

Grow Gratefulness

Overview

In this project you will make a garden to grow the things or people that you are grateful for. You'll be using Scratch, a visual programming language, to express your gratitude!

Let's Get Started

Join Scratch (scratch.mit.edu) by signing up for an account so that you can easily save your work and also share it with us when you're finished. Please make sure you have permission from an adult caregiver. You can find a guide to join Scratch here:

https://spursgive.org/scratch-account-setup_scratch-offline-english-1

When you're ready to start coding, click the create button at the top of the page to start a new project.

Materials

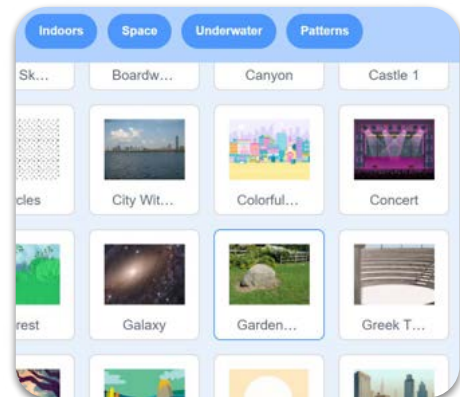
- Computer, Chromebook, or tablet with keyboard
- Internet connection
- Scratch Account



Project Setup

1

The first thing you will need is a backdrop. Click on the icon with the picture of mountains in the bottom right of Scratch to **choose a backdrop**. We'll be "growing" some seeds later in the activity so the example will be a garden, but you can choose any backdrop you want!



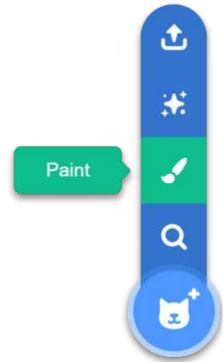
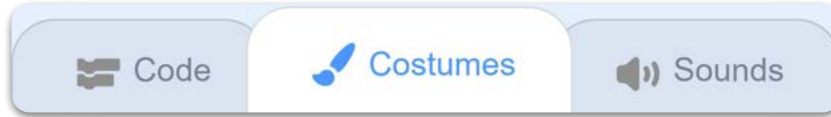
2

The next thing you will want to set up is a sprite. You can delete the default cat sprite. Click on the icon of the cat in the bottom right of Scratch to **choose a sprite**. Choose something or someone that represents something you are **grateful** for (you can choose a different sprite than the example here).



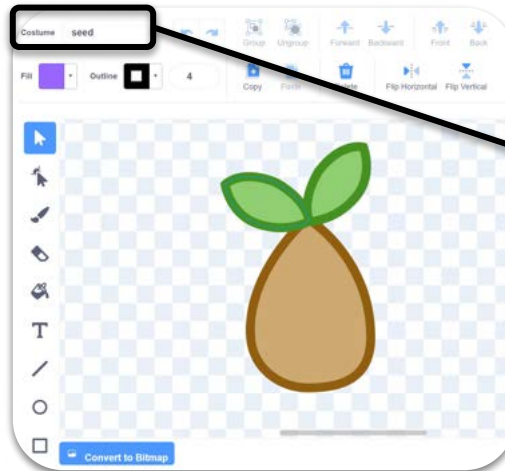
Create costumes

3 With your new sprite selected, click on the **Costumes** tab. In the bottom left of the screen, hover over the icon of the cat and choose the **paint** option. This will allow you to paint your own costume!



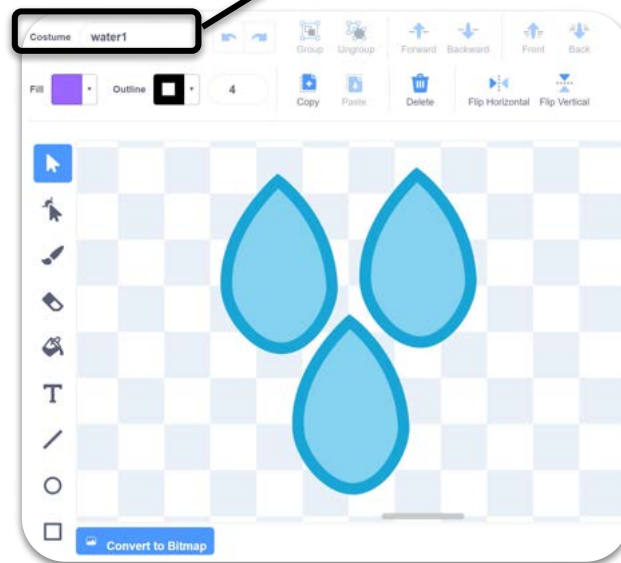
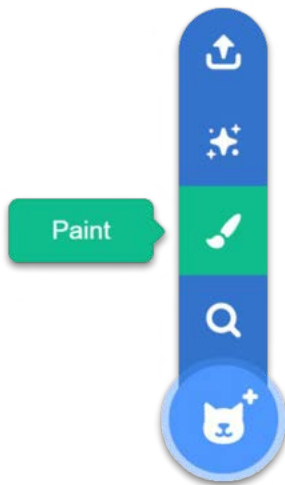
4 Use the tools on the left to **draw a seed**. You will be using code to grow this into the sprite costume that you chose!

It doesn't have to be perfect! Do your best and play with the different tools to figure out what each one does.



Tip:
It's a good idea to name your costumes something that makes sense.

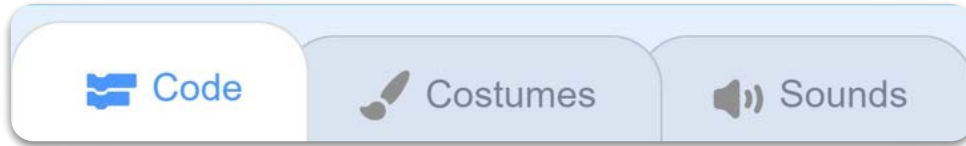
5 Now you will create the sprite for the water to make the seeds grow. First, click on the **paint** option in the **new sprite menu** from the icon of the cat in the bottom right of the sprites pane. Next, use the different tools to **draw your own water droplets**.



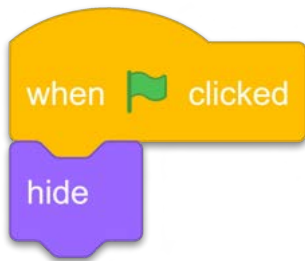
Code the water

6

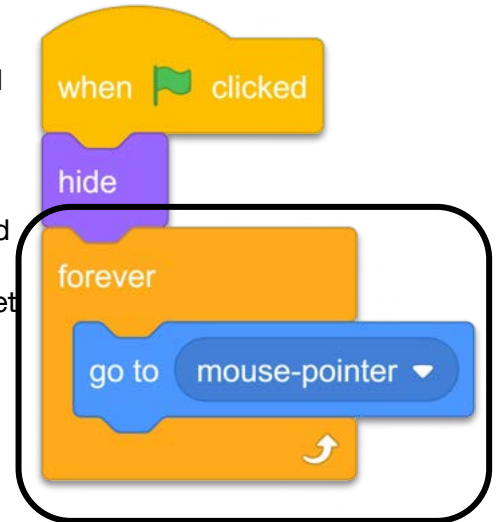
Now that you have your sprites set up, let's code them! Make sure you have your **water sprite** selected. Then click on the **Code tab** to see the coding view.



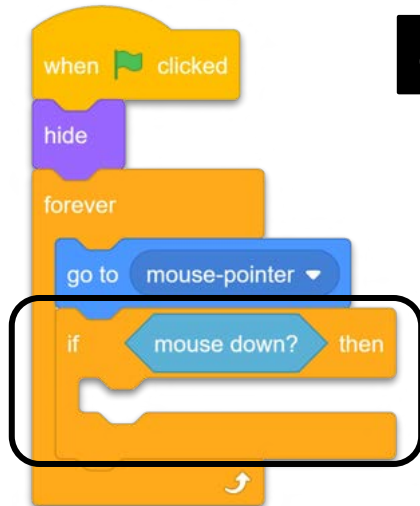
a From the **events** palette on the left, place a **when green flag clicked** block onto the coding space. Directly underneath, attach a **hide** block from the looks palette. Don't worry - it's not gone, just hidden. You will show the sprite later!



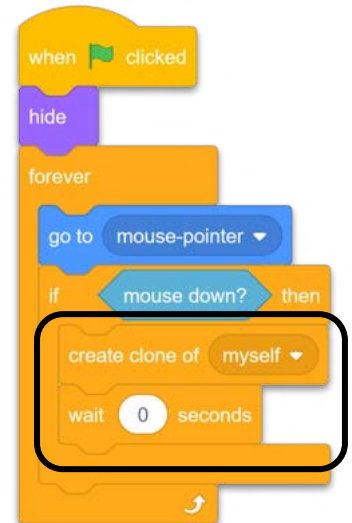
b Attach a **forever** block from the control palette. Inside the forever block, add a **go to ()** block from the motion palette and make sure the dropdown option is set to **mouse pointer**.



c Still inside the forever block, add an **if < > then** block from the control palette. Inside the if < > then block, add the **mouse down?** block from the sensing palette.



d Now add a **create clone of myself** block inside of the if < > then block. Directly underneath attach a **wait () seconds** block and change the value to 0. Yes - zero! This will pause the program for the shortest time possible.



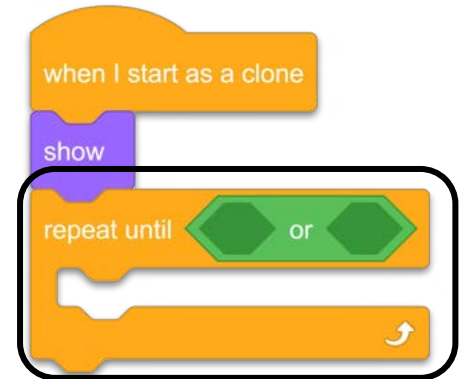
7

You are making clones of the sprite when you click now, but you can't see them yet! Let's add some code to decide what happens with the clones of the water sprite.

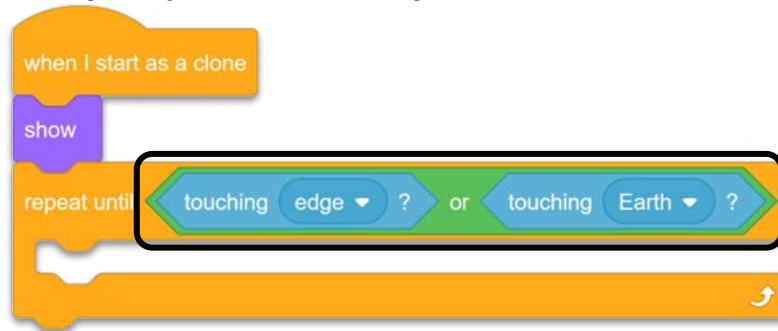
a Grab a **when I start as a clone** block from the control palette and place it anywhere on the coding space. Attach a **show** block from the looks palette.



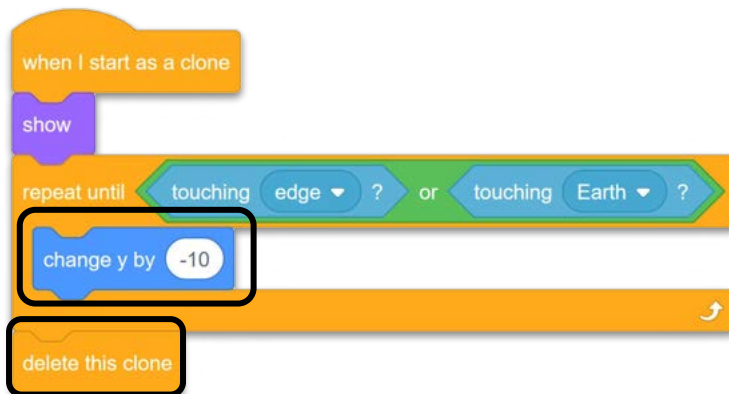
b Attach a **repeat until < >** block from the control palette. Inside the space in the repeat until block, add an **< > or < >** block from the operators palette.



c Inside the < > spaces in the or block, add two **touching ()?** blocks. In one of the touching blocks, set the dropdown value to **edge**. In the other touching block, set the dropdown value to the **name of the sprite you chose in step 2**.



d Now move down inside of the repeat until block, and add a **change y by block** from the motion palette. Change the value in the change y by block to be **-10** (don't forget the minus)! Finally, add a **delete this clone** block from the control palette to the end of this script, **outside of the repeat until block**.



Now you should have working water! Press the green flag and then click anywhere on the stage.

Code the seed

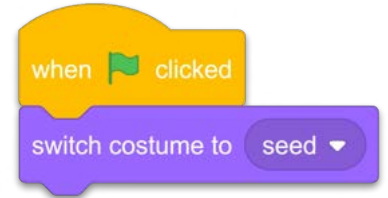
8

Now you will code the sprite that you originally chose in step 2. Since each sprite has its own code, make sure you have that **sprite selected** in the sprites pane in the bottom-right area of Scratch before you write code.



a

Add a **when green flag clicked** block from the events palette. You can add it anywhere on the coding space. Next add a **switch costume to ()** block and set the dropdown value to the name of the seed costume that you drew in step 4.



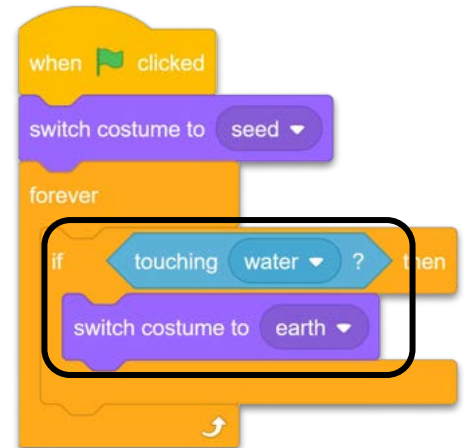
b

Attach a **forever** block from the control palette. Inside the forever block, add an **if < > then** block.



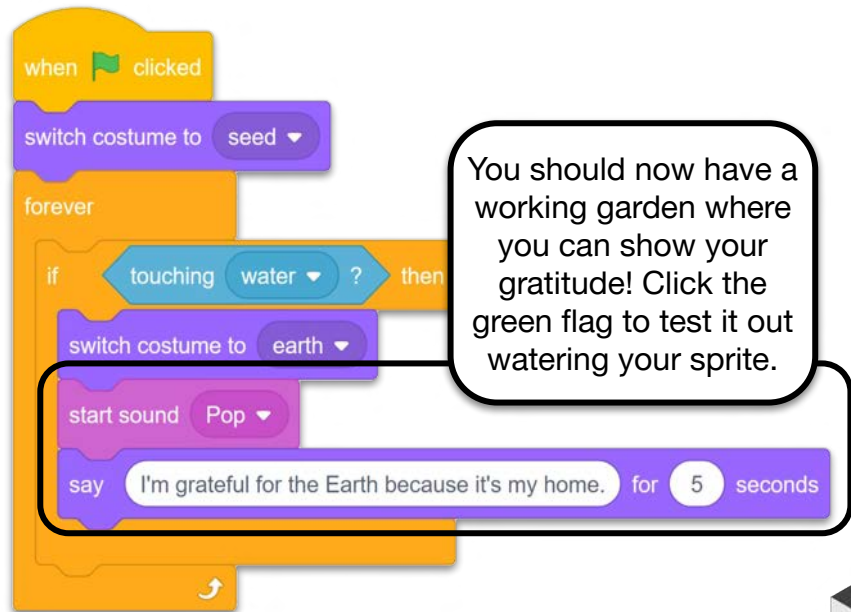
c

Inside the < > space in the if block, add a **touching ()?** Block from the sensing palette and change the dropdown value to be water, or whatever you named your water sprite. Add a **switch costume to ()** block and set the dropdown value to the name of the costume that you chose from the library.



d

Attach a **start sound (Pop)** block still inside the if block. Then attach a **say () for () seconds** block directly underneath. This is where you get to say why you are grateful for whatever you have chosen. Put **your message** in the first () space in the say block. As an example, we put: "I'm grateful for the earth because it's my home." In the second () space, choose how long you want the message to display. **5 seconds** seems like a good amount but you get to choose!



You should now have a working garden where you can show your gratitude! Click the green flag to test it out watering your sprite.

Adventure Mode

Want to code more? You can try some of our adventure mode ideas or make up some of your own adventure modes. There are many different ways to do the same thing with code, so there is no right or wrong way to do an Adventure Mode challenge - just explore and have fun!

Grow more gratefulness

Add more sprites which represent people/things/ideas you are grateful for. Repeat steps 2, 3, 4 and 8 with your new sprites to make them grow like the original sprite.

Make some noise

Add more sounds to your project. What would the water sound like? Could you add some background music?

Make a game

Add more seeds that pop up randomly for a short time. Get “gratefulness points” for watering the seed before it disappears.

Share with someone

Post a screen capture of your project, or a picture of you coding and use

#spursgivecoding

You can also send your project page to someone if they are who you are grateful for!

