

ELECTRONICS BADGE



How to earn your badge...

1. Identify a number of common electronic components that are shown to you. Explain, in simple terms, the functions they perform in electronic circuits
2. Describe the systems used for marking components with their values. Demonstrate by identifying the values of resistors and capacitors by their markings. Explain the importance of the rating of a component
3. Show that you know the symbols used to represent common components in circuit diagrams. Show how to identify the polarity of a diode and a specific pin number on an integrated circuit
4. Show that you're aware of the safe working practices to be followed when handling electronic components, circuit boards and when soldering
5. Use a multimeter to measure voltage, current and resistance in a simple circuit. Explain the relationship between these values.
6. Talk about the main differences in the operation of digital and analogue circuits.
7. Construct three simple circuits. One of these should be based mainly on digital electronics. They can be from a book or magazine, or you can design the circuits yourself. If possible, at least one of the circuits should be soldered using either stripboard or a custom-made printed circuit board
8. Explain the principles behind the operation of each circuit and the typical values of voltage and current found in each
9. Explain the possible uses of the three circuits you built
10. Talk about the uses and benefits of electronics in everyday life. Explain how electronics can be used to improve lives

Scout use only: (tick when completed for your records only)

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