Subject #8: Problem Solving

Project #77: We Are All Problem-solvers. Have students try to solve their own problems before asking for help. Make this possible by teaching students the fifteen tech problems that cause 80% of the grief (i.e., my monitor doesn't work, my screen is frozen, etc.). This will make students feel more independent, more competent and allow you to conduct class much more efficiently and effectively

Higher-order thinking skills	Technology-specific:	Subject Area/ Learning-specific	Standard: NETS-S
Interpreting info, generalizing from facts	*Problem-solving, keyboard shortcuts, computer basics*	*Problem-solving, critical thinking*	*4.a, 6.a*

Grade level: K-8
Prior knowledge: Computer Basics; Project 81: *Problem-solving Board* (grades 3-5)
Time required: minutes
Software required: None
Vocabulary: Socratic Method, inquirers, keyboard shortcuts

Lesson Description

- There are giga-thousands of computer programs—too many to teach. A tech teacher who sets out to teach *programs* will fail. His/her task is to guide students in evaluating knowledge and applying it to new situations, show them how to draw conclusions about the unknown. The result is life-long learners who find passion in the exploration of the unknown. High expectations, but the minimum required to run a tech lab.

Computer Activity

- Teach students as young as kindergarten how to become inquirers who solve their own problems. When they're stuck, ask them if they've seen something similar. What would I—as the teacher—do to solve their problem? Ask the class for help.
- Don't do for them. Throughout the class, seamlessly woven into the fabric of every project, show them problem-solving skills. Keyboard shortcuts. Two-three step solutions. How to think through what could be causing a problem.

- Explain. Make them try. It takes more time at first, and less as the weeks pass. And they're proud of their new-found abilities.
- Address common class problems as a group.
- Provide several solutions for problems—a tool, keyboard shortcut, menu selection. Students decide which makes the most sense. Often, in my classes, it's a keyboard shortcut.
- At the end of class, especially for younger students, give time to visit a favorite website/program if they remember how to get there. It's amazing how many will remember the steps if they want the prize.

Extensions

- Try this website for game-themed problem-solving skills:
  Escape from Knab
  www.escapefromknab.com/

Troubleshooting Tips

- *I can't remember how we did it (Take a deep breath, think hard. I can give you clues. Maybe that'll help.)*

Most Common Problems Students Face in Tech

	Problem	Solution
1.	Can't exit a program	Alt+F4
2.	Can't find Bold, *Italic*, <u>Underline</u>	Use Ctrl+B, Ctrl+I, Ctrl+U
3.	Computer/monitor/headphones don't' work	Check to see if they're on (CPU power and monitor power) or plugged in
4.	Document disappeared	Undo button (Ctrl+Z)
5.	Double click doesn't work	Push enter
6.	Menu command is grey	Press escape 4 times and try again
7.	Program disappeared	Check the taskbar
8.	Screen is frozen	Clear a dialogue box Press Escape four times
9.	Desktop Shortcut disappeared	Go to Start button-All programs. Select the program.
10.	Start button disappeared	Use Windows button
11.	Toolbar is missing in a program	Right click toolbar area—select it
12.	Toolbar is missing on the internet	Push F11
13.	Website words are too small.	Push Ctrl+ to zoom in; Ctrl- to zoom out.
14	What's today's date	Hover over clock Shift+Alt+D

Can't find the tool? Solve the problem with a shortkey:

Maximize window   Double click title bar

Quick Exit   Alt+F4

Date and Time   Shift+Alt+D = Date
Shift+Alt+T = Time

Show taskbar   WK (Windows key)

Shows desktop   WK+M

Ctrl Key Combinations

CTRL+C: Copy   CTRL+P: Print

CTRL+X: Cut   CTRL+K: Add hyperlink

CTRL+V: Paste   CTRL+E: Center align

CTRL+Z: Undo   CTRL+L: Left align

CTRL+B: Bold   CTRL+R: Right align

CTRL+U: Underline   CTRL+ : Zoom in Internet

CTRL+I: Italic   CTRL- : Zoom out Internet

Fun Keyboard Shortcuts:

‹ + = + › =   ⇔

— + ›   =   →

: +)   =   ☺

<u>*Notes*</u>