Instructional Scenario
The Gaming Computer Challenge

Course/Duty Area: Advanced Computer Information Systems/Maintaining, Managing, and Troubleshooting Systems

Scenario:
A high school junior saves up to build their first gaming computer, but they encounter issues like overheating, slow game load times, and connectivity lags during online play. Students are tasked with diagnosing the problems, proposing solutions, and creating a guide to help other gamers maintain their systems.

Big Question:

How can effective maintenance and troubleshooting practices enhance the performance and longevity of computer systems?

Focused Questions:

- What are common performance issues in gaming systems, and what causes them?
- How can hardware components (e.g., CPU, GPU, cooling systems) be maintained effectively?
- What tools are used to monitor system performance and troubleshoot errors?
- How can network settings be optimized for better online gaming?

Student Project or Outcome:

Students will create a Gaming System Optimization Guide and demonstrate troubleshooting techniques for one simulated issue.

Project-Based Assessment:

- **Optimization Guide (40%):** Includes tips for maintaining gaming PCs, troubleshooting overheating, and enhancing network connectivity
- **Troubleshooting Demonstration (30%):** Students perform a live demo resolving an issue, such as cleaning a CPU fan or reconfiguring network settings.
- **Peer Feedback (20%):** Students evaluate each other's guides and demonstrations using a rubric.
- **Reflection (10%):** Students write about the challenges faced and solutions discovered during the project.

Teacher Resources:

- **Simulation Software:** Tools like HWMonitor or CPU-Z for analyzing performance
- **Video Tutorials:** Maintenance tips for gaming PCs, such as cleaning fans and optimizing software
- **Case Studies:** Real-world examples of gaming system issues
- **Mock Scenarios:** Predefined issues for students to solve

Scenario submitted by Kimberly Grant, Warwick High School, Newport News Public Schools.