

Activity 1.1.2 Introduction to Engineering

Introduction

Scientists investigate our natural world; engineers create the human designed world. Technologies are the products and processes created by an engineer and often used by a scientist. Knowledge of science and math is necessary for the creation of new technologies. People working in all of these career areas helped put the cereal you may have eaten this morning on your table. The scientist helped the farmer to plant, grow, and harvest the grains (corn, oats, wheat, rice, and barley). The responsibility of the engineer includes designing the equipment used to harvest the grain and designing the factory where the grain was processed into what you eat today. The engineering technologist built the factory, built the tools and equipment necessary for converting the grains into cereal, and built the farm equipment that the engineer designed. All along the way, mathematicians were needed to solve problems like how big the factory should be or how much cereal should go in one box.

During this activity you will follow along with the **Introduction to Engineering** presentation to answer the questions, “What is engineering?” and “Why do we need to learn about engineering and technology?”

Equipment

- Gateway notebook

Procedure

1. Follow along with the presentation to complete the **Introduction to Engineering – What do Engineers do?** worksheets.
2. Complete the conclusion questions.
3. Fill in the appropriate section of your Gateway Notebook.

Introduction to Engineering – What Do Engineers Do?

Complete the questions below while your teacher presents “What Is Engineering?”

1. In your own words, describe the following terms:

Science

Technology

Engineering

Math

2. Describe in words how the STEM careers are connected.

3. Complete two examples of how scientists, technologists, engineers, and mathematicians may work together when inventing or innovating a new product.

Example	Science	Technology	Engineering	Math

4. What is the difference between a need and a want?

5. Complete the chart below by listing our human needs and wants:

	Physical	Biological	Psychological
Needs			
Wants			

6. What is an engineer?

7. List examples of what an engineer does.

8. What is the difference between an invention and an innovation?

9. Why do you need to learn about engineering and technology?

Conclusion

1. What product or system would make your life better?
2. Is this an invention or an innovation?
3. What type(s) of engineer(s) might work on this project?