Name_____ Date_____

Troubleshooting Basics
Worksheet

1. You see four flashlights that are not working. Here are some ways to troubleshoot: 1. Replace parts by using the inventory. 2. Change the polarity. 3. Repair broken parts using the Workbench. Let's move on to the next question so we can fix these flashlights!

2. Troubleshoot until Flashlight 1 is lit. What did you change to make the flashlight work? Take a photo.

3. Troubleshoot until Flashlight 2 is lit. What did you change to make the flashlight work? Take a photo.

4. Troubleshoot until Flashlight 3 is lit. What did you change to make the flashlight work? Take a photo.

5. Troubleshoot until Flashlight 4 is lit. What did you change to make the flashlight work? Take a photo.

6. Did you use the same troubleshooting method for every flashlight? Why or why not?

Discuss careers affiliated with troubleshooting electrical devices and systems(examples follow).

Electrical Engineer: Design, develop, and test electrical systems and components, including circuits, generators, and power distribution systems.

Power Systems Engineer: Design and maintain large-scale electrical power systems, including generation, transmission, and distribution infrastructure.

Electronics Engineer: Design and develop electronic circuits and devices, such as integrated circuits, sensors, and electronic control systems.

Electrician: Install, maintain, and repair electrical systems, including wiring, circuits, and electrical equipment in residential, commercial, or industrial settings.

Circuit Design Engineer: Develop and design electronic circuits for specific applications, ensuring functionality, reliability, and efficiency.

Electric Power Researcher: Conduct research on electric power systems, energy storage, and grid optimization to advance the understanding and implementation of efficient energy flow.

Transmission and Distribution Engineer: Plan and design the transmission and distribution infrastructure for electricity, ensuring reliable and efficient energy flow.

Energy Storage Engineer: Develop and implement energy storage solutions, such as batteries and capacitors, to improve the stability and reliability of electrical systems.

Power Quality Engineer: Address issues related to power quality, including voltage fluctuations, harmonics, and disruptions, to ensure stable and reliable energy flow.

LED Electronics Technician: Test, troubleshoot, and repair LED electronic circuits and components, ensuring the functionality and reliability of LED systems.

LED Systems Integration Engineer: Integrate LED components into larger systems, such as automotive lighting or display technologies, ensuring seamless operation and compatibility.

Semiconductor Engineer: Work on the design and manufacturing of semiconductor devices, including LEDs, to optimize their performance and reliability.