

Engineering Our World



LESSON PLAN

- Audience** Any age group
- Time needed** 5-10 minutes
- Objective** Through this activity, participants will learn that our world is engineered.
- Overview** This activity has two parts where participants can either work alone or in small groups, leading up to a large group discussion.

Introduction

Engineers are creative and collaborative problem solvers who innovate and improve our world. Think about your world and the innovations and improvements that you use every day.

Activity Part 1

Challenge the participants to create a list of all the items they have used today that have been engineered. Allow 60 seconds.

Bonus: Offer a prize to the person who has the most items on his or her list.

Invite the participants to share some of the items on their lists. There is no wrong answer. A brief discussion of these items is great!

Activity Part 2

Challenge the participants to **identify one thing used today that has NOT been engineered in some way**. You can have the participants work in small groups to think and discuss.

Invite the participants to share. The answer is: EVERYTHING has been engineered in some way. If someone offers up an idea that you are unsure about, then try to break it down, or challenge your participants to do so. For example, the most common rebuttals are:

- Air: Explain how air is conditioned and often purified, etc.
- Art: Art is made from things that are engineered like paints, brushes, etc.
- Human heart: While your participants may not have pacemakers, someone in their family likely does, or uses some other technology or medicine to make their body function properly. This has all been engineered.
- Water: Purification, pipelines, etc.
- Food: Many foods are engineered, or at a minimum the process by which the food reaches the consumer requires lots of engineering (machines, packaging, transportation, computer grocery systems)

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Summary

Our world is engineered. Everything, including toothbrushes, highways, smart phones, and lifesaving medical devices, depend on teams of creative and collaborative engineers that are not only making our lives easier and healthier, but also making a world of difference. The technologies that engineers create are imperative for our nation to advance and our economy to improve in the 21st century. Our country depends on a workforce that is technologically literate, and scientifically and mathematically prepared to meet growing workforce demands. Science, Technology, Engineering, and Math (STEM) are the core disciplines that inform our future innovations and are the foundation of an excellent career choice for you!

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