Grade 10 Science

Biology: Cell Parts Terminology

MATCHING CELLS WITH SCRATCH

Meet Scratch

Scratch is a coding platform for all ages and subjects. Students can use Scratch to learn 21st century skills while coding their own interactive stories, animations, and games.

Cell Terminology Matching Game

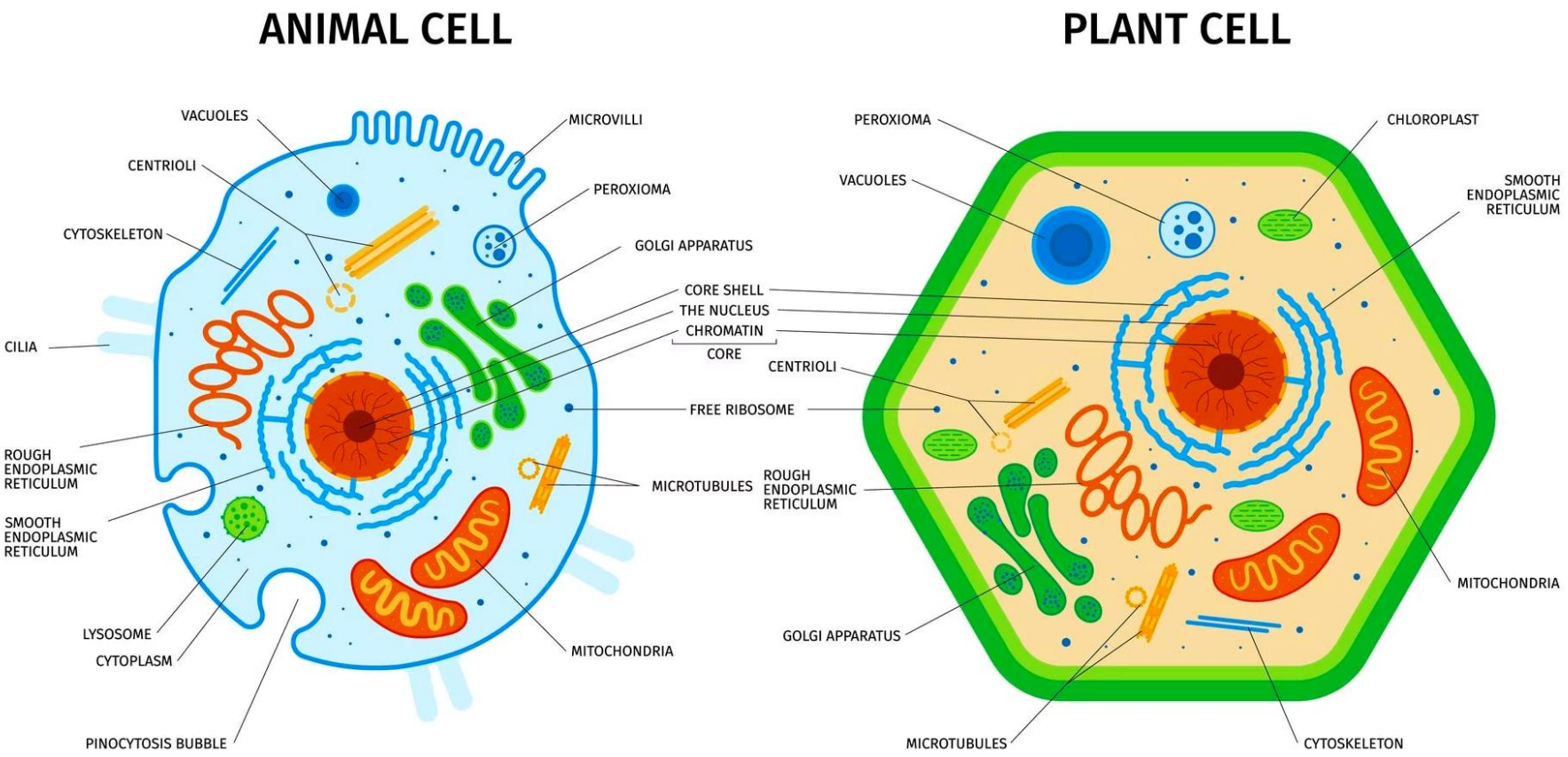
Today we will be coding a matching game to practice learning the cells parts and their functions. Check out an example of what the game will look like by following this link!

Background Knowledge

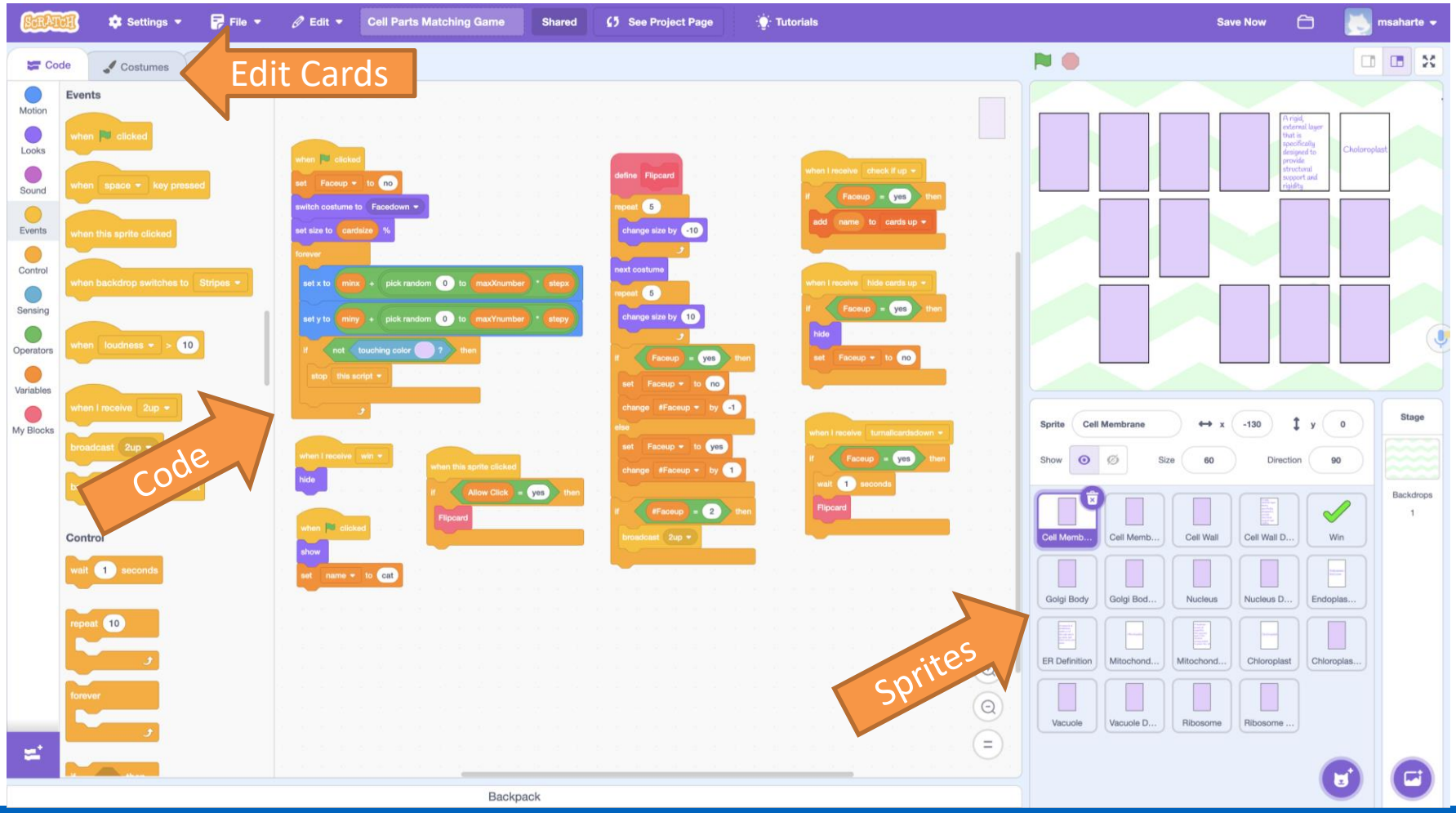
To finish this activity you will need to know

- How to navigate Scratch
  - See next slides for a quick guide
- Cell parts and definitions
  - Refer to your notes from class
  - See next slide for a quick refresher

Cell Parts


ANIMAL CELL
VACUOLES
CENTRIOLI
CYTOSKELETON
CILIA
ROUGH ENDOPLASMIC RETICULUM
SMOOTH ENDOPLASMIC RETICULUM
LYSOSOME
CYTOPLASM
PINOCYTOSIS BUBBLE
MICROVILLI
PEROXIOMA
GOLGI APPARATUS
CORE SHELL
THE NUCLEUS
CHROMATIN
CORE
FREE RIBOSOME
MICROTUBULES
MITOCHONDRIA
PLANT CELL
PEROXIOMA
VACUOLES
CENTRIOLI
ROUGH ENDOPLASMIC RETICULUM
GOLGI APPARATUS
MICROTUBULES
CHLOROPLAST
SMOOTH ENDOPLASMIC RETICULUM
MITOCHONDRIA
CYTOSKELETON

Navigating Scratch



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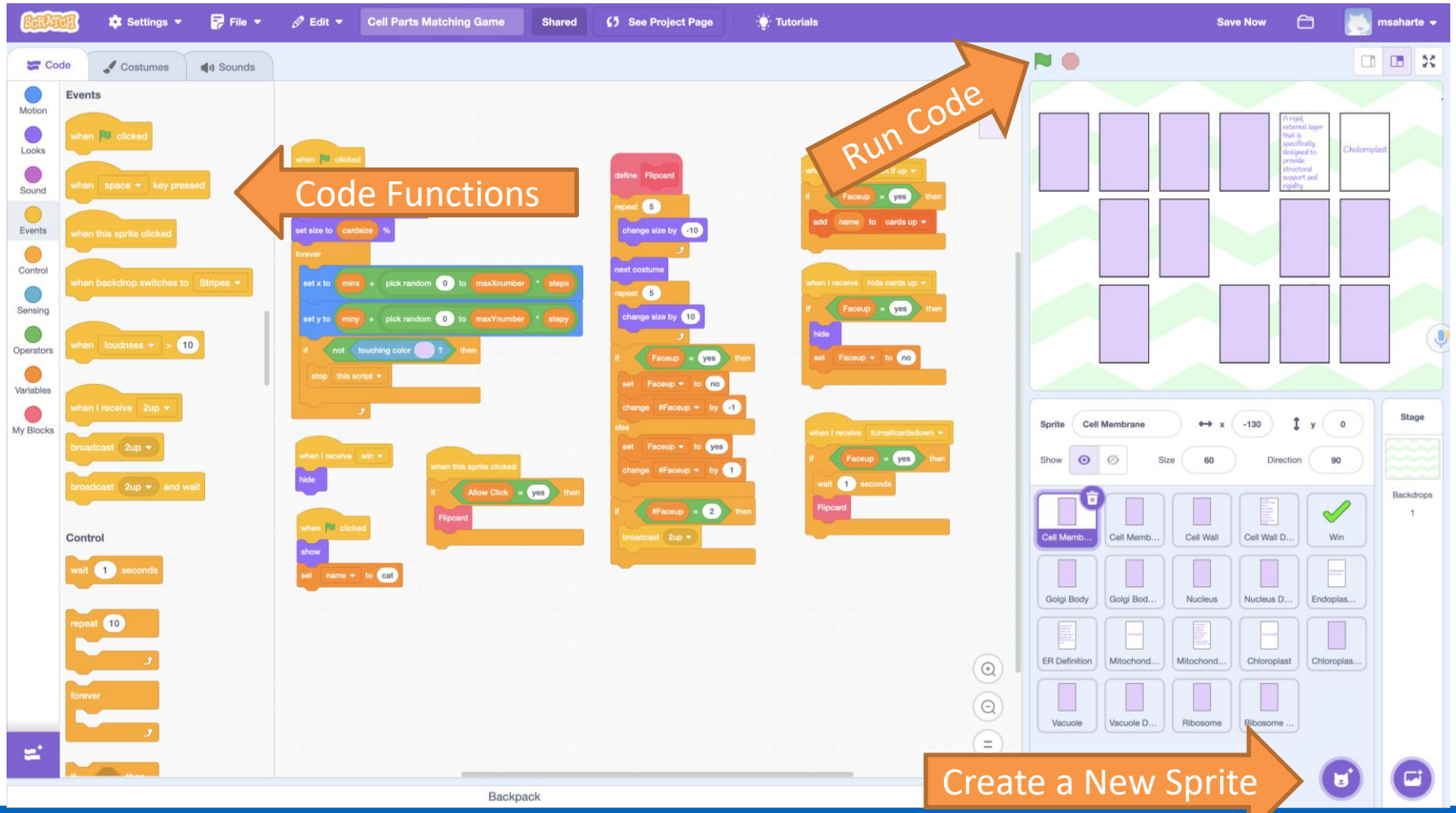
Navigating Scratch



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Creating Your Own Game

- Click on https://scratch.mit.edu/projects/881884745/ to access the game template
- Click on each sprite and edit their costume to fill in the cell parts and definitions that you want to include in your game
- Create a new sprite to appear when all cards have been matched

Creating Your Own Game

- Write a code for the game winning sprite. What should happen when the game is won? How does the code know when the game is won?
- Edit the game to be your own!
- Explore the code. Can you figure out what each block does?

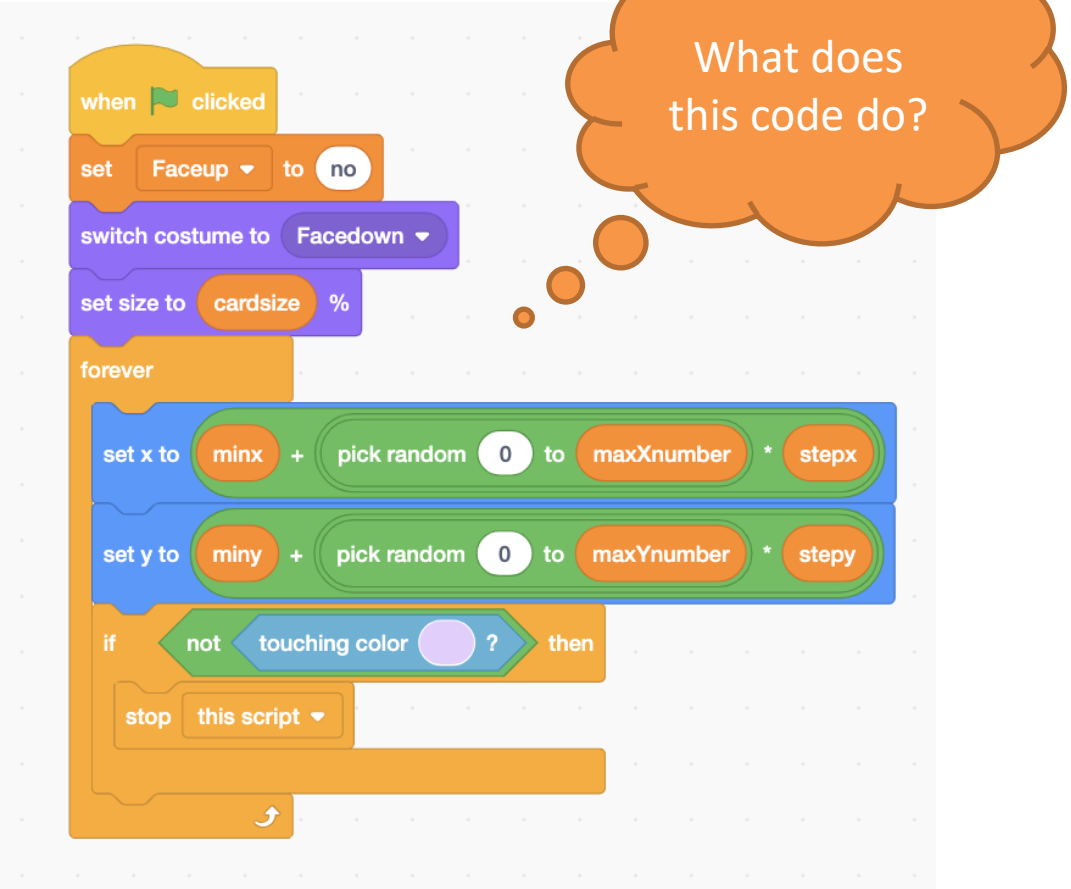
Success Criteria

You will know you are finished when:

- ❑ You have filled in all the card contents
- ❑ The matching game works to pair parts and definitions
- ❑ There is some sort of acknowledgement when someone wins
- ❑ You have practiced biology terms and coding skills!

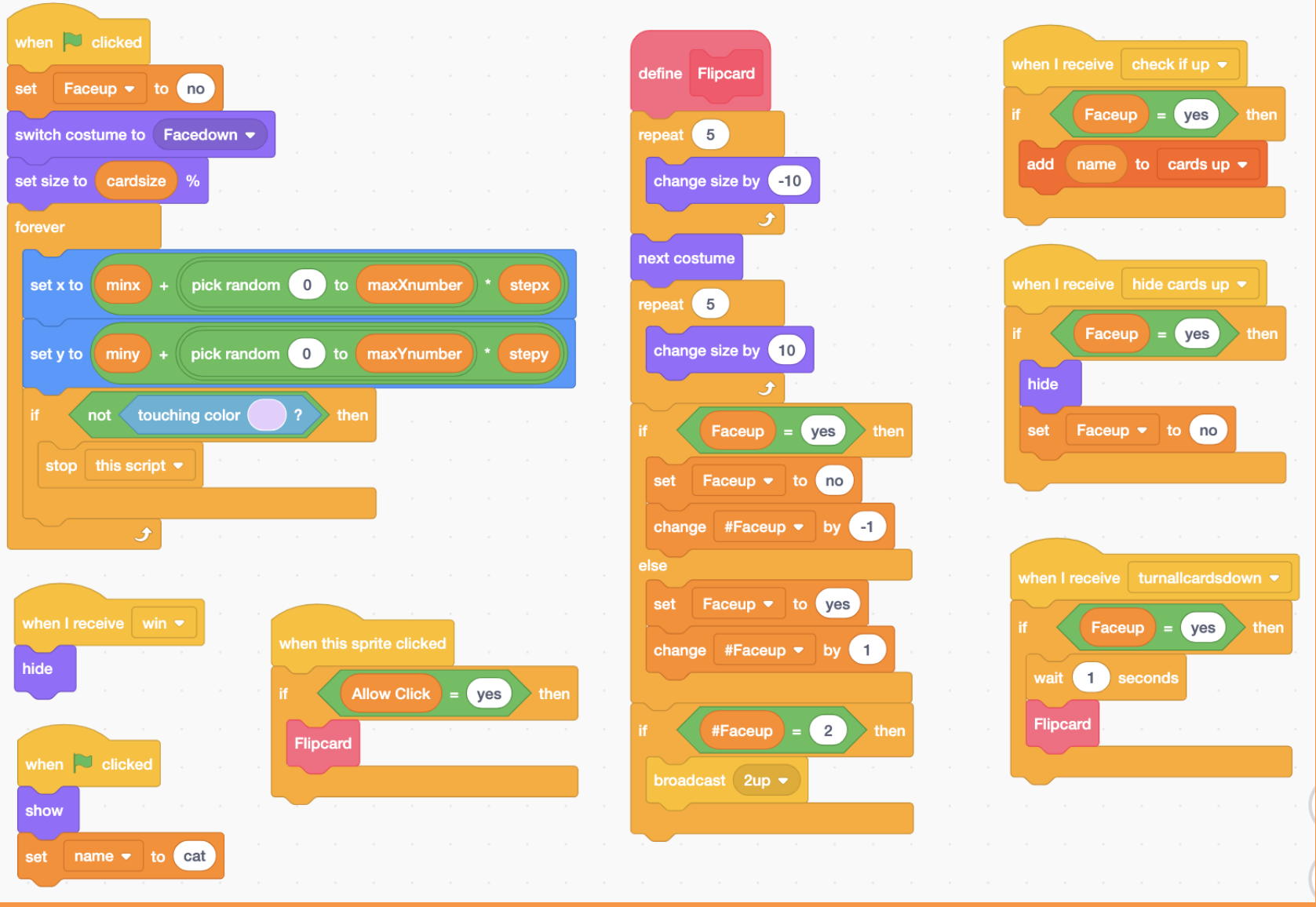
Extension

Want to challenge yourself? See if you can figure out what the code in the template does!



Answer Key

The following slides contain the completed block code for each individual sprite as well as an example of a “win” condition


when clicked
set Faceup to no
switch costume to Facedown
set size to cardsize %
forever
set x to minx + pick random 0 to maxXnumber * stepx
set y to miny + pick random 0 to maxYnumber * stepy
if not touching color ? then
stop this script
when I receive win
hide
when clicked
show
set name to cat
when this sprite clicked
if Allow Click = yes then
Flipcard
define Flipcard
repeat 5
change size by -10
next costume
repeat 5
change size by 10
if Faceup = yes then
set Faceup to no
change #Faceup by -1
else
set Faceup to yes
change #Faceup by 1
if #Faceup = 2 then
broadcast 2up
when I receive check if up
if Faceup = yes then
add name to cards up
when I receive hide cards up
if Faceup = yes then
hide
set Faceup to no
when I receive turnallcardsdown
if Faceup = yes then
wait 1 seconds
Flipcard

Example Win Condition