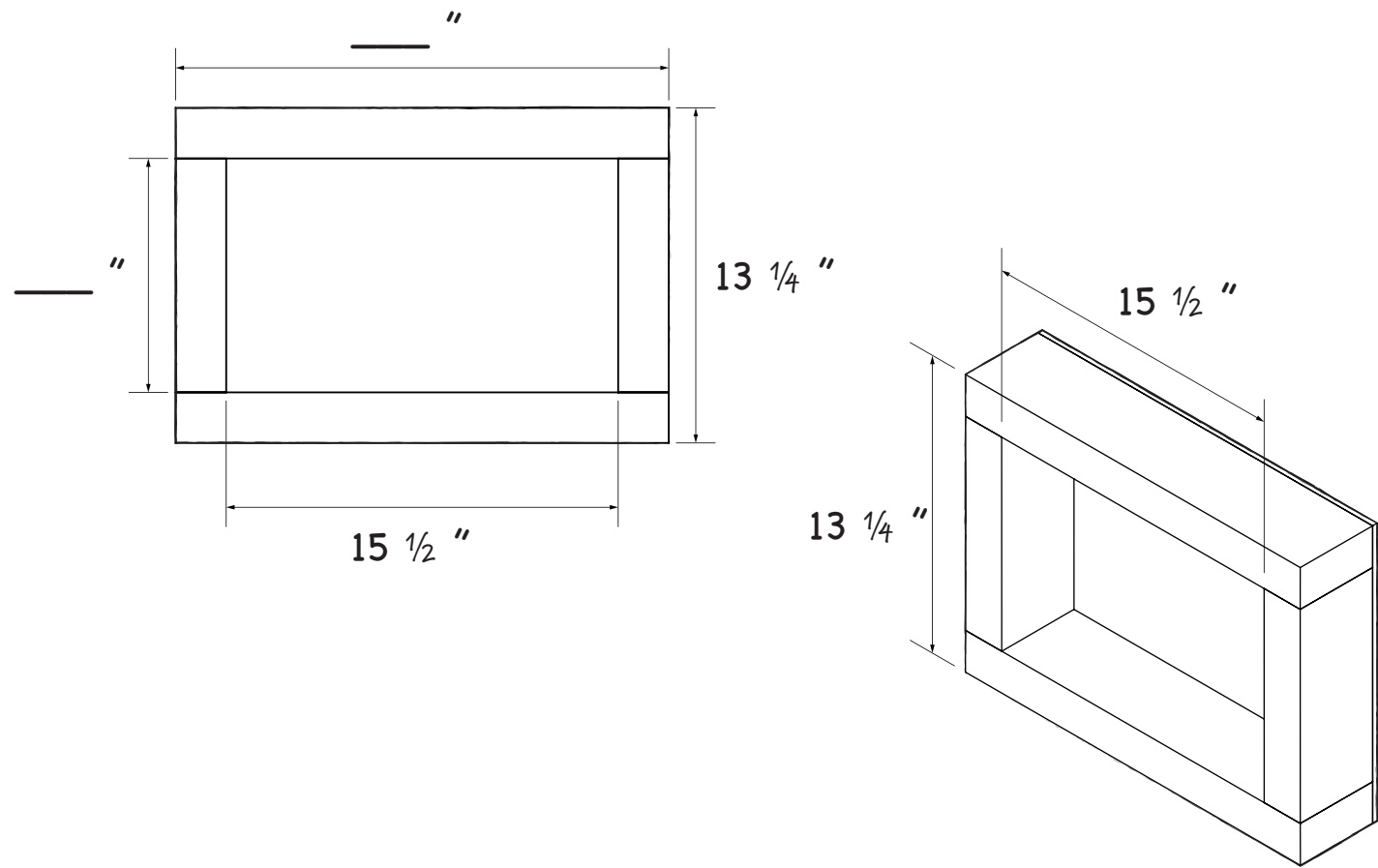
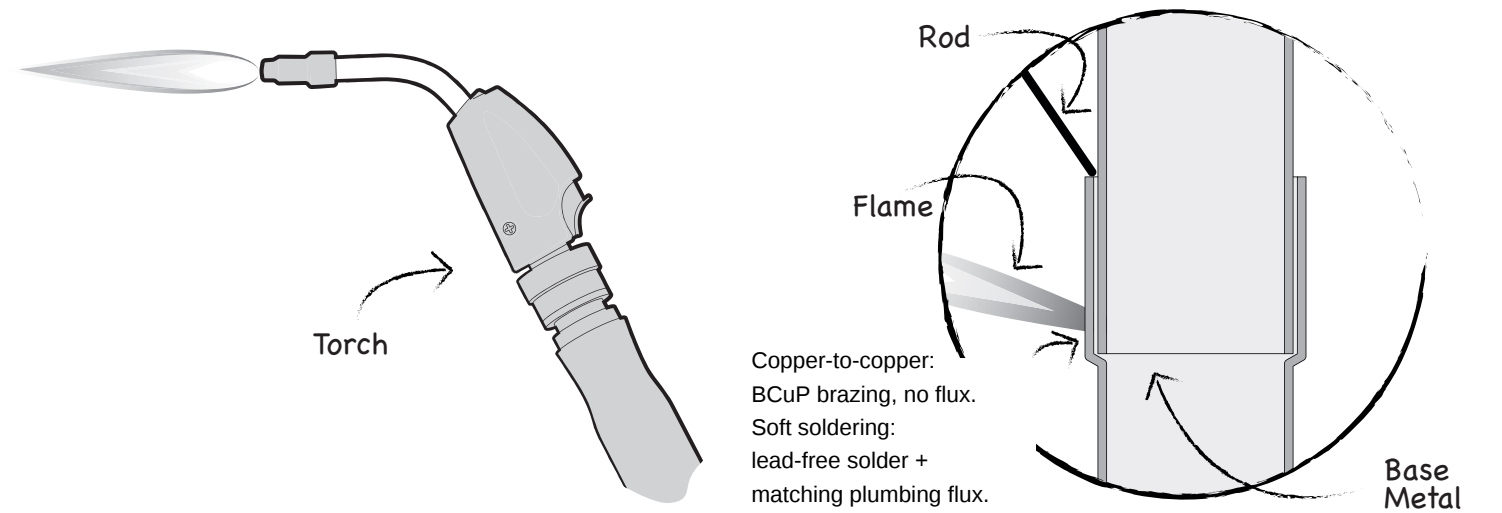
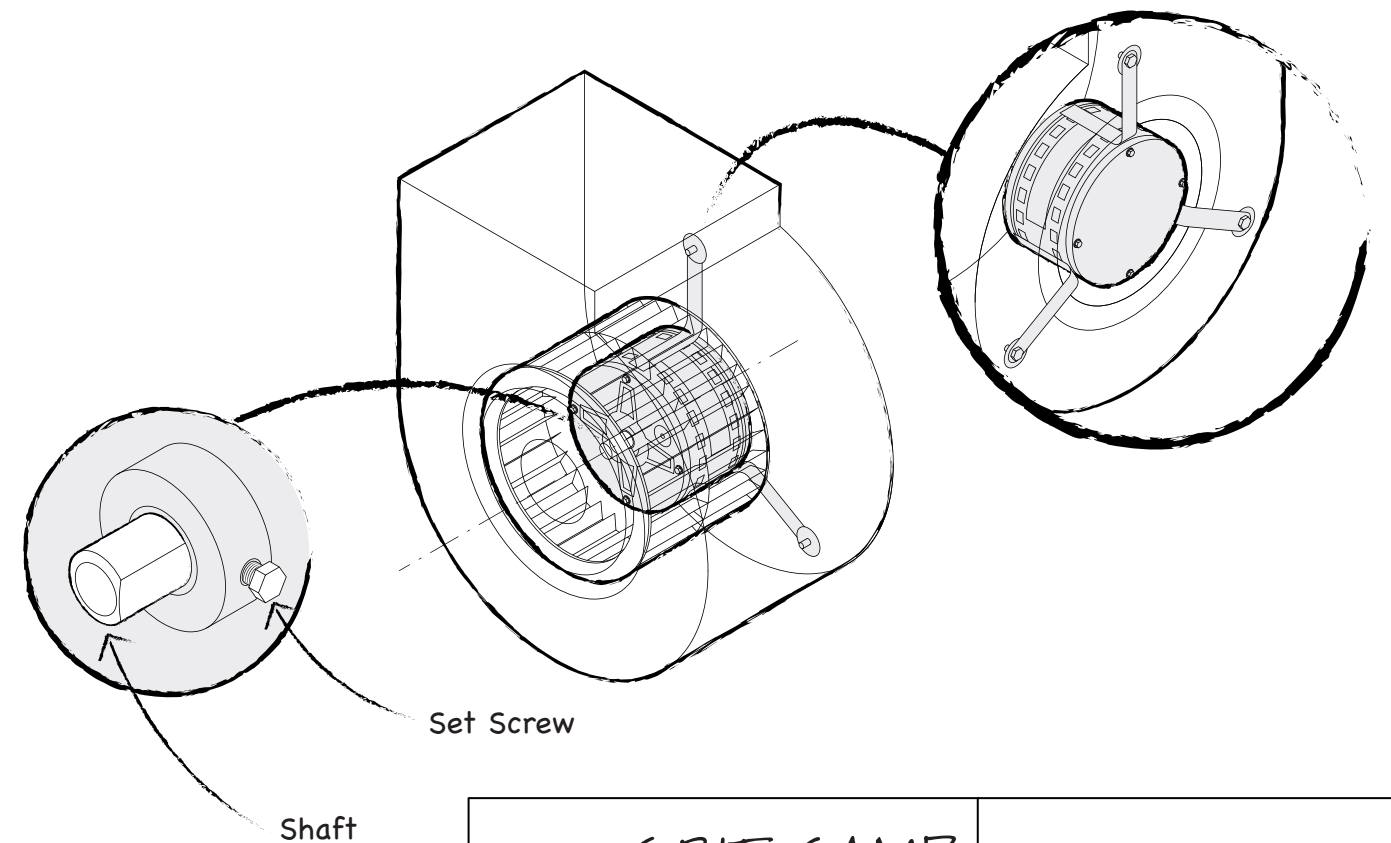
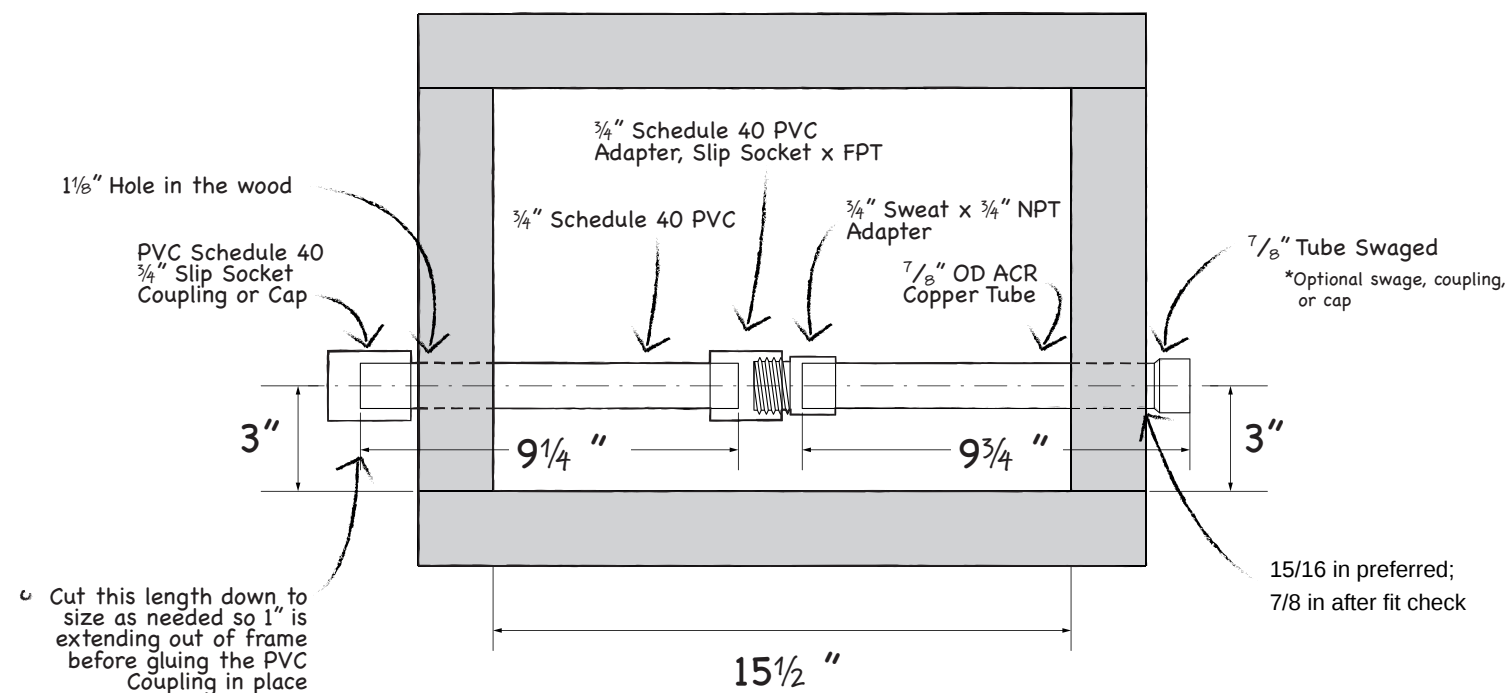


Gloves and eye protection;
for brazing, minimum shade 3
(or higher if required).

Know where Fire extinguishers,
water buckets, and wet rags are



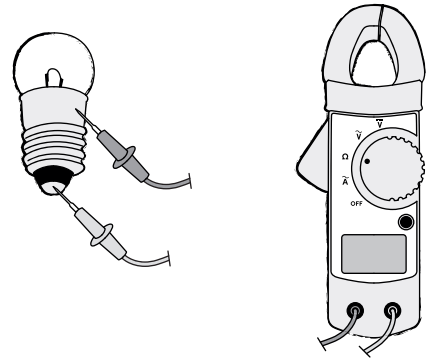
An experienced Mentor handles oxy-acetylene ignition and shutdown. Follow the selected method in the Torch Guide.



GRIT CAMP
BLUEPRINT

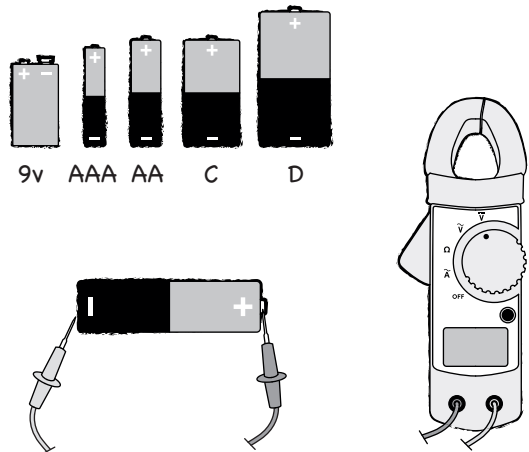
REV. SEPTEMBER 17, 2026

1. Light Bulb Resistance



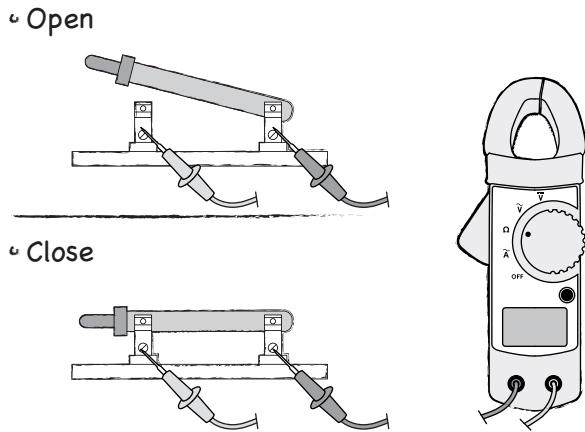
- What is the resistance of a **good** light bulb? _____ Ω
- What is the resistance of a **bad** light bulb? _____ Ω

2. Battery Voltage Check



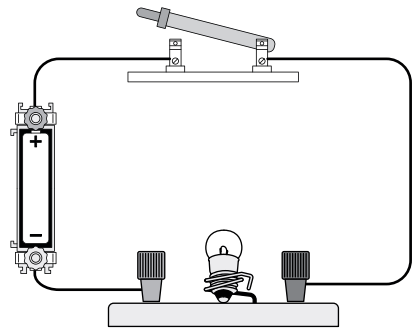
- What is the rated voltage of an AA battery? _____ V
- Highest voltage recorded _____
- Lowest voltage recorded _____

3. Switch Resistance



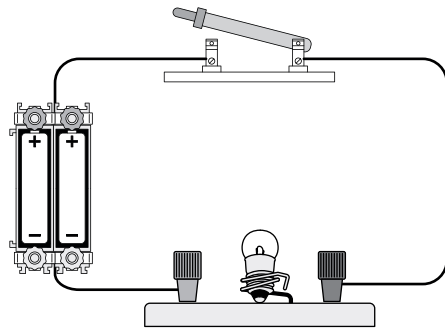
- Resistance when switch is open: _____ Ω
- Resistance when switch is closed: _____ Ω

4. Basic Circuit
Single Battery + Bulb + Switch



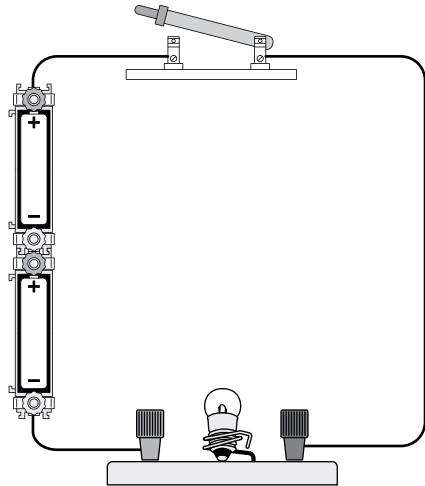
- Voltage across:
The battery: Open _____ V Closed _____ V
Light Bulb: Open _____ V Closed _____ V
Switch: Open _____ V Closed _____ V

5. Adding a Battery in Parallel



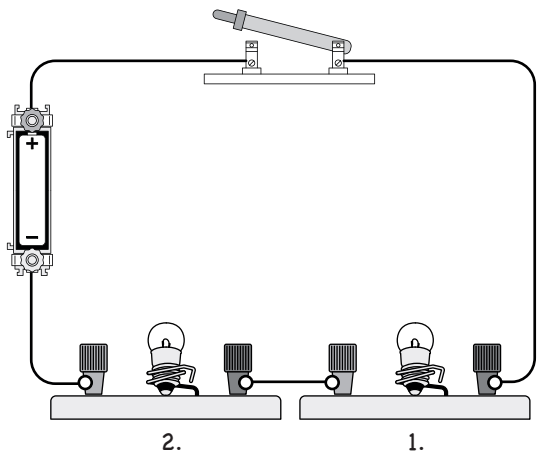
- Voltage across:
The battery bank: Open _____ V Closed _____ V
Light Bulb: Open _____ V Closed _____ V
Switch: Open _____ V Closed _____ V

6. Adding a Battery in Series



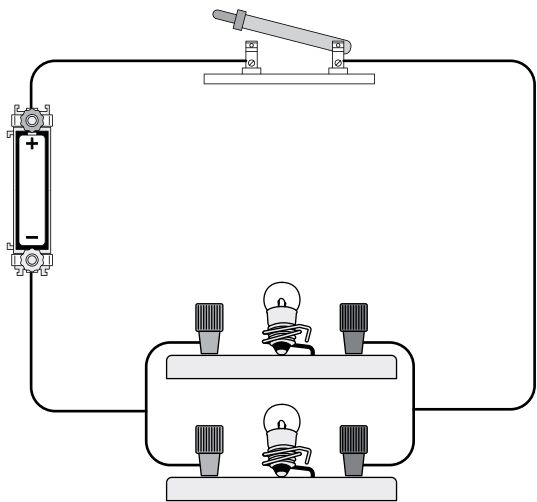
- Voltage across:
The battery: Open _____ V Closed _____ V
Light Bulb: Open _____ V Closed _____ V
Switch: Open _____ V Closed _____ V

7. Two Bulbs in Series



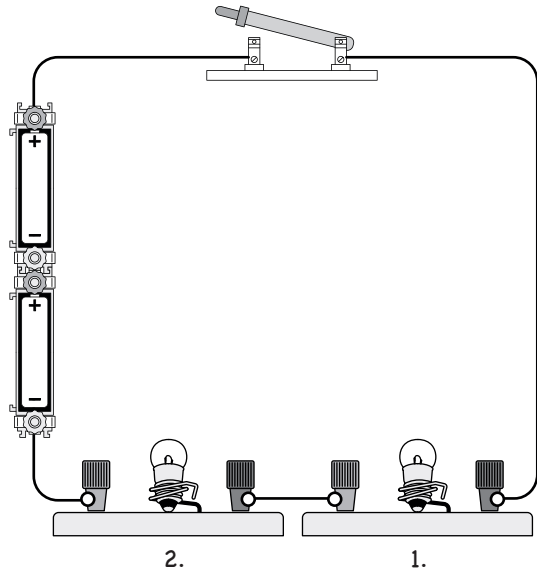
- Voltage across:
The battery: Open _____ Closed _____
each Bulb: Open _____ Closed _____
both Bulbs together: Open _____ Closed _____
Switch: Open _____ Closed _____

8. Two Bulbs in Parallel



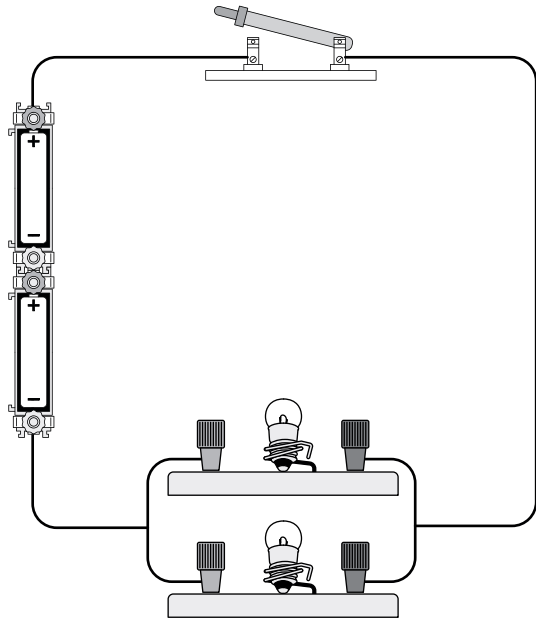
- Voltage across:
The battery: Open _____ Closed _____
each Bulb: Open _____ Closed _____
both Bulbs (combined): Open _____ Closed _____
Switch: Open _____ Closed _____

9. Two Bulbs in Series - Battery in series



- Voltage across:
The battery: Open _____ Closed _____
each Bulb: Open _____ Closed _____
both Bulbs together: Open _____ Closed _____
Switch: Open _____ Closed _____

10. Two Bulbs in Parallel - Battery in series



- Voltage across:
The battery: Open _____ Closed _____
each Bulb: Open _____ Closed _____
both Bulbs (combined): Open _____ Closed _____
Switch: Open _____ Closed _____