CreositySpace
Connecting Kids to STEM Through Entrepreneurship

CreositySpace Educator Guides and curricular materials are designed to support a variety of implementation methods:

For the Classroom Teacher

- A variety of introduction tools to assess prior knowledge and create common experiences.
- Lesson sequencing including formative and summative assessments
- **Cross-curricular activities** to support ELA and math learning objectives.

For the STEM/Afterschool Teacher

- A variety of introduction tools to assess prior knowledge and create common experiences.
- **Flexible lesson plans** that can adjust to your instructional method and schedule
- **Leveled content** that supports students at different reading, writing, and language levels.

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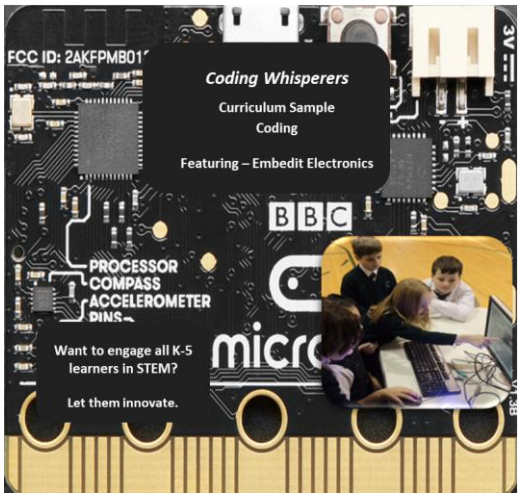


Coding Whisperers: Content Connections

Outlined below is the progression of learning objectives for the *Coding Whisperers* unit. The theme of the coding and physical computing invites you and your students on an introductory exploration of the strengths, and limitations, of computer programming.

Learning Progression

CONNECT students and their interests, the entrepreneurs and their technologies, and the relevant standards through the overarching phenomenon: *How do you create a video game?*

ENGAGE students with the **Robot Chef** introductory challenge, the **Introduction to Scratch** coding activity, and discussions about some of the innovative ways entrepreneurs are using computer programming to help communities around the world.

TRANSFORM students' self-confidence and proficiency as they build foundational knowledge about coding through the **Animation, Introduction to the BBC micro:bit,** and **Can You Hack Flappy Bird?** investigations.

Students apply and demonstrate their deeper understanding of computer programming through their **Design Your Own Video Game** design challenge and **Computing Solutions** summative challenge.

Essential Questions

Topical essential questions are used to help provide the "why" around each concept or standard students are learning. Also included are *big wonderings* to inspire deeper reflection and discussion.

Topical Essential Questions

- Are computers smart? What does it take to talk to a robot?
- How do I write instructions for a computer?
- What are the different pieces needed to design a video game?
- How do I design a video game?

Big Wonderings

- How can coding be used to increase help us accomplish more in a shorter amount of time as well as to give us more ways to have fun?
- How can I use coding to solve a problem in my life or community?
- Given Earth's limited resources, how can we use technology to accomplish more?

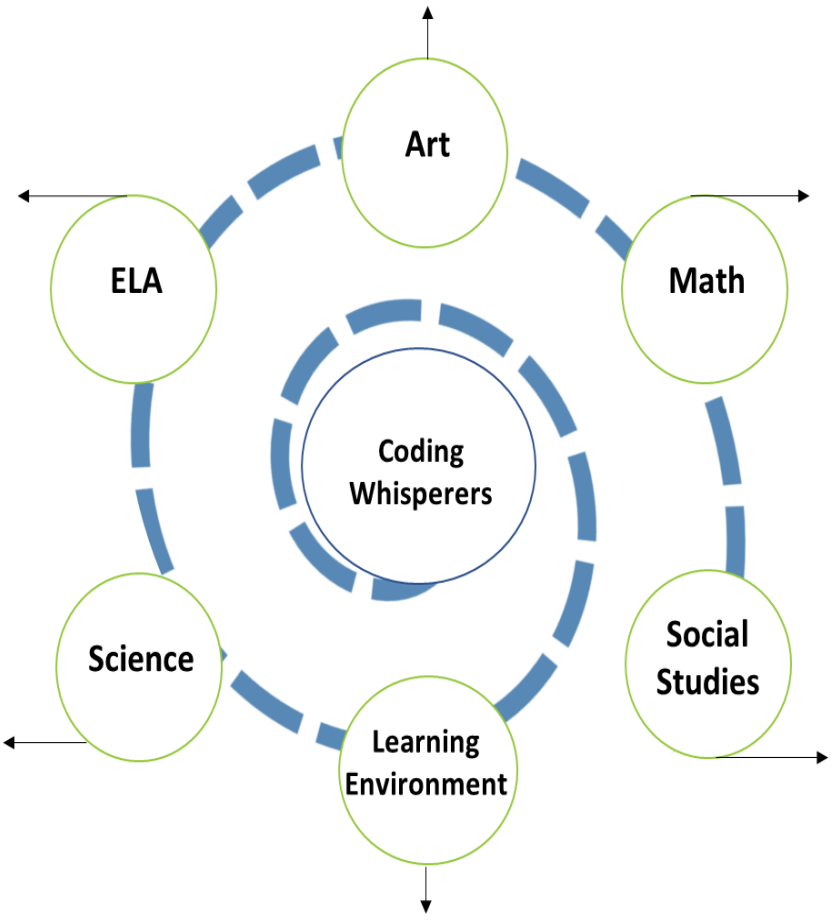
Cross-Curricular Integration

Cross-curricular integration is a great way to save time and increase engagement. **The key to success: Students must see how what they are learning connects to their interests.**

How can art, music, and sound improve computer programs? (Think about your animations and video games.) How can computer programming improve art and music.

How is coding like a language?

What are some similarities between writing a story and writing a computer program.



Computer programs rely on math to determine what to do next. Some examples include:

- How long to wait between commands?
- How many repeats of a command?
- How to adjust or move a character.

What is coding? Why is it important? What are some specific skills you need to develop to be a computer programmer?

How has our understanding of numbers, computers, and programming grown over time? How are people using coding and computer programming to improve things in their community? Can you think of a way you can use coding to solve a problem?

How do you design a video game? How can you use coding to solve a problem in my life or community?
How do YOU think we can answer or investigate those questions?