

b. Tell the purpose of each part.

Resistor:

Capacitor:

Transistor:

Integrated circuit:

Other?:

3. Do the following:

- a. Show the right way to solder and desolder.
- b. Show how to avoid heat damage to electronic components.
- c. Tell about the function of a printed circuit board.

Tell what precautions should be observed when soldering printed circuit boards.

4. Do the following:

a. Discuss each of the following with your merit badge counselor,

i. How to use electronics for a control purpose.

ii. The basic principles of digital techniques

iii. How to use electronics for three different audio applications.

- b. Show how to change three decimal numbers into binary numbers and three binary numbers into decimal numbers.

- c. Choose ONE of the following three projects. For your project, find or create a schematic diagram. To the best of your ability, explain to your counselor how the circuit you built operates.
 - i. A control device
 - ii. A digital circuit.
 - iii. An audio circuit.

5. Do the following:

- a. Show how to solve a simple problem involving current, voltage, and resistance using Ohm's law.
- b. Tell about the need for and the use of test equipment in electronics.

Name three types of test equipment. Tell how they operate.

1.	
2.	

3.

c. Demonstrate to your counselor how to read the colored bands of a resistor to determine its resistance value.

6. Find out about three career opportunities in electronics that interest you.

1.
2.
3.

Discuss with and explain to your counselor what training and education are needed for each position.

1. Training:

Education:

2. Training:

Education:

3. Training:

Education:

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- b. Show that you know first aid for injuries or illnesses that could occur while working with leather, including minor cuts and scratches, puncture wounds, ingested poisoning, and reactions from exposure to chemicals such as dyes, cements, and finishes used in leatherworking.

minor cuts and scratches

puncture wounds

ingested poisoning

reactions from exposure to chemicals

2. Explain to your counselor

- a. Where leather comes from

- c. Recondition or show that you can take proper care of your shoes, a baseball glove, a saddle, furniture, or other articles of leather.

Discuss with your counselor the advantages or disadvantages of leather vs. synthetic materials.

- d. Visit a leather-related business. This could be a leathercraft supply company, a tannery, a leather goods or shoe factory, or a saddle shop. Report on your visit to your counselor.

Business visited	

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