Introduction to Engineering Design

Engineering design is the process engineers use to solve problems and create new things, like buildings, bridges, or machines. It's about using science and math to find practical solutions to make our lives easier.

The Engineering Design Process:

1. **Identify the Problem**: Understand what needs to be fixed or improved.
2. **Research**: Learn what others have done to solve the problem.
3. **Develop Solutions**: Come up with different ideas to solve the problem.
4. **Build a Prototype**: Create a model of your design.
5. **Test and Improve**: Test the prototype and make changes to improve it.
6. **Communicate Results**: Share the final solution with others.

Example: If you need to move a heavy object, engineers might design a lever. They would test different designs to find which one works best.

Why Engineering Matters: Engineering is important because it helps solve everyday problems and create new technology that makes our lives better.

References:

- National Science Foundation: "Engineering Design Process"
- American Society of Mechanical Engineers: "What is Engineering Design?"