

Code Jumper



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What is your level of coding experience?

- Fist to 5
- Currently, what is your biggest worry/fear about engaging and teaching coding to your students?
- What are the blockers you see?



What are the Core Practices of Computer Science from k12cs.org



1. Fostering an inclusive computing culture
2. Collaborating around computing
3. Recognizing and defining computational problems
4. Developing and using abstractions
5. Creating computational artifacts
6. Testing and refining computational artifacts
7. Communicating about computing

Teach coding? Who, me?

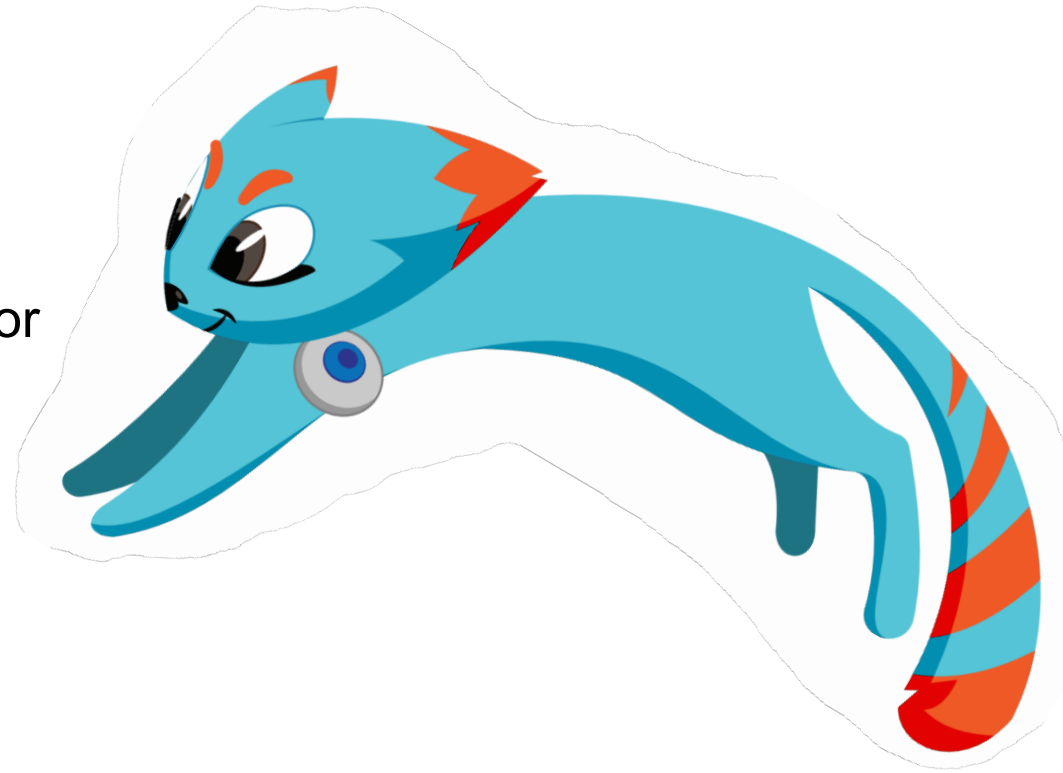
Identify and name early coding concepts

- Everyday sequences, brushing teeth
- Choices: if/then statements
- Patterns in daily life

The language of Computer Science – lay foundation for coding to be less intimidating

- Sequences
- Loops
- Algorithms

Code Jumper – apply knowledge to new scenarios

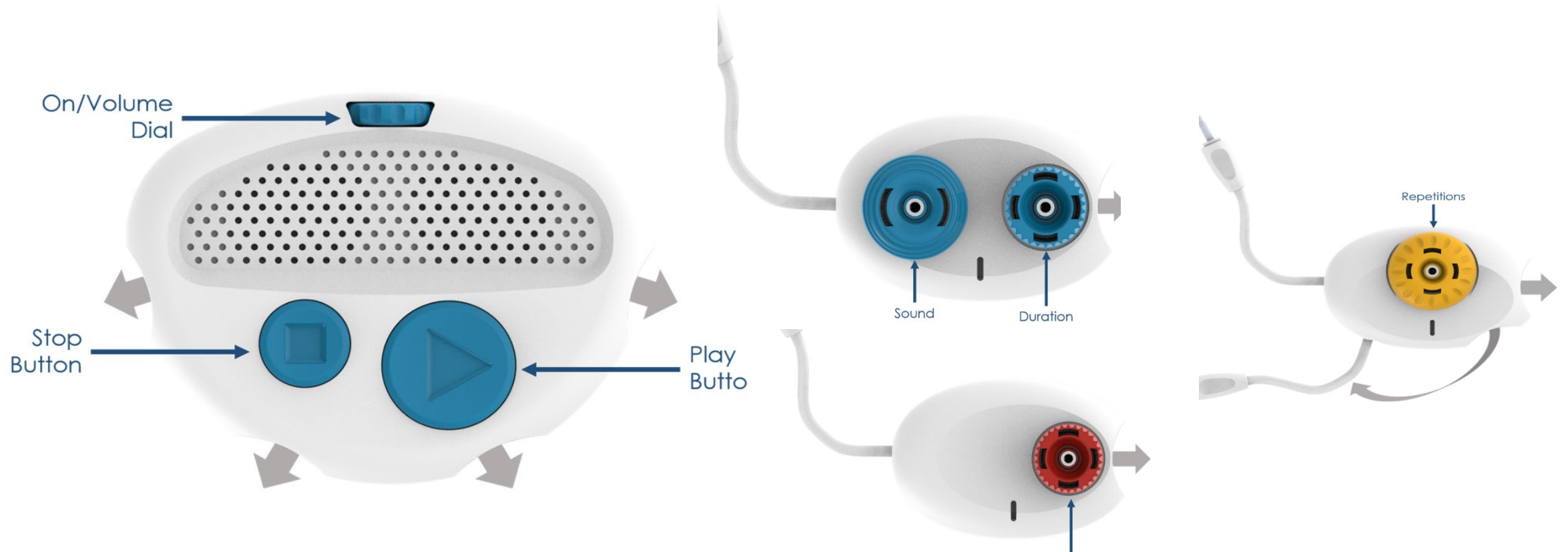


Discussion question:

How do you feel now about your understanding of what coding is now?



What is Code Jumper Anyway?



How is Code Jumper Inclusive?

- Multi-sensory
- Work in groups
- Students with ANY level of vision can engage with Code Jumper
- Other ideas?



Code Jumper Curriculum

Primary Lessons:

- Computer Systems
- Sequence and Algorithm
- Parameters
- Threads
- Debugging
- Loops
- Loops and Sequences
- Decomposition

Advanced Lessons:

- Constants
- Selection and Conditions
- Selection and Random
- Variables
- Counters
- Nested Loops
- Networks
- Topologies
- Protocols
- Binary Numbers
- Boolean Logic





Lesson Structure

Each lesson contains different types of activities:

- Unplugged Activity
- Guided Activity
- Exploration Activity

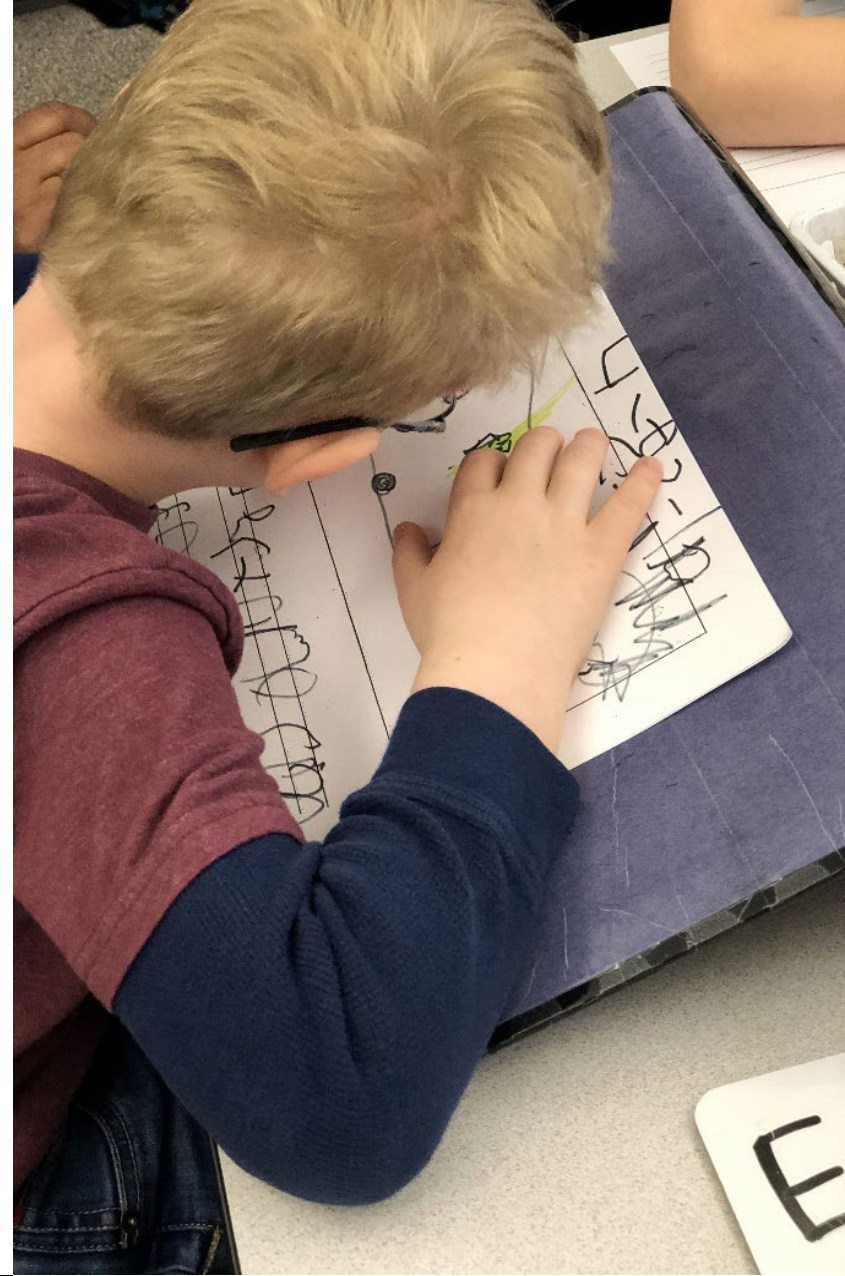
Content within each lesson

- Expected Outcomes
- Key Vocabulary
- Resources
- Objective
- Materials
- Instruction
- Closure

Computer Science Journal

Recording Student Work

- Take a photo of the physical Code Jumper program
- Write in a paper journal, computer document, notetaker
- Creating a drawing
- Embedded throughout the curriculum



Assessment



Primary Lesson Assessments

- Primary Assessment (Lessons 1-8) [PDF](#) [HTML](#)
- Primary Computer Science Journal Pages (Lessons 1-8) [PDF](#) [HTML](#)
- Primary Lesson Module Project Assessment Rubric [PDF](#) [HTML](#)

Advanced Lesson Assessments

- Advanced Assessments (Lessons 9-19) [PDF](#) [HTML](#)
- Advanced Lesson Project Assessment Rubric (Lessons 9-19) [PDF](#) [HTML](#)
- Advanced Computer Science Journal Pages (Lessons 9-19) [PDF](#) [HTML](#)

Unplugged Activities



Each lesson has an Unplugged Activity that teachers can use and modify to fit the specific needs of their classroom.

Each activity has been created to teach the concept of the specific lesson. The benefit of Unplugged Lessons is the opportunity to learn many of the abstract coding concepts in a concrete and tangible way.



Unplugged Activity



Lesson 10 Selection and Conditionals

Guided Activities



The instructions for the Guided Activity include step-by-step demonstration programs for teachers to create including language to use to explain the concepts. These activities also provide hands-on opportunities for students to create programs related to the topic of the lesson.





Exploration

The Exploration section of the lesson has less step-by-step instructions, and more opportunities for students to independently apply the concepts that they are learning in the Unplugged and Guided Activities.



Puzzling Out Code Jumper



Making Code Jumper your own

Make Code Jumper your own!

- Adding in Sound sets
- Adapting to your specific needs and students
- Brainstorm of new ways you can use it with you
- Creating new puzzles



Round table discussion

What is your comfort level now with computer science

What do you feel you need more of to feel confident to take students through Code Jumper?

What are you inspired to do now that you have a little more understanding of computer science and Code Jumper?



Thank you!

