

# Unit 09: GridWorld Case Study

Content Area: **Mathematics**  
Course(s): **AP Comp Sci A**  
Time Period: **Semester 2**  
Length: **2 weeks**  
Status: **Published**

## Standards

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MA.K-12.4	Model with mathematics.
9-12.HS-ETS1-1.1	Asking Questions and Defining Problems
9-12.HS-ETS1-4.4.1	Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions— including energy, matter, and information flows— within and between systems at different scales.
TECH.K-12.1.6.a	choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.
TECH.K-12.1.6.c	communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.
TECH.K-12.1.7.c	contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

## Enduring Understanding

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Sometimes it is beneficial to embrace an existing codebase instead of starting from scratch.

Graphical representation can be helpful to model phenomena

## Essential Questions

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How can we learn about a complex codebase?

How can a programmer pull code from other sources?

## Knowledge and Skills

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Students will be able to study and extend a large-scale program

## Transfer Goals

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APIs and javadocs can be used to understand a body of code.

Testing environments allow coders to explore abstract ideas like inheritance.

## **Resources**

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[AP CS A Java Course — AP CSAwesome](#)

[Overview \(Java SE 11 & JDK 11\)](#)

[Albert.io](#)

[AP Classroom](#)

[Repl.it IDE](#)