VOCABULARY

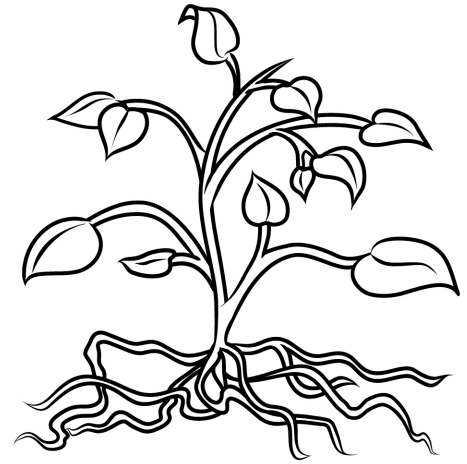**Scene**: The stage at a particular time
Show: Makes a sprite appear or reappear on the stage
Hide: Makes a sprite disappear from the stage
Change Background: Change the background picture for the stage

ACTIVITY GOAL

In this project, you will make scene changes to show how a flower grows.

BACKGROUND

To make **scene** changes you must use a few different **blocks** that will program not only your **sprite**, but also the **stage**.

Scenes

Like a scene in a play, movie, or game. The **scene** may change when the character travels to a different location or moves to a higher level. Different **scenes** are distinguished by which **sprites** are visible and what the **background** looks like.

Every time a **scene** changes you should think about:
1. What's going to happen?
2. What might the new **background** be?
3. What **sprites** will appear (show) that weren't there before?
4. What **sprites** will disappear (hid) that were shown before?

The first step is to change the **background**.

Step 1: Change the **background**.

The **backgrounds** are controlled by the sprite called **Stage** found in the **sprite list**. By using the **block** below in the **Stage**'s **script,** you can change the way the **background** looks.

switch to background background1 ▼
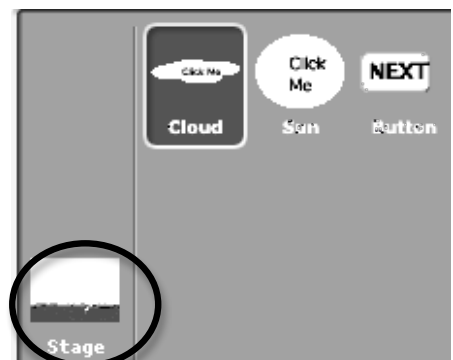
Step 2: Show and **Hide** sprites

The **blocks** to the right determine which **sprites** are showing on the **stage** at a particular time.

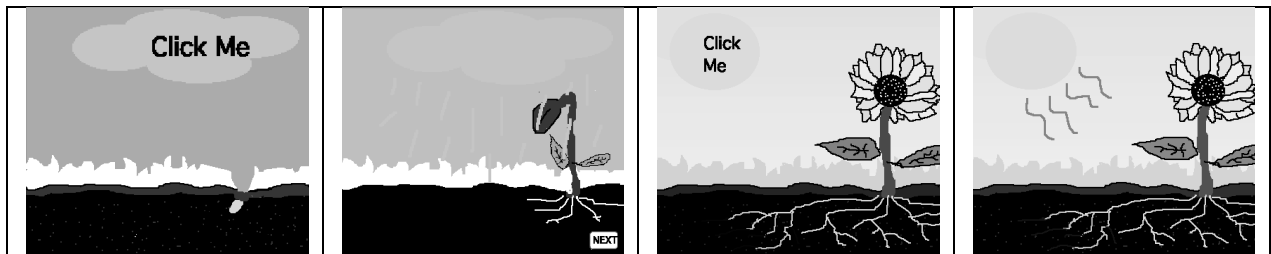**Step 3: Initialize** sprites when you click the green flag

1) If you change the **background**, use

2) If you hide or show a **sprite**, use   and

EXPLORE

Your teacher will play the completed Plant Growing project for you before you begin. This is the sequence of **scenes** you are going to copy.

1) Open the project **PlantGrowing**. Click on the Green Flag.

2) Click on the cloud that says "Click Me".

A **scene** change is supposed to happen, but it doesn't. What three changes should have happened? Write the three things below.

1. The cloud will rain.

2. There will be a small plant that grows.

3. A small white button that says "Next" will appear.

3) Click on the **costumes** tab for each **sprite**. Look at the **costumes** you can use.

4) Click on the **stage** in the **sprites list**. Click on the **background** tab.

5) Remember, you can use the **broadcast & receive blocks** to let the other **sprites** know about a **scene** change.

You will need to use all of these things to create the story with the **scene** changes you saw earlier.

PROGRAMMING CHALLENGE: Plant Growing

Your goal is to program the sprites, costumes, and backgrounds
to make the flower grow like the example project.
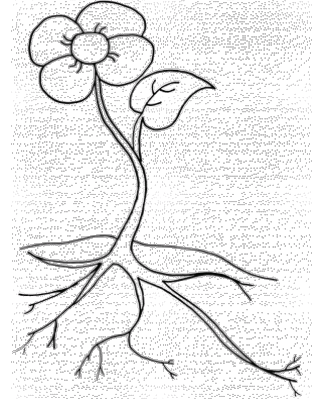
PLAN

Step 1: Open the project **PlantGrowingExample**. Click the
green flag. Write what happens below.

o   When I click on the cloud these changes happen...
     The cloud rains, a small plant grows out of the
     ground, and a small white "Next" button appears near
     the plant's roots.

o   When I click on the "Next" button these changes happen...
     A sun appears that says, "click me" on it, a flower
     appears on the plant, and the roots expand and show
     a small amount of water in parts of them.

o   When I click on the Sun these changes happen...
     The sun has rays come off of it shining down onto
     the flower.

CREATE
Now it is time to create your project! Decide which **blocks** you will need to
make all of the changes you wrote above in the Plan section. Try to use
some of the things you have learned in earlier projects.

Below are some examples of **blocks** you might use for this project.

hide   when I receive [Santa Barbara ▼]   switch to costume [costume1 ▼]

show   broadcast [Santa Barbara ▼]   switch to background [background1 ▼]

Step 1: Match the order of the **scenes** with the example project. Make changes to the **stage**.

Step 2: Make the changes happen when the correct **sprites** are clicked. **Broadcast** and **Receive** messages between certain **sprites**.

Double-Check: Did you remember everything?

1. Does the **background** for each **scene** match the example project?
2. Do the correct **sprites** show up for each **scene**, and do the ones that shouldn't be there disappear?
3. Do the **scene** changes happen when you <u>click</u> on the correct buttons on the **stage**?

IMPROVE
If you finish early, try improving your project by doing the following:

1. Make the cloud rain for a while, then stop raining and then move off screen. Which **blocks** would you use to make this happen?

   The IMPROVE sections are designed to be open-ended for students and there may be more than one possible correct response to these questions.

2. Make the sun switch between its two **costumes** a few times. Remember that you need to include a Wait **block** between each **costume** change.

3. Make the sun get bigger when it changes to the **costume** with the rays coming out.

4. Are there any other changes you could make to improve your project? <u>Describe</u> them below.

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