Session 2

Coding Concept: Loops and Conditionals

Objectives:
Students will be able to explain to a partner what loops are.
SWBAT explain to a partner what conditionals are.
SWBAT use loops and conditionals in code.org lessons and in App Lab.

Supplies:
- Laptop with slides/Projector
- Laptops for each participant

Icebreaker/Introductions
Introduce self, the program, the research aspect, hand out forms to sign.
- *"App Authors is a program that provides technology, tools, and skills so that young people can learn to code apps that represent yourselves… Because the world needs more diverse coders, starting with younger people like you guys!"*

Icebreaker: Tell us your name and one weird fact about you!

40 min: Unplugged
- **Loops**
  - *"Alright, we're going to talk just a little bit about loops. I bet you guys can figure these out pretty easily. Okay, I need a volunteer!"*
    - Ask volunteer to stand at the front of the room, then spin around in a circle. Spin around in a circle. Spin around in a circle. Spin around in a circle.
      - *"Can anyone think of an easier way for me to ask him/her to do the same action, but without having to say the same thing over and over?"*
        - "Spin around in a circle four times!"
    - Talk about loops on code.org with slide illustration (This is what a loop command will look like on code.org)
    - *"Can anyone come up with another command using loops?"*
- **Conditionals**
  - *"Has anyone ever said to you 'I'll do something… on one condition'? Maybe your mom takes you grocery shopping and says 'I'll only buy you ice cream on one condition… you have to be good the whole time.' That's a conditional! Conditionals are usually 'if' statements, so 'if you are good, you get ice cream'"*
  - *"Can anyone think of another example of a conditional?"*
  - **Conditionals with Dice**
    https://www.online-stopwatch.com/random/dice/full-screen/
    - IF I roll a 5, THEN spin around

- - ■ We can also have IF … ELSE statements. So IF I roll a 5, clap. Or ELSE, stomp your feet.
  - ○ **"Simon Says" Conditionals**
    - ■ Get everyone standing in an open space. Use conditionals to get students moving.
      - ● (IF you are wearing a green shirt, step forward. IF you are older than 8, spin around)
      - ● Throw in some if...else statements (IF you are 10 years old, step forward. ELSE step back)
      - ● Have children take turns being the leader and giving commands

1 hr 15 min: Practice on Code.org
- ● Loops
  - ○ Course 2, Stage 6 (7&8 if they finish one Loops lesson and one Conditionals lesson)
- ● Conditionals
  - ○ Course 2, Stage 13

5 min: Break/Snack Time

1 hr: Lab
- ● Play Lab
  - ○ Do a quick tutorial of Play Lab, and show how to use loops and conditionals