Week 9 - Overview

This week will consist of solving several advanced missions. The students will be required to synthesize everything they have learned so far in the course.

There will also be a brief examination of the Java code available in the Code Pane. This serves as a lead-in for the students who want to do more advanced coding in Java in a future course.

Computer Science Skills

- Java coding

STEM Skills

- Synthesizing knowledge

CoderZ Techniques

- Java Code Pane
- Pen Feature

Implementation Thoughts

The Writing Your Name task (see the lesson summaries below) may sound simple, but solving it could easily take more than one class period. For time purposes, you may want students to just write out their initial.

You may develop the Java segment as far as you are comfortable with. If your students are interested, you should encourage them to try coding in the actual Java coding area on the right side of the CoderZ interface.

The mission of the final lesson will take more than one class period to complete. The students are combining several missions that they have solved over the entire course. They will have to go back and research the solutions from over the past 9 weeks which will serve to help them reflect on everything they have learned.

Lesson 1: Write Your Name

Students will:

- Write their name using the robot.
- Use the pen feature.
- Develop pseudo code.
- Use sensors for orientation.

Lesson 2: Java Code

Students will recognize several commands and blocks in Java including:

- Motor Blocks
- Loops
- Control Flow Statements
- Math functions
- Print statements
- Sensor Blocks

Lessons 3 to 5: The Final Mission

In this final lesson, students must program their robots to complete a difficult, multi-part obstacle course.

There should be a strong emphasis on planning. Students are encouraged to spend a lot of time on pseudocode and program design.