Lesson 1.8: Tech Museum

Objectives

In this lesson, students will:
- ❖ Revisit prior lesson learnings about what a computer is
- ❖ Learn about code reuse and giving credit to other students' work
- ❖ Learn about pair programming and experience it during a programming activity
- ❖ Create an interactive Scratch project

Agenda

1. Review of "What Makes a Computer a Computer"	5 mins
2. Reusing Code	5 mins
3. Pair Programming	10 mins
4. Code Your Learning: Creating a Tech Museum	20 mins
5. Wrap Up and Reflection Points	10 mins

Preparation

- ❏ Computers with internet connection.
- ❏ Print student activity worksheet, one per student pair.

Resources & Links

- ❏ Starter project for student activity https://scratch.mit.edu/projects/258152039/
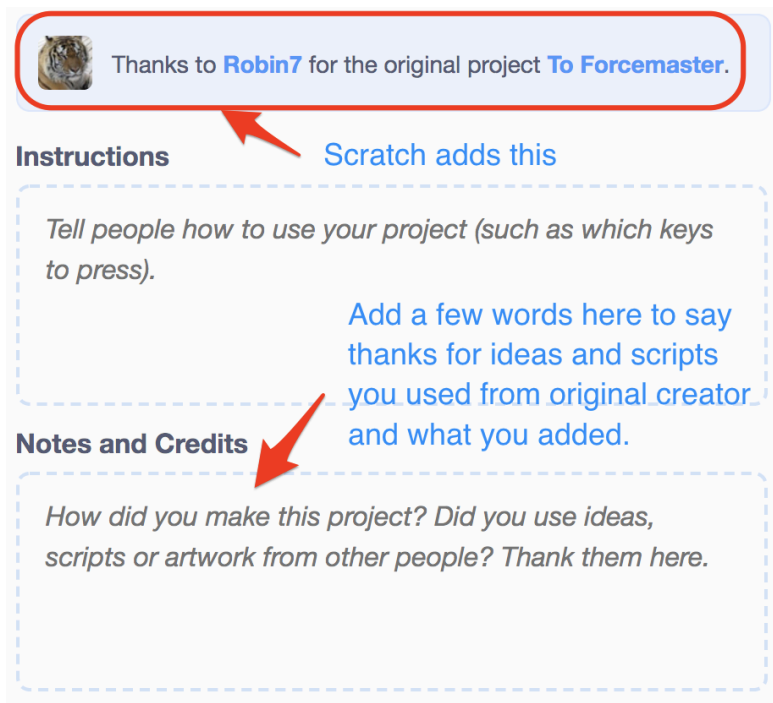
1. Review of What Makes a Computer a Computer

Review the 4 basic tasks performed by computers (Input information, process information, store information, output results or information).

2. Reusing Code and Giving Credit

Lead a class discussion and demonstration about code reuse and proper attribution:

- Computer scientists re-use existing code all the time. Instead of coding the same thing somebody else already coded, they look for examples or code they can re-use. This can save a lot of time when working on a project.

- When reusing code, it is important to make sure you have permission to use somebody else's code and that you give the other person credit and not pretend it is your code. You give credit to a project you are re-mixing in the **Notes and Credits** section of the project page.

- When you remix a project, Scratch automatically enters a short "Thanks" note.

Thanks to **Robin7** for the original project **To Forcemaster**.

Instructions   Scratch adds this

Tell people how to use your project (such as which keys to press).

Add a few words here to say thanks for ideas and scripts you used from original creator and what you added.

Notes and Credits

How did you make this project? Did you use ideas, scripts or artwork from other people? Thank them here.

2. Pair Programming

During the student activity, students will practice pair programming.

When debugging or when working on just about any project it is very helpful to have a partner to share ideas, ask questions, help figure out a problem together or help each other when one person is stuck.

In many software companies like Google, Apple, Facebook and many more, computer scientists use pair programming and team programming where several programmers work together on a project. It would not even be possible to get most projects done without working on a team.

Let's watch this video to learn how pair programming works:

https://tinyurl.com/kuwoond

Follow up questions:
- What does pair programming mean?
- What are the advantages of pair programming?

3. Student Activity: Code Your learning - Create a Tech Museum

This is a good activity to do in pairs and practice pair programming. You will have to call out driver/navigator switch times at even intervals.

In this activity, students will create a tech museum exhibit where they showcase different computer devices and parts. Each device is represented by a different sprite. When a user clicks on a device, it should say something about what it is. Each part should at least say if it is a computer or if it can be used to input information into a computer or if it can be used to output information from a computer. The first sprite is an example of what they could code for the other sprites.

Instructions to give to students:

1. Explain the project to students and that they will practice pair programming during this activity.
2. Distribute the student activity worksheet, one per student pair.

4. Wrap Up and Reflections

📝 Reflection Points
● Which sprites did you use in your project? ● Which new blocks did you use? ● What did you like about this project?

Student Activity: Code Your Learning - Create a Tech Museum

What to do:	Using/Details:
Remix and **save** with your project name	258152039
Give credit and thanks to the original creator	**Notes and Credits** *How did you make this project? Did you use ideas, scripts or artwork from other people? Thank them here.*
When a user clicks on a sprite, tell the user something about it. You can also have sprites talk to each other if they are related or have them do something fun.	I'm a monitor. I output computer results !!
The first sprite is an example of what to do. Use at least **5 more sprites**. Tip: Save a sprite before deleting it in case you change your mind.	

Credit: Images obtained from public domain.