Circuit Bending

Objective: This is a three-part exercise in which you will learn about electronics by exploring a familiar friend---a toy. Specifically, you will do the following:

➢ Part 1: Explore your toy and build a schematic of the circuit it contains
➢ Part 2: Measure the voltages in the toy’s circuit and understand how the components work
➢ Part 3: Create your own alien toy

Equipment:
1. Small screw drivers, both flat-head and phillips-head
2. Single-strand wire
3. Alligator Clip leads
4. An electronic sound-producing toy (i.e., the circuit for bending)

Toy Requirements:
This list of requirements is for future reference because we are supplying the toy for this exercise.

• The toy must be battery powered by a 6 Volt battery or less
• The toy contains a speaker
• The toy is expendable
• A few words of advise:
  o Try to find a 1990 vintage toy as opposed to an ultra-small more modern toy with “surface mount devises.”
  o Get something simple---moving parts are not helpful in our current effort.

Grading:

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Hardware</td>
<td>15 pts</td>
</tr>
<tr>
<td>Communication (anything non-hardware)</td>
<td>10 pts</td>
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<tr>
<td>TOTAL</td>
<td>25 pts</td>
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