CANADA LEARNING CODE

Terry's Shoes

By: Caitlin Davey
Duration: 90 minutes

LEVEL	SUBJECTS	PROVINCES / TERRITORIES	TOOL
Grades 1-3, 4-6	Art	Across Canada	Scratch

Overview

Terry Fox is a Canadian hero. One of Terry's main goals was to inspire others to find a cure for cancer by demonstrating how it affects everyone. He gathered support around this cause by applying his strong spirit of determination. His story has inspired many around the world. In this lesson, students will have the opportunity to share their personal stories through the medium of art. Computer art is amazing because it allows everyone to create something cool, regardless of ability.

Prep Work

- Review the **sample Scratch project** (http://bit.ly/terrys-shoes-example) to see an example of what students will be building
- Print the solution sheet ahead of time: bit.ly/terrys-shoes-solution (see below)
- As a class, brainstorm several art techniques your students have learned that they could try exploring in Scratch.

Key Coding Concepts

- Loops
- Events
- Variables

Curricular Connections

Students use elements of design in artworks to communicate ideas, messages, and understandings for specific audience and purpose. Students can reflect on how they can leverage their talents to create change whether that be athletic, artistic, social, etc.

References

Ink blot by James Cottell from the Noun Project

- Examples could include: pointillism, pixel art, or collage. The pen tool in Scratch can be adjusted in colour and size to achieve some of these different techniques!
- If students haven't learned specific names of art techniques, they can describe art they've seen and how they'd create a similar style in Scratch.

Lesson modified from Terry Fox Foundation

Terry Fox - Canadian Encyclopedia
http://thecanadianencyclopedia.ca/en/article/terry-fox/

Lesson

This lesson was made in partnership with

Introduction

- Have students share what they already know about Terry Fox (this could be facilitated through a think/pair/share or as an entire class discussion).
- Watch **Terry's story** (http://bit.ly/heritage-minutes-terryfox)
- What words come to mind when thinking about Terry's journey and the impact he's made?
- What images do students think of when discussing Terry Fox?
- Terry's prosthesis with one shoe may not come to mind at first, but this image can bring to mind the story of the 5,373km Terry ran across parts of Canada and the many lives he affected along the way.
- Our own shoes can tell stories, as well. Looking down at your feet, what do you think your shoes say (besides smelly!)?
- In Scratch, students will create a drawing of a shoe using different visual techniques to share their own unique stories.
- Some techniques that can be used to create a visual message include line thickness, colour choice, empty space, filled space, shapes, and styles.
- Have students follow the introductory lesson that teaches mouse-mirroring, loops, and if/else statements to create a rainbow doodle shoe.

Activity

Begin by opening and remixing the **starter project:** bit.ly/terrys-shoes-starter and reviewing the sprites inside.

Use the solution sheet to walk learners through the following steps:

- Opening the starter project
- Making it draw
- Drawing when the mouse is down
- Clearing the canvas
- Changing the colour
- ...and any additional Add-Ons, if you have time

Assessment

Have students use a "design journal" or a shared Google Doc to answer questions, such as:

- What aspect of Terry's story do you relate to?
- How can you make a difference in our community using your unique skills?
- Explain what an **event** is, as if the person you're explaining it to has no idea about coding or computers. How do you use **events** in your project? (The scripts with the 'hat'-like curves on top)

Make a plan for how to access students' work in Scratch. You could **create class studios** (https://en.scratch-wiki.info/wiki/How_do_I_create_a_studio%3F) to collect projects, have students email you class links, or gather project links in a shared Google doc or blog.

Extensions

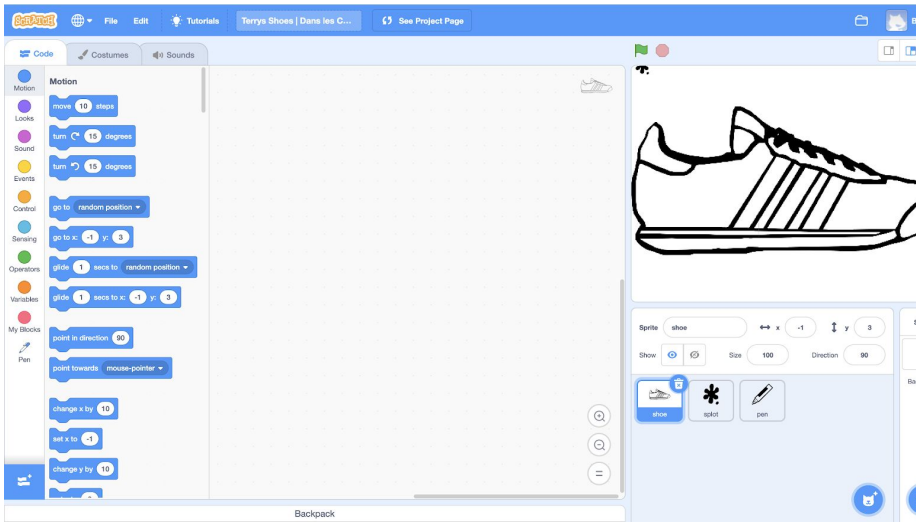
Have students draw their own shoes instead of using the initial Sprites provided.

Have students write a story about a day in the lives of their shoes.

Terry's Shoes

STEP 1: Opening the Starter Project

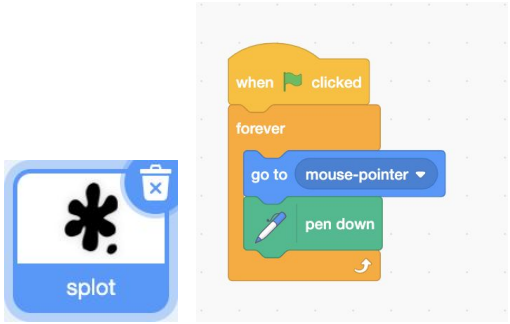
1. Sign in to Scratch
2. Open the starter project: bit.ly/terrys-shoes-starter
3. Remix the project & change the project name



STEP 2: Making it draw

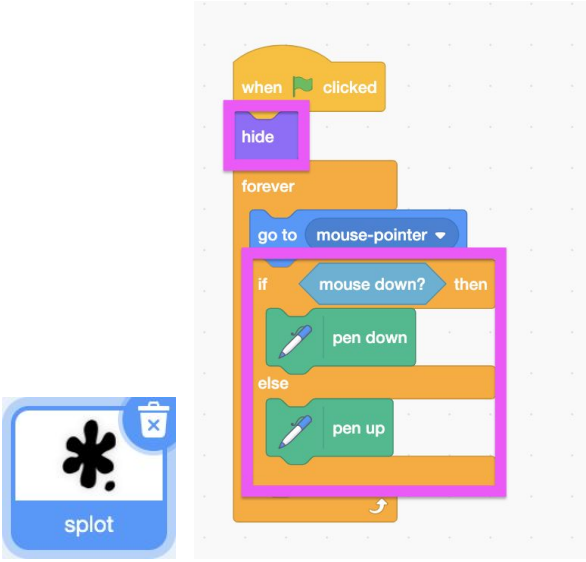
*Select the splot sprite

1. Make the splot follow the mouse
2. Make this happen forever
3. Make this begin when the green flag is clicked
4. Make the pen go down (forever) to draw



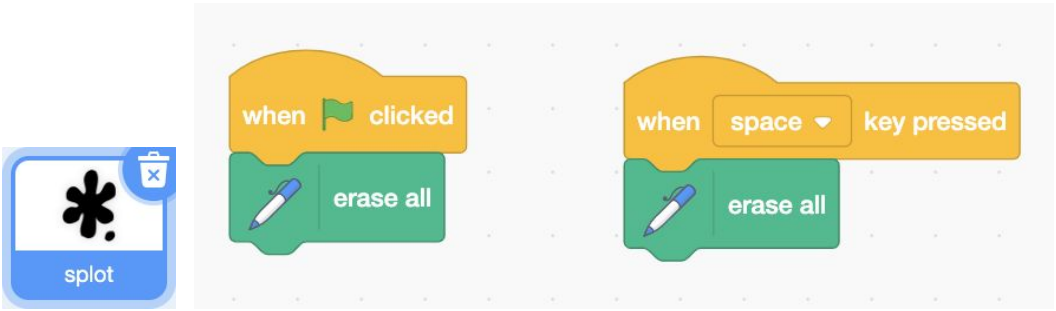
STEP 3: Drawing when the mouse is down

1. Check to see IF the mouse is down (using an If, Then, Else script)
2. If it is TRUE - make the pen go down (move the block we used earlier)
3. For all other options besides True ('else') - make the pen go back up
4. *BUG* - Sometimes we try to click and draw but it doesn't work. This is because our sprite is in the way. Make the splot sprite invisible by hiding it.



STEP 4: Clearing the canvas

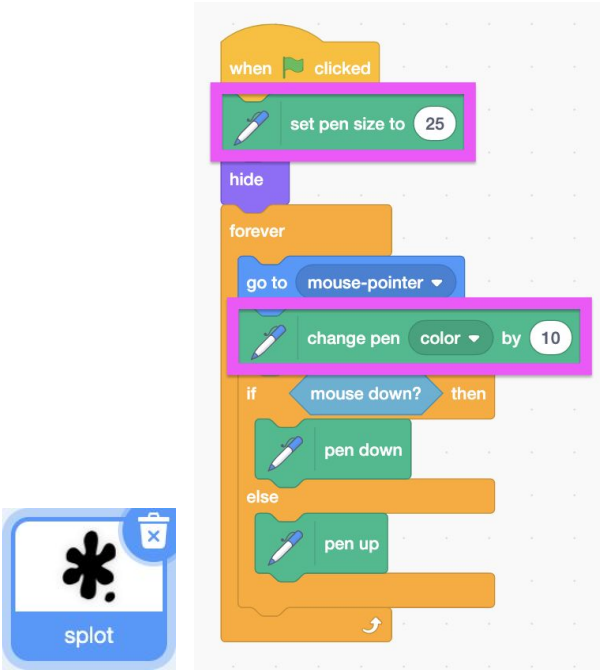
1. Make the pen clear
2. Make this happen when the green flag is clicked
3. Bonus: Make this happen when the space key is pressed, too!



STEP 5: Changing the colour

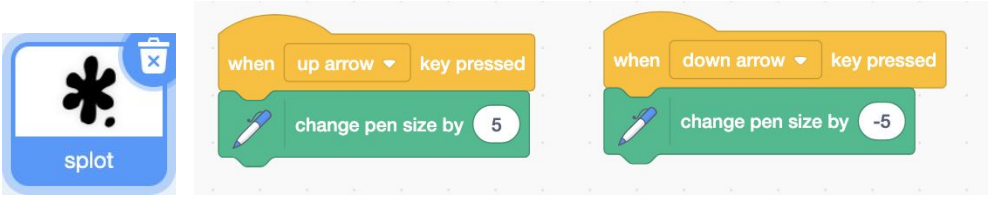
1. Change the colour of the pen by using "set color"
   OR create a rainbow effect by making it "change color"

2. Make the pen size larger (“set pen size”)



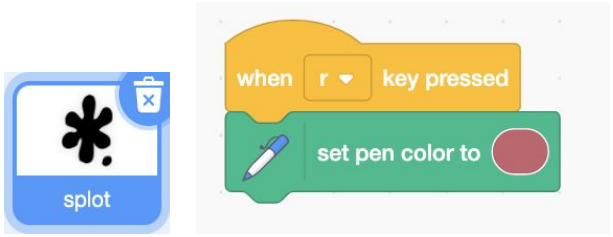
ADD-ON: Controlling the brush size

1. Make the pen size get bigger
2. Make this happen when the up arrow (or another key) is pressed
3. Make the pen size get smaller when the down key (or other) is pressed



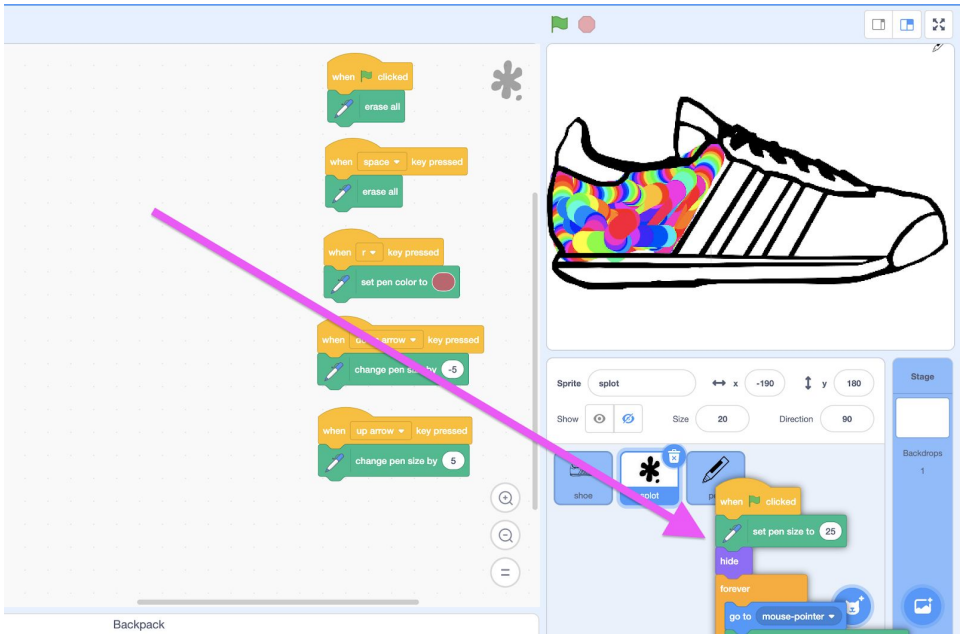
ADD-ON: Setting the colour using letter keys

1. Remove the ‘change color’ block
2. Make the pen change to [colour] when [key] is pressed
   E.g. Red when “r” key is pressed

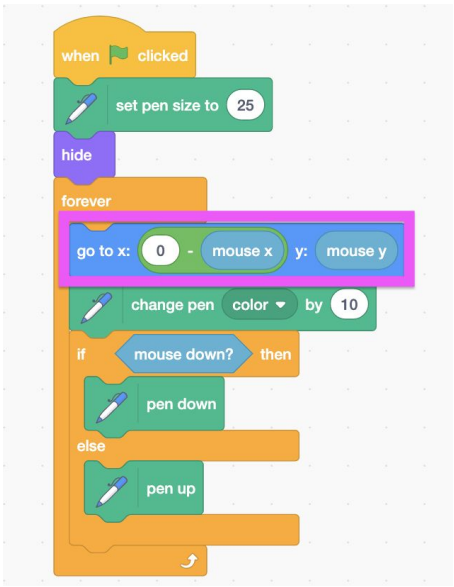


ADD-ON: Reflecting your drawing

1. Click and drag your splot algorithm over to the pen sprite
   OR Use your backpack (online editor only) - drag it into the tab at the bottom of the screen, then drag it into the pen sprite's instructions
2. Replace the "go to" script with "go to X Y"
3. Make the pen go to the mouse for the Y position
4. Make the pen go to the opposite of the mouse for the X position (0 - mousex)




pen


when clicked
set pen size to 25
hide
forever
go to x: 0 - mouse x y: mouse y
change pen color by 10
if mouse down? then
pen down
else
pen up