



Engineering Design Process

While scientists seek to explain how the world works, engineers attempt to create new objects and devices that are important to humans and society, such as cutting-edge medical devices, innovative video games, safer cars, and high-tech communication devices. While scientists rely on the scientific method for discovery, engineers rely upon the **engineering design algorithm** to create nearly every object around you. The engineering design algorithm includes the following nine steps:

1. Identify the problem or design objective.
2. Define the goals and identify the constraints.
3. Research and gather information.
4. Create potential design solutions.
5. Analyze the viability of solutions.
6. Choose the most appropriate solution.
7. Build and implement the design.
8. Test and evaluate the design.
9. Repeat ALL steps as necessary.

As indicated by Step 1 of this list, the engineer must first answer the fundamental question: *What do I want to create today?* Very few professions place such a high premium on the creative spirit of the individual.

Source: Orsak, Wood, Douglas, Munson, Treichler, Athale and Mark A. Yoder. Engineering Our Digital Future. Upper Saddle, N.J.: Pearson Education, 2004.