

CS1 SFUSD: Introduction to Computer Science

<https://tinyurl.com/csinsf6>

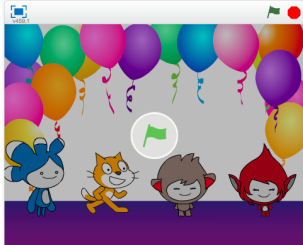
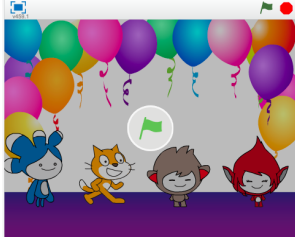
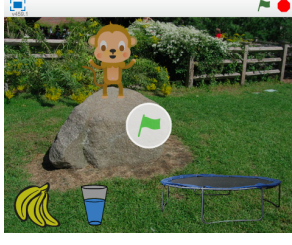
2018/2019

Unit 1: Events, Initialization

Sprite movement and reactions.

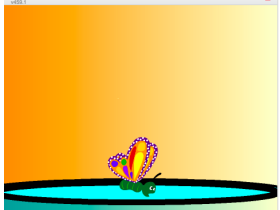
Lesson	1.1 Unplugged Events:	1.2: Grid Credit: marslandw (No Demo)  Handout Video1 Video2	1.3: SpriteMovement Credit: marslandw Demo  Handout	1.4: SpriteActions Credit: marslandw Demo  Handout	1.5 Share & Reflect DebugStudio1: Events Quiz1: GoogleForm1
Concept		X, Y grid.	Initialization, Movement	Events and Broadcast	

Sprite movement and reactions.

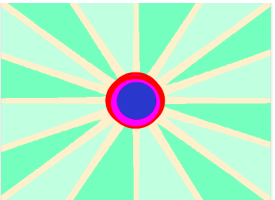
Lesson	2.6 MazeWorld1	1.7: DanceParty Credit: marslandw Demo  BroadcastGame	1.8: DanceParty Credit: marslandw Demo 	1.9: Virtual Pet Credit: MITScratch Demo 	1.10 Share & Reflect
Concept		Events & broadcast	Events & broadcast	Scratch Tutorials	

Unit 2: Loops:

Animation

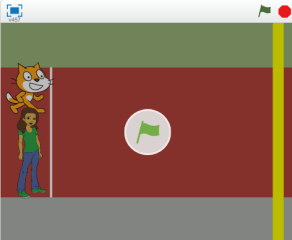
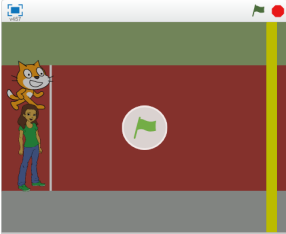
Lesson	2.1 Unplugged Slides: Loops	2.2: AnimateSprite Credit: nolani Demo  video handout	2.3: AnimateBackdrop/GIF Credit: nolani Demo  video	2.4: VectorAnimation Credit: nolani Demo  video	2.5 Share & Reflect RecapSlides2 DebugStudio2 Loops Quiz2 GoogleForm2
Concept		Create costumes, Art Editor: Bitmap mode. Use <i>Repeat Loop & wait</i>	Create backgrounds. Import gifs Use <i>Repeat Loop & wait</i>	Create vector art. Bitmaps versus vector Use <i>Repeat Loop & wait</i>	

Music

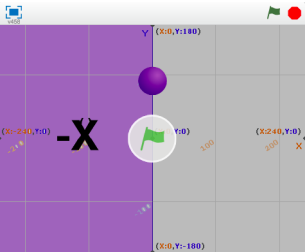
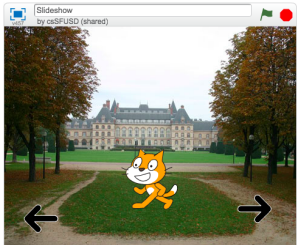
Lesson	2.6 MazeWorld2	2.7: ReactionToSound Credit: DK Games Demo  handout	2.8: StarFishChoir Credit: MIT Scratch Demo  handout	2.9: DanceParty Credit: nolani Demo  handout	2.10 Share & Celebrate Gallery Walk.
Concept		Scratch variable: "loudness". Use <u>Forever Loop</u> . Use multiply operator.	Uses sound commands: -play note -set instrument. Use event: If sprite clicked	Use sound commands: -play drum. -broadcast. Record yourself.	

Unit 3: If-Else

Games

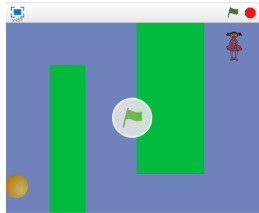
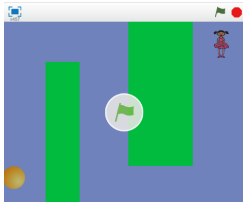
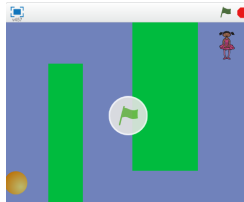
Lesson	3.1 Unplugged Sides: Conditionals	3.2: RaceToFinish Credit: Scratch MIT Demo  handout	3.3: RaceToFinish Credit: Scratch MIT Demo  handout	3.4: ReactionGame Credit: nolani Demo  handout	3.5 Share & Reflect Recap Slides DebugStudio3 Conditions Quiz3 GoogleForm3
Concept		IF - Sensing	IF- Sensing	IF-ELSE	

Simulations & stories

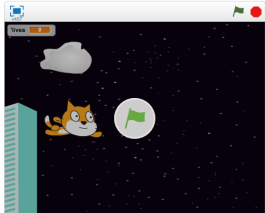
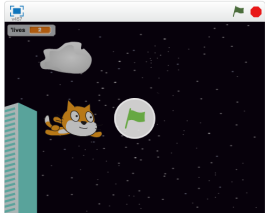
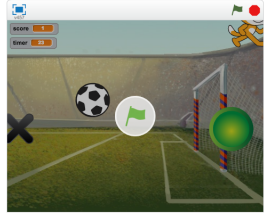
Lesson	3.6 MazeWorld3	3-7: If-Else Credit: nolani Demo  scavenger hunt	3.8: LineFollower Credit: Book(modified) Demo  handout	3-9: Slideshow Credit: MIT (modified) Demo  handout	3.10 Share & Celebrate Gallery Walk.
Concept		IF-ELSE x y grid, (negative X) Greater than operator	Simulation Nested IF-ELSE	Scratch.mit - modified. IF-ELSE	

Unit 4: Variables

Game Project

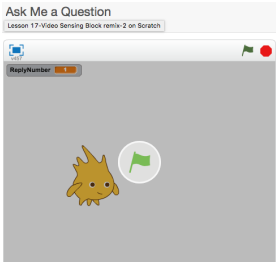
Lesson	4.1 Unplugged Slides: Booleans	4.2: Maze Credit: nolani Demo  PseudoCode Slides1 Handout Spicy	4.3: Maze Credit: nolani Demo  Handout Slides2	4.4: Maze Credit: nolani Demo  Handout Slides3	4.5 Share & Reflect Recap Slides Debug Studio : Conditions Quiz4 : GoogleForm4
concept		Importance of Planning	Continually test IF statement with a forever loop	Collect bananas Add counter variable.	

Games with score variable

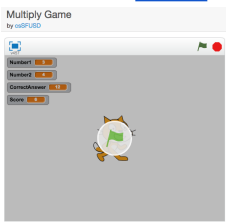
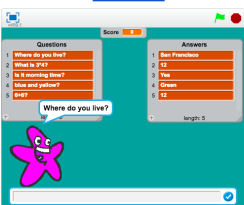
Lesson	4.6 MazeWorldGrid	4.7: FlappyBird Credit: MK Games Demo monkey flappy bird by catFLUSD  handout	4.8: FlappyBird Credit: MK Games Demo monkey flappy bird by catFLUSD  handout	4.9: Soccer Credit: MK Games Demo soccerGame by catFLUSD  handout	4.10 Share & Celebrate Gallery Walk.
concept		One variable counter. Coordinate screen.	One variable counter. Coordinate screen.	2 variables: timer, score If statement, Go to.	

Unit 5: Variables & Lists

User input / output

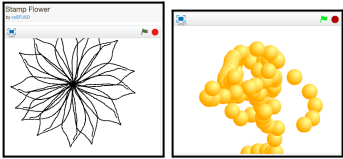
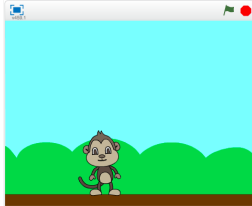
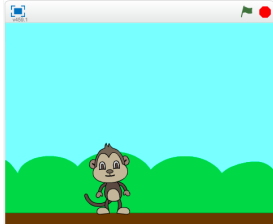
Lesson	5.1 Unplugged madLibs	5.2: Fortune Teller Credit: nolani Demo  handout	5.3: User Input Credit: nolani Demo  Handout 4 user input challenges.	5.4: MadLib Credit: nolani Demo  Handout Prerequisite: 5.3	5.5 Share & Reflect RecapSlides5 DebugStudio5 : Variables Quiz5: GoogleForm5
Concept		Boolean variable. Random Explains: <i>wait until</i> , but students could still use <i>IF</i>	- Ask / Answer - Join - Comparison Operator - repeat until introduced Spicy Challenge: <u><i>wait until</i></u>	-Ask / Answer -stores user input in variables -String variables: (word)	

Data input & storage.

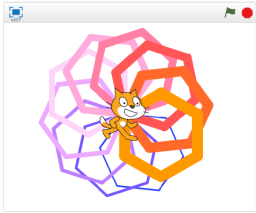
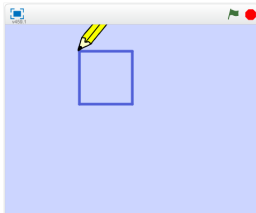
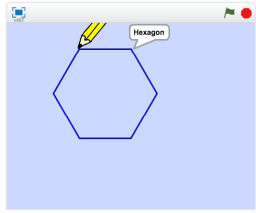
Lesson	5.6 MazeWorld5	5.7: Quiz Credit: nolani Demo  handout	5.8: List Credit: ? Demo  handout	5.9: Quiz Credit: ? Demo  handout	5.10 Share & Celebrate Gallery Walk
Concept		Variable practice Ask/Answer	Add item to a list, Retrieve item from a list, Know the length of a list.	Setup a quiz pairing <u>two lists</u> using index numbers	

Unit 6: Procedures

Art

Lesson	6.1 Unplugged Slides: Abstraction	6.2 Stamper Credit: nolani Demo1 Demo2 	6.3 : AnimationCycle Credit: nolani Demo  Why Make a block? handout	6.4 AnimationCycle Credit: nolani Demo  reflection	6.5 Share & Reflect Recap Slides DebugStudio6: Procedures Quiz5: GoogleForm6
concept		Create cool art using loops and the stamp tool.	Why use Procedures? Create 2 blocks, with input parameters.	Continue working on Project. Reflection on flow of control in a procedure.	

Art.

Lesson	6.6 MazeWorld6	6.7:PenArt Credit: nolani Demo  Handout	6.8:MakeShape Credit: nolani Demo  Handout1 video1	6.9:MakeShape Credit: nolani Demo  Handout2 video2 reflection	6.10 Share & Celebrate Gallery Walk
concept		Simple and beautiful Procedures, no parameters	Procedure with Parameter	-Lists - User input checking with "Repeat until"	