

## Moon Area School District Curriculum Map

**Course: Java 2**

**Grade Level: 9-12**

**Content Area: Computer Science**

**Frequency: Semester Course**

### Big Ideas

1. Apply Java coding to Greenfoot IDE
2. Creating student generated Objects, Classes, and Methods
3. Build application that have purpose, are efficient, and bug free.
4. Adding Keyboard and Mouse controls
5. Adding and manipulating graphics and sound effects.
6. Final large-scale application of all course skills taught.

### Essential Questions

7. How does the lessons in BlueJ (Java 1) transfer into Greenfoot(Java 2)?
8. How is object-oriented programming different from text based and how does it effect how we design code?
9. What background information is necessary to build quality applications?
10. How do you measure efficiency?
11. How do you determine if a graphic or sound effect can be used in greenfoot?
12. How does copyright apply when it comes to application design?

### Primary Resource(s) & Technology:

BlueJ Textbook, BlueJ programming IDE,  
Microsoft Teams, Promethean Boards, Student Laptops/Computer Lab

### Pennsylvania and/or focus standards referenced at:

<https://www.csteachers.org/Page/standards> - CSTA Standards Used

Big Ideas/ EQs	Focus Standard(s)	Assessed Competencies (Key content and skills)	Timeline
1, 2, 4 7,8	3A-AP-13 3A-AP-14 3A-AP-18 3B-AP-12 3B-AP-16	<ul style="list-style-type: none"><li>• Introduction of Greenfoot IDE</li><li>• Creating objects, classes, and Methods</li><li>• Using Greenfoot built in classes</li><li>• Creating object interactions</li><li>• Adding keyboard controls</li></ul>	Weeks 1-7
2, 4, 5 8, 11, 12	3A-AP-15 3B-AP-11 3B-AP-13 3B-AP-12	<ul style="list-style-type: none"><li>• Adding mouse controls</li><li>• Adding your own graphics</li><li>• Adding your own sound effects</li></ul>	Weeks 8-10

		<ul style="list-style-type: none"> <li>Finding royalty free sound effects and graphics</li> </ul>	
2, 3, 4, 5 8, 9, 10, 11,12	3A-AP-13 3A-AP-15 3B-AP-10 3B-AP-11 3B-AP-12 3B-AP-14	<ul style="list-style-type: none"> <li>Small project with all skills acquired to this point</li> </ul>	Week 11
6,7,8 13,14	3A-AP-13 3A-AP-14 3A-AP-17 3B-AP-11 3B-AP-12 3B-AP-16	<ul style="list-style-type: none"> <li>Advanced class and method creation</li> <li>Use of static items to connect classes</li> <li>Creating objects to demonstrate class interactions.</li> </ul>	Week 12-14
2, 3, 4, 5 8, 9, 10, 11,12	3A-AP-13 3B-AP-10 3B-AP-11 3B-AP-12 3B-AP-14	<ul style="list-style-type: none"> <li>Large project with all skills acquired through the course</li> </ul>	Week 15-18