Geek Squad: Mission Tech Rescue!

Course Name: Computer Science
Unit/Theme: Troubleshooting
Time Frame (in minutes): 80 min
Grade Level: 10th

CONTENT AND SKILLS
Learning Objectives: • Students will develop and communicate multi-step troubleshooting strategies for computing devices. • Students will explain the interaction between application software, system software, and hardware in computing systems. • Students will practice collaboration, problem-solving, and communication skills while working in teams.
Essential Questions: • How do different levels of a computer system interact? • What strategies can be used to troubleshoot hardware and software issues? • How can teamwork and communication aid in solving technical problems?
Students I can statements . . . • I can analyze and explain how application software, system software, and hardware interact. • I can identify and implement troubleshooting steps to fix computing issues. • I can communicate my troubleshooting steps clearly to others.
How will you meet the needs of SWD and ELL/MLL students? • **Provide visual aids and step-by-step guides.** • **Use peer support and group collaboration.** • **Offer sentence starters and structured troubleshooting templates.**
Content Standards List all standard indicators (do not need standard statement)
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NYS Computer Science and Digital Fluency Standards List all standards that authentically align
• 9-12.NSD.3: Develop and communicate multi-step troubleshooting strategies

others can use to identify and fix problems with computing devices and their components.
- 9-12.NSD.2: Explain the levels of interaction existing between the application software, system software, and hardware of a computing system.

NYS SEL BENCHMARKS
https://www.p12.nysed.gov/sss/documents/SELBenchmarks2022.pdf

- 1C.4a: Develop long-term goals and sequential action steps.
- 2C.3b: Demonstrate cooperation and teamwork to promote group well-being and collective efficacy.
- 3A.4a: Demonstrate personal responsibility by making decisions that support the well-being of self and others.

INSTRUCTIONAL PLAN
List the steps of the lesson, including instructions for the students including how they will construct and practice content knowledge.

Add Standard Indicators next to activity that aligns and highlight them.

Engagement (10 minutes) - Introduction to "Geek Squad Mission"

- Hook: Students are introduced to their mission: They are now part of a "Geek Squad" team helping a fictional company solve its urgent technical issues.
- Discussion: "What are common computer issues you've faced? How did you fix them?"
- Share “How Computers Work” video showing how hardware, system software, and application software interact.

Exploration (15 minutes) - Understanding Computer System Interactions

- Mini-lecture with diagrams showing the relationships between hardware, system software, and application software. 9-12.NSD.2 **Google Slideshow Below**
- Group activity: Teams match descriptions of computing issues with the correct level (hardware, system software, or application software).9-12.NSD.3

Explanation (20 minutes) - Troubleshooting Strategies

- Introduce multi-step troubleshooting methods (e.g., identifying the problem, testing hypotheses, implementing solutions).9-12.NSD.3

- Teams analyze real-world troubleshooting scenarios and outline step-by-step solutions.

Elaboration (25 minutes) - Geek Squad Challenge 9-12.NSD.2, 9-12.NSD.3

- Each team receives a "help desk ticket" describing a computing issue (e.g., "Computer won't connect to Wi-Fi" or "Software crashes on startup").
- Teams work together to troubleshoot and document their solution.
- Teams present their solutions, explaining their thought process and troubleshooting steps.

Evaluation (10 minutes) - Reflection & Assessment

- Exit Ticket: Students write down one troubleshooting strategy they learned and one challenge they faced.
- Class discussion: "How did teamwork help solve problems?"

FUTURE READY COMPETENCIES

Check off each competency that students will interact with during this lesson.

- ☑ Collaboration
- ☑ Communication
- ☑ Critical Thinking/Problem Solving
- ☑ Creativity & Innovation

MATERIALS / RESOURCES

Add additional resources needed for this lesson such as instructional technology templates, images, videos, etc. ***Including Instructional Technology Tools***

- Computer system diagrams
- How Computers Work
- Troubleshooting flowcharts-Generate in Canva or Google Draw
- "Help desk tickets" with different computing issues
- Inside-Your-Computer-Understanding-the-Layers Presentations
- Whiteboards or digital collaboration tools