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Unit 5: Activity 4: Listening Comprehension

Hello everyone, and welcome to today's lesson.

Today, we are going to learn about the engineering design process and why it is one of the most important parts of Design Engineering.

Design Engineering is about solving problems by creating products that are useful, safe and efficient. Engineers do much more than simply draw ideas. They follow a structured process that helps them develop the best possible solution to a problem.

The first step is to identify a need or a problem. Engineers carefully analyse the situation and decide what the product should do. For example, they may need to design a chair that is more comfortable, a lighter bicycle, or a reusable water bottle that reduces plastic waste.

Once the problem has been identified, engineers carry out research. They collect information, study similar products and consider different materials, technologies and manufacturing methods. This helps them make informed decisions before they begin designing.

The next stage is to generate ideas. Engineers often work in teams and discuss different possible solutions. They make sketches on paper or use Computer-Aided Design, or CAD, software to produce detailed digital models. These models allow engineers to visualise the product and make changes quickly and accurately.

After selecting the best design, engineers build a prototype. A prototype is an early version of the product that can be tested before mass production begins. During testing, engineers check whether the product is safe, reliable and easy to use. If problems are discovered, the design is modified and tested again. It is common for engineers to improve a design several times before they are satisfied with the final result.

Today, sustainability is also an important part of Design Engineering. Engineers try to reduce waste, use environmentally friendly materials and design products that last longer and consume less energy. Their goal is to create products that meet people's needs while protecting the environment.

Finally, once all the tests have been completed successfully, the product is ready for manufacture. The engineering design process may seem long, but it helps engineers create better products that improve people's daily lives.

Thank you for listening.