

Virtual Professional Development

# Text-Based Coding And Programming Basics

#### Overview

Coding clubs and robotics teams are making the transition from after-school enrichments to core curricular subject matter. This focus on computer science means many teachers are developing coding lesson plans for the first time. Which developer applications are student-friendly? What are the right learning outcomes to expect from students?

You will work directly in the Replit coding platform to develop fluency with computing concepts and experience the creativity inherent to solving computing challenges. The session concludes with you developing a coding lesson plan following the Use-Modify-Create (UMC) framework and considering how computer science standards can be applied to the development of comprehensive coding progressions.

#### **Learning Outcomes**

This 3-hour virtual professional development session is designed to support teachers as they

- Intentionally teach and reinforce programming concepts and skills to support students in solving real-world problems.
- Articulate clear learning outcomes for students' use of core programming concepts.

### Outline

- Make introductions and set expectations for the session
- Situate computing and programming within CS concepts, practices, and standards
- Identify and practice fundamental computing concepts in a text-based coding environment
- Utilize coding knowledge to create a polished virtual program
- Apply new learning to plan a coding lesson implementing the UMC pedagogical framework
- Consider practical implications of planning grade-level appropriate learning progressions

## What To Expect from Our Virtual PD

Each virtual PD session gives teachers the best of both worlds: the active and collaborative learning of traditional face-to-face sessions, with the convenience afforded by online offerings. A variety of formats and strategies engage participants in making the learning their own. For example, participants may share their thoughts and ideas in interactive polls, chats, or collaborative digital tools. Working in small groups or the 'alone zone', participants construct meaning from their shared experiences. Most importantly, they will always have time to consider – and even plan for – how they will take what they have learned back to their classroom.