AP Computer Science A Unit: Java Game Design with Processing

Lesson Title	**G6: HANDLING USER INPUT**
Objectives	1. SWBAT execute starter code with Processing 2. SWBAT to add custom 2D Shape elements 3. SWBAT use the official Processing online documentation
Standards	**9-12.CT.9** Systematically test and refine programs using a range of test cases, based on anticipating common errors and user behavior. **9-12.CT.10** Collaboratively design and develop a program or computational artifact for a specific audience and create documentation outlining implementation features to inform collaborators and users.
Materials	● Student Computer (Setup with VSCode + Git) ● Digital Materials: ○ Instruction Slides/Notes ○ Project Reference Sheet
Agenda	1. **WarmUp** a. Prompt students: i. Run your Starter Code ii. Edit line 79 in the code from “key” to “keyCode” iii. “What is different?” b. Elicit that key shows a character in the console, but keyCode shows an integer. 2. **Game Structure Decision** a. Teacher shows different overall game structures for: i. Tile-Based ii. Pixel-Based Platformer iii. Other Pixel-Based b. Students are encouraged to share examples of these types of games they have seen. c. Teacher informs students that the starter code has additional support for tile-based and platformer games, but students are not restricted to these types. 3. **Inputs in Processing Mini-Lecture** a. Teacher guides students through the different types of inputs into a game and how the Processing language helps them. b. Highlight the difference between variables that are ready to use (like mouseX) and methods that can be implemented (like mouseClicked()) 4. **User Input Implementation Activity** a. Students implement one (or more!) of the 9 Processing input methods into their game. b. For students who aren’t sure which one to implement, encourage them to use either:

	i. mouseClicked() to make a character appear on the screen OR ii. keyPressed() to make an WASD direction keys for their character
Assessment	● Push updated code to Github repo ● Teacher walks around checking throughout each step