Instructional Scenario
Trouble in the Computer Lab

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

Scenario:
The school's computer lab experiences network slowdowns, printers going offline, and computers freezing during class. The IT team asks students to investigate the issues and create a troubleshooting and maintenance plan for the lab.

Big Question:
How can managing and troubleshooting systems help maintain a reliable and efficient network in shared environments?

Focused Questions:

- What are some common network and hardware issues in computer labs, and how can they be addressed?
- What routine tasks can help maintain a stable network environment?
- How can users document troubleshooting steps for future reference?
- What tools and techniques are useful for diagnosing network and system errors?

Student Project or Outcome:

Students will develop a Lab Troubleshooting and Maintenance Plan and simulate fixing one network or system problem.

Project-Based Assessment:

- **Troubleshooting Plan (40%):** A detailed document outlining steps to address recurring issues and preventative maintenance
- **Simulation Activity (30%):** Students role-play resolving a lab issue, such as fixing a network connection or resetting a printer.
- **Documentation (20%):** Students create a troubleshooting log that includes the problem, solution, and lessons learned.
- **Presentation (10%):** Teams present their plan and demonstrate their solution to peers.

Teacher Resources:

- **Diagnostic Tools:** Access to software like PingPlotter for network testing and basic printer diagnostic tools
- **Instructional Videos:** Tutorials on fixing common network issues and maintaining printers
- **Templates:** Logs for troubleshooting and maintenance schedules
- **Mock Lab Environment:** Pre-set scenarios with broken connections or error messages

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