Lesson 3.1: Starting My Own Band

Objectives

In this lesson, students will:
- ❖ Learn what loops are and practice programming with them
- ❖ Create a program that combines interactive sprites with sounds
- ❖ Practice programming a creative project by experimenting

Agenda

1. What are Loops	15 mins
2. Student Activity: Starting my Own Band	30 mins
3. Wrap Up and Reflections	5 mins

Preparation

- ❏ Computers connected to the internet
- ❏ View the example project which is an idea of what students are asked to create.
- ❏ View the inspirational video.

Resources & Links

- ❏ Example project: https://scratch.mit.edu/projects/381117154/

- ❏ Video for inspiration: https://vimeo.com/163472795

1. What are Loops ?

**Engage** students in a teacher led discussion and instruction:

Loops repeat things. Sometimes loops repeat things forever. An example would be the earth revolving around the sun or the tide of the ocean.

Sometimes loops repeat a set of instructions a certain number of times or when some condition is met. For example, keep on walking in a straight line until you hit a wall or take 10 steps.

To help with understanding of loops, it is useful to do a simple **role playing exercise**:

Ask a volunteer student to shake their right hand. Ask them to shake their right hand again. Ask them to do it one more time.
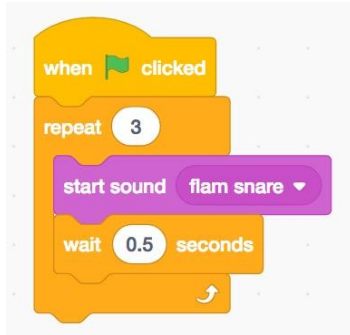
What is another way you could have asked them to do the same thing? Prompt students for answers.   (Solution: Shake your hand 3 times).
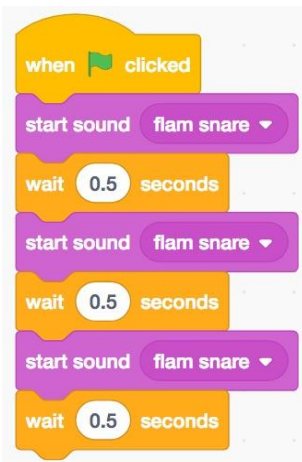
Display the following code and ask students for the repeating pattern.

Which instructions are repeated?

How can we rewrite the same code with just 3 instructions?

Same code with just 3 instructions.

There are many advantages to writing code that is shorter and does the same thing:
1) It's easier to read
2) If you want to change the wait time for example, you only have to change it once, not 3 times.
3) Your programs are shorter

In Scratch we have many loops that repeat instructions. **Explore** the Control category of Scratch with students.

2. Student Activity: Starting My Own Band

Play the following video for inspiration or optionally have students watch it on their own: https://vimeo.com/163472795

Instructions to give to students:

1. Build your own band by combining different sprites with sounds.   You could also have dancers dancing to the tune of your music.
2. Create at least 2 sprites and use at least 2 different sounds or instruments.
3. Practice using loops for repeating instructions.
4. Try making the project interactive for more fun. One way to make it interactive is to use Video Sensing. Watch the tutorial for video sensing if you need help.
5. Experiment using new instructions.
6. Remember to give your project a name and save it.

3. Wrap Up and Reflections

Reflection Points
● Which new blocks did you learn during the Starting a Band project? ● Which loops did you use? ● Did you try any new instructions?