



Code Create Celebrate: About a Canadian Animal

A Scratch workshop for Hour of Code 2019

Grades: 3-7

Time Estimate: 60-90 minutes

Learning objectives:

- Familiarity with Scratch
- Familiarity with computational practices such as planning and experimentation
- Familiarity with the basic programming concept of sequencing

Material:

- Computer
- Scratch account
- Overhead projector

Welcome!

We're so excited you could join us for this celebration of coding and Canadian wildlife!

What will I do today?

Great question! Here are the main things:

- **HAVE FUN** - laugh, talk to your neighbour
- **MAKE MISTAKES** - experiment, ask questions
- **LEARN SOMETHING** - figure out how computers make things happen



Start thinking about a Canadian animal (15min.)

On a piece of paper write or draw: What does it look like? Where does it live? What does it eat? If it could talk, what would it say?

Log in your Scratch account (5min.)

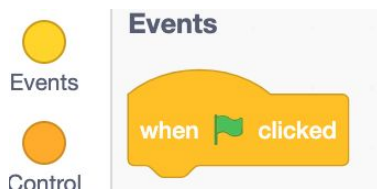
1. Visit the scratch website: www.scratch.mit.edu
2. Click **SIGN IN**
3. If you do not have an account, you can still do the activity without saving it.

The basics (10min.)

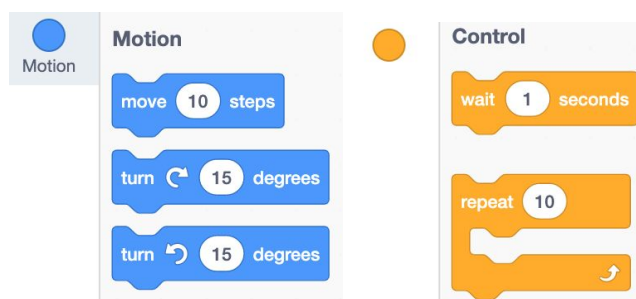
Let's explore and make some stuff happen!

Things we'll learn

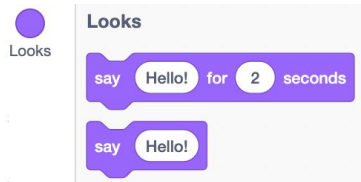
- The 3 S's of the Scratch environment
 - **Stage:** where things happen
 - **Sprites:** the characters that are part of the program
 - **Script:** where the code is written
- Make the program start with the "green flag" **event**



- Different types of **Motion** and **Control** blocks



- Make the sprites say something using a talk bubble

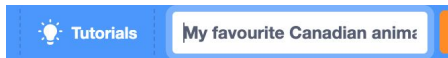


Let's code in Scratch! (30 min.)

- Open the Starter project in our Scratch studio:
<https://scratch.mit.edu/projects/158696583/editor/>
- If you are logged into your Scratch account, click on remix button to save this project in your account

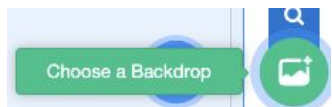


- Rename your project "My favorite Canadian animal"



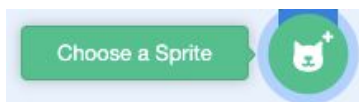
Change the backdrop to represent the animal's habitat

- Choose a backdrop from the "Outdoors" category in the Scratch Library

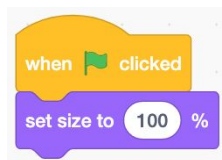


Add an animal by choosing a sprite

- There are plenty to choose from, eg: bear, polar bear, fox, owl, hare. Make sure it is a Canadian animal! For example, you shouldn't choose a camel!



- Make it bigger or smaller using the block "set size to"

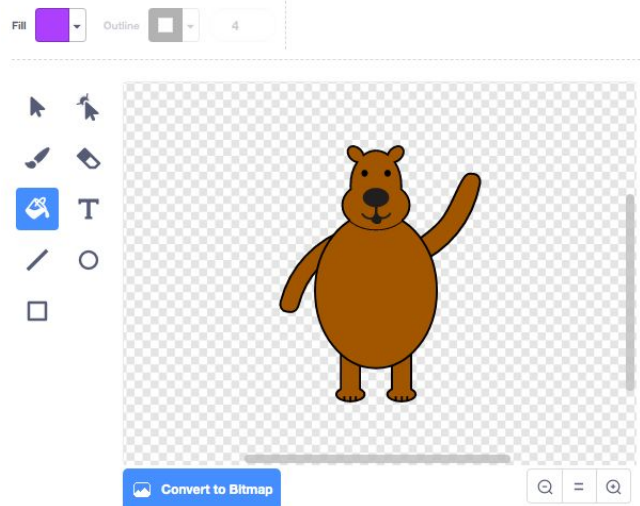




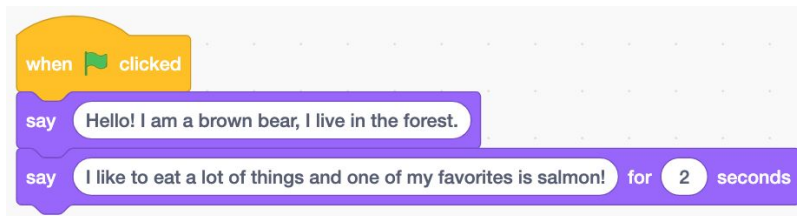
- Change the colour: Select the “Costumes” tab



- Pick the colour at the top-left and then select the paint can and touch the area you want to fill in



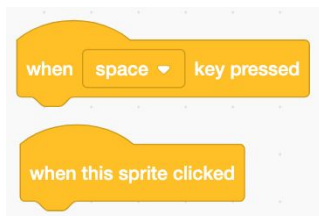
Make your animal says something funny and interesting!



- In the script section of your new sprite, add “say” blocks and write some information about your animal:
 - Why does it like living in Canada?
 - What does it like to eat?
 - Where does it live?
 - Does it migrate or hibernate?
 - Does it change colours with the seasons?
 - Who are its neighbour animals (you can add another animal to your project!)

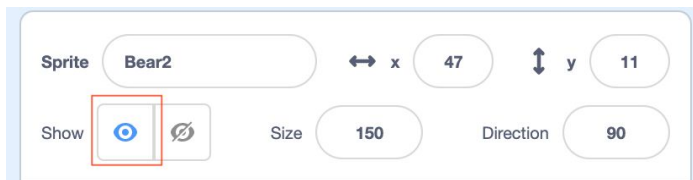
Make your animal do something fun!

- Explore more of the “Event” blocks and make the sprite do something interesting like moving when it is selected or a special key is pressed

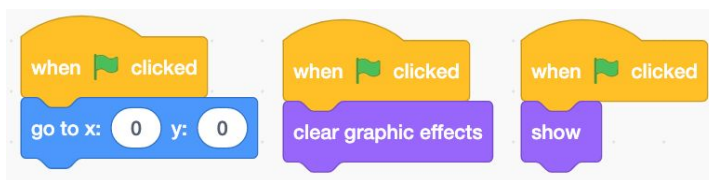


As a coder, it's good to remember:

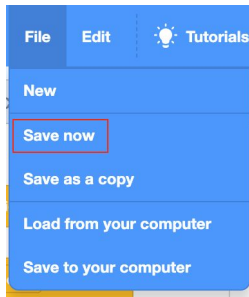
- If your sprites disappear while you're building, maybe it is just hidden! You can **show** them again by clicking on this Show icon:



- Scratch blocks are all **colour-coded by theme**. This can help you understand what each instruction does, and where to find blocks that you see in other people's code.
- The **Green flag** event can be used to trigger all kinds of things:
 - moving sprites to their starting locations
 - showing them
 - setting or undoing visual effects, etc.
 -



Teacher note: Frequently remind the participants to save their work: at least at the start of every new section.

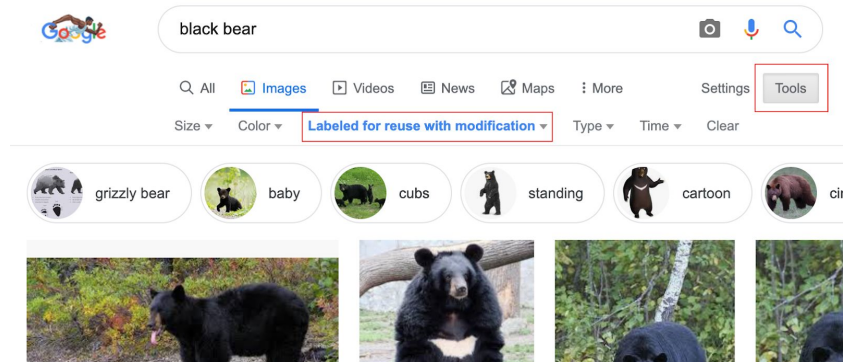


Optional challenges

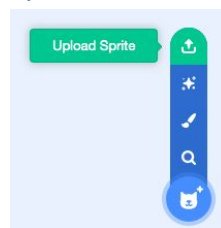
Using images from the web (30min.)

This can use up a lot of time! 20-30mins to find the picture, erase its background, etc.

- Make sure you are allowed to use the picture (usage rights):
 - In Google search, choose “Images” and then follow the steps below
 1. Tools
 2. Usage Rights
 3. Select: “Labelled for reuse with modification” – this option ensures pictures being used are 100% free



4. Right-click on the image, then save it to your computer
5. Upload the image to Scratch

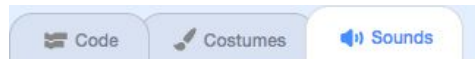


6. Cut out the image to create a sprite. In the “Costumes Tab”, use the Eraser to remove background

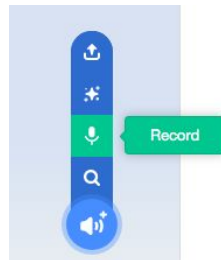


If you've reached the end of the project, try adding some more features. For each one, think about: Where do you have to make the change? What kind of instruction (or setting) will do it?

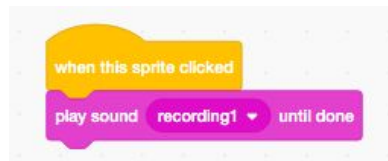
- Add more characters.
- Use drawing tools to draw your own sprite.
- Add sound effects (record your own?) to each sprite when clicked
 1. Click on the Sounds tab



2. Click on the Record button



3. Add a play sound until done block from the Sound section and select your recorded sound





Reflection

- What problems were encountered and how did you solve them?
- What was your favourite part? What was the most challenging?

Now that you've covered all the basic elements, venture out on your own! In Scratch, you can use a lot of what was learned today and practice on a follow-up project.

Want to keep going? Find out how you can start a Code Club in your school or community! Check out some of the projects at www.codeclub.ca

Ask your KCJ Community Developer how to get started!
www.kidscodejeunesse.org

Certificate

Finished the project? Don't forget to get your very own certificate that says you completed an hour of code!

All you have to do is:

1. Visit this link: code.org/api/hour/finish
2. Write your name
3. Download your personalized certificate
4. Print it or share it with friends and family!