VOCABULARY
Costume: The picture that represents a sprite
Change Costume: Changing the picture that you use for a sprite
Animation: When sprites come to life by moving and doing different actions
Timing: When something happens
Motion: When a sprite moves

ACTIVITY GOAL
In this project, you will learn how to animate sprites.

BACKGROUND
To animate a sprite you must change its costume. In addition to changing a sprites costume, you will also control how often the costume changes (timing).

Costumes
To make a good animation, you need multiple pictures for the same sprite, called costumes.

Timing
By using the wait block to the right (in the Control category) you can make the costume changes happen slowly enough so that you can see them.

EXPLORE
1. Open the project. Click on the green flag.

2. Click on the ballerina. Describe what happened below.
   She does a dance routine.

3. Look at the scripts for the ballerina. Notice how she has two different scripts. The first one resets (initializes) her when you click on the green flag and the other one is the script for her dance routine.
4. **Click** on the **costumes** tab (next to the **Scripts** tab). This tab holds the costumes for your sprite.

   How many costumes does the Ballerina have? __5__

   How many does the Cool Dude have? __4__

   How many does Cassy have? __8__

Create a quick animation for the Cool Dude

1. **Click** on the Cool Dude in the **sprite list**.

2. **Find** the **costumes** tab where all of the Cool Dude’s **costumes** are. Decide which costume you want him to change into.

3. **Change** the Cool Dude’s **costume** using one of the **blocks** below.
   **Hint:** Add to the script that starts with the “When CoolDude clicked” block.

   - ![switch to costume block](image)
   - ![next costume block](image)

4. **Add** more **blocks** to the Cool Dude’s **script** to change his **costume**. There should **already** be some **blocks** that will change his costume.

5. **Try** out your **script**! **Click** on the Cool Dude and see what happens. **Write** what you saw below.
   
   He moved a little bit for a split second and then went back to his original position. The script ran too fast to really see anything.

6. To make the **costume** changes happen more slowly you need to **add** a **wait block** between each **costume** change.

7. Now that the Cool Dude’s **costume** is changed you need to make sure that when you click on the green flag he gets reset (**Initialized**).

   Add the “**switch to costume**” **block** to his “When green flag clicked” script.
PROGRAMMING CHALLENGE: Dance Party

Your goal is to create a dance routine for Cassy using costume changes.

PLAN

Step 1: Plan Cassy’s dance moves.

Look at all of Cassy’s costumes in the Costumes tab. Write out the first five costumes you want her to switch into.

1. Cassy- chillin
2. _____________________________
3. _____________________________
4. _____________________________
5. _____________________________

Step 2: Plan the timing of Cassy’s dance routine.

Decide how many seconds you want to wait between each dance move. Try each of the times below in your wait blocks and see which one you like the best. Circle the one you choose.

CREATE

Now it is time to create your dance routine for Cassy!

Double-check: Did you remember everything?
1. Did you initialize Cassy so that she will return to her original position when you click on the green flag?
2. Did you create a dance routine for Cassy using costume changes and wait blocks?

Try it out: Try out your script! Click on the green flag and then click on Cassy.

IMPROVE

1. Add motion blocks to your scripts to make the sprites move while dancing.
2. What could you do to make your dance party more interesting? Write the blocks you might use and what those blocks might do below.

IMPROVE sections are designed to be open-ended for students and there are multiple correct responses and solutions to these questions.