



Academic Activity Chapter 9

Reverse Engineering

Mechanical engineers design and build products and machines, but they also take things apart. The disassembly process is called product dissection or reverse engineering. Reverse engineering is done to understand how a product is made, what it is made from, and how it works. During this activity you will reverse-engineer a common product to get a better understanding of how it works.

Your Challenge

1. You probably own a number of different ballpoint pens. Select one that has a retractable mechanism and can be taken apart.
2. In the space below make a sketch of the pen before you take it apart.

3. Disassemble the pen. How many pieces does it have? Describe any distinctive features of the pen or its parts.

4. List the different kinds of materials used to make the pen. What processes were used to make these materials?



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5. Disassemble the pen. Use the space below to make an “exploded” view sketch to show the individual parts and how they are combined to make the finished product.

6. Describe how the retractable mechanism works.

7. Reassemble the pen. Does it work? If not, describe what you had to do to get it working again.
