Elective Virtual Learning

6th Grade Intro to Gateways

Circuit Playground: Let's Get Technical

April 16, 2020

7th & 8th Grade Multimedia
Lesson: April 16, 2020

Objective/Learning Target:
I can make my microcontroller interactive

Warm-Up #1

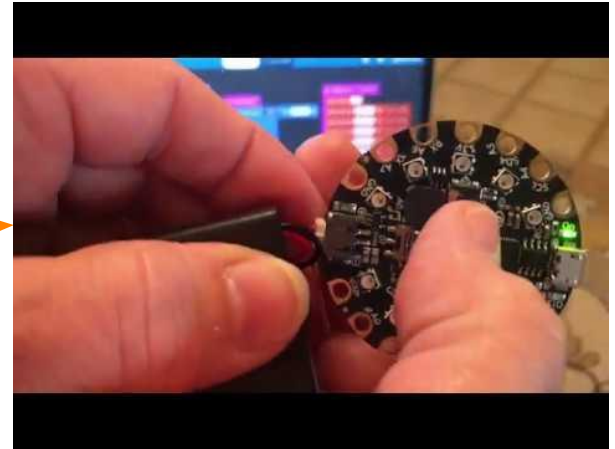**Warm up with some coding: go to** MakeCode
Open your Star Wars Project
- If you do not see it & you downloaded it from the previous lesson try this:

When your code is loaded:

Can you make your song repeat more than once?

Can you make it repeat only if you have another action?

Can you make it repeat forever?

Remember repeating something over & over is a **LOOP**

See the Star Wars project on my Circuit Playground

From Star Wars to other Galaxies...Let's try something new!

In the original **Star Trek** series, there are a couple of episodes that feature a severely disabled Captain Pike who is immobilized and can not speak.

He can only communicate via a little light on the front of his wheelchair. It blinks (and beeps) once for "**yes**", and twice for "**no**".We can create a similar yes/no functionality using our Circuit Playground, by using the buttons.

The speaker can provide the "BEEP", and the LEDs can act like the light.

The resulting program is pretty simple. **BUT** it is a good way to understand how many ideas come from the need to **solve a problem**. You learned about the design process in other lessons this year.

We will start in MAKECODE & code the solution to this problem then you will have a challenge on the next slide.

Ready to get started? BEEP!
Watch the Video:
Let's Get Communicating by BEEPING
Watch the video all the way through once.

Open Your Browser> Go To makecode.adafruit.com
Then go back through the video & be sure to do the step that I show.

You may need to pause the video to complete the steps being shown. You may also have to rewatch the video to get ALL the steps!.

Practice Challenge!

How can you apply the idea of solving a problem by coding a Circuit Playground to something in your life?
Think about a problem or need you have that might use sounds, lights, timing, music when shaking, a loud noise or pushing a button on the Circuit Playground.
Do you need a timer that is also visual?
A light to indicate something is going on?
Do you ride a bicycle that can signal when it turns?
Do you have to spend a certain amount of time reading or on homework each day?

Create a Program for the Circuit Playground

1. Ask anyone in your home if they have a problem.
2. Make a list of those things.
3. Can any of them be solved by using the block code in MakeCode?
   OR
Perhaps you have your own idea or problem to solve.
Once you have a PROBLEM, go to MAKECODE & explore the blocks to create a solution

Email your teacher if you have questions

Self-Assessment:

- Take a video or couple of images of your program or download your code to email to me.
- I will share a video demo of your code on my circuit playground if it works!

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