Unit 04: Writing Classes

Content Area: **Mathematics**
Course(s): **AP Comp Sci A**
Time Period: **Semester 1**
Length: **2 weeks**
Status: **Published**

Standards

MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.8	Look for and express regularity in repeated reasoning.
TECH.K-12.1.4.a	know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
TECH.K-12.1.4.b	select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
TECH.K-12.1.6.a	choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

Enduring Understanding

A class is a blueprint from which an object is created. For example, an architect draws a blueprint for a model home and then a builder actually builds houses that follow that blueprint.

A class is not an object itself; the objects are created based upon the class.

Essential Questions

How do I write my own methods?

How are classes defined to act as blueprints for new objects?

Knowledge and Skills

- write a method header with a scope, return type, name and argument

- define classes that act like blueprints for new objects, made of variables and methods.

- explain encapsulation and Java modifiers.

- explore the details of method declarations.

- review method invocation and parameter passing.

- explain and use method overloading.

- divide complicated methods into simpler, supporting methods.

- describe relationships between objects.

- create graphics based objects. (optional)

Transfer Goals

Students will be able to identify and build a class to represent an object.

Students will be able to break a compoent down into the difference between a state and behavior.

Resources

AP CS A Java Course — AP CSAwesome

Overview (Java SE 11 & JDK 11)

Albert.io

AP Classroom

Repl.it IDE