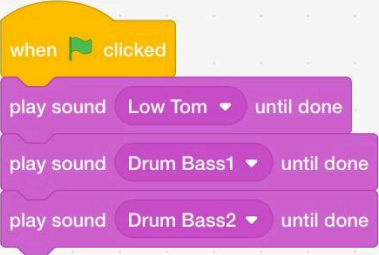There are five types of tutorials you can investigate. Each tutorial in Scratch contains a short video clip; be sure to watch these videos!

To begin this activity, select the "Animation" tutorial and view the video.
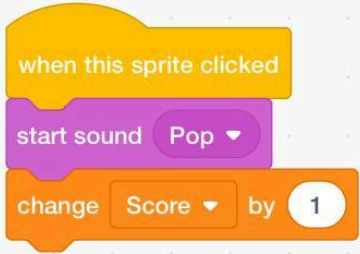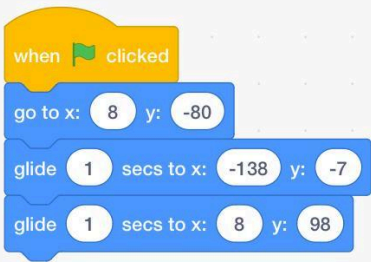
1. Explore the different tutorials under this category.
2. Choose one tutorial and experiment with the blocks.
3. Assemble a group of blocks (at least five of them) by dragging and dropping them into the center of the screen. **You will need to use an "Events" block to run your animation.**
4. Once you have assembled your blocks (we now call this a **program**), take a screenshot of the group of blocks and place the screenshot in the table below.
5. Return to the tutorials page, and select the "Art" category.
6. Repeat steps 1-5 until you have completed one tutorial for all five of the tutorial categories in the table below.

Type of Tutorial	Name of Tutorial I Chose	Screenshot of Block Sequences

Animation	"Animate a Sprite"	when 🏴 clicked
		switch costume to ballerina-a ▾
		repeat 4
		  wait .5 seconds
		  next costume

Art	"Add Effects"	when 🏴 clicked
		repeat 10
		  wait .2 seconds
		  change color ▾ effect by 25
		  change whirl ▾ effect by 25
		clear graphic effects

Music	"Make Music"	when 🏴 clicked play sound Low Tom ▾ until done play sound Drum Bass1 ▾ until done play sound Drum Bass2 ▾ until done

(continued)

Type of Tutorial	Name of Tutorial I Chose	Screenshot of Block Sequences
Games	"Make a Clicker Game"	when this sprite clicked start sound Pop ▾ change Score ▾ by 1
Stories	"Glide Around"	when 🏳 clicked go to x: 8 y: -80 glide 1 secs to x: -138 y: -7 glide 1 secs to x: 8 y: 98

<u>Extend Your Thinking</u>: Blocks Build Brilliance

In computer programming, not all code is represented by blocks. Instead, specific words and punctuation are used. This is called "syntax", and each programming language has its own syntax.

Scratch is a "block-based" language. Take five minutes to explore other block-based coding languages by typing the following link into an Internet browser:

https://www.codingal.com/coding-for-kids/coding-guides/block-coding-guide/