



Automation & Robotics Virtual Learning

7th & 8th

What is Engineering Review

Day 2

April 23rd, 2020



PLTW: Automation & Robotics
Lesson: What is Engineering Day 2 [April 23rd]

Objective/Learning Target:

Students will review their knowledge STEM, wants, needs, inventions, and innovations.

Warm-up

*To complete the Warm-up, notes, and questions electronically, click [here](#)

Today we continue our review of what we learned in Unit 1.1: What is Engineering.



Is the iPhone 11 an invention or an innovation?

Explain your answer

Warm-up answer

If you said the iPhone 11 was an invention would you be entirely correct?

Do we already have iPhones? Yep, we do.

So there may be parts of the iPhone 11's software or hardware that are brand new but the iPhone 11 is still a smartphone and those have existed since 1992.

Check out the first smartphone and the evolutions of the smartphone [here](#).

Instructions

As you know, engineers have to use Science, Math, and Technology to create things for the better of the population.

While at home, there are many inventions and innovations around your home that someone had to have thought of before the objects were invented/innovated. That thought could have been, “I need something that does....” or “this would be better if...”

Your job is to look around your home and list 3 inventions/innovations that have changed life as we know it.

- Add a picture of the object in your home to the slide.
- Explain how you think it was done before the invention/innovation and how it makes things better now.
- Include what kind of engineer created this. It's ok if you're unsure.
 - If you need help, there is a list of possible engineers on slide 6

List of different types of Engineers

You can also use this website <http://www.egfi-k12.org/#> to help you research different engineers to help you complete your assignment. (you might have to allow Flash to play on Chrome)

Engineers who take part in making common household items

• [Agricultural](#)

• [Mechanical](#)

• [Chemical](#)

• [Biomedical](#)

• [Materials](#)

• [Mining](#)

• [Civil](#)

• [Environmental](#)

• [Electrical](#)

• [Nuclear](#)

• [Architectural](#)

• [Industrial/Manufacturing](#)

• [Computer](#)

• [Ocean](#)

EXAMPLE Object #1: Ceiling Fan in my living room.

Is it an (circle/highlight one)

Invention OR Innovation - could be considered both



What was done before the invention/innovation?

Before the ceiling fan was invented people had floor fans or hand fans to keep them cool. _____

How did this invention/innovation change life for the better? The ceiling fan made people's lives better by cooling a whole room from the ceiling. Ceiling fans move more air than floor fans and they are out of the way. They can also come with lights like this one in my home, which give the fan multiple functions.

What kind of Engineer created this? I think mechanical and electrical engineers worked to create the ceiling fan.

Object #1: _____

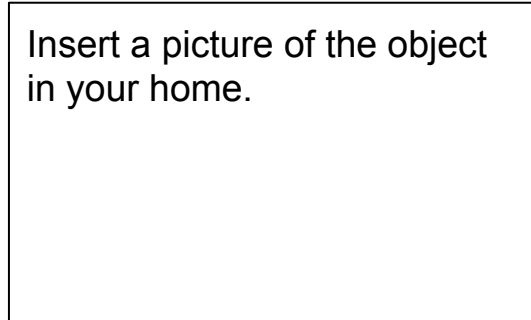
Is it an (circle/highlight one)

Invention OR Innovation

What was done before the invention/innovation?

How did this invention/innovation change life for the better?

What kind of Engineer created this?



Object #2: _____

Is it an (circle/highlight one)

Invention OR Innovation

What was done before the invention/innovation?

How did this invention/innovation change life for the better?

What kind of Engineer created this?

Insert a picture of the object in your home.

Object #3: _____

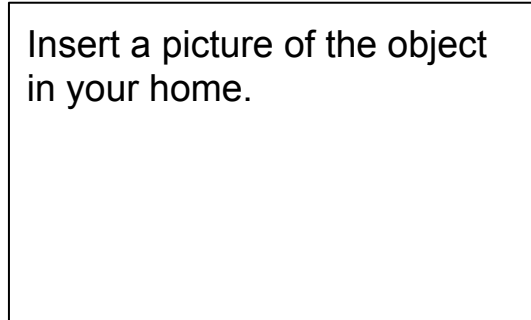
Is it an (circle/highlight one)

Invention OR Innovation

What was done before the invention/innovation?

How did this invention/innovation change life for the better?

What kind of Engineer created this?



Extend Your Learning

Take a virtual tour of [FarmFood 360](#) in Ontario, Canada.

See if you can discover some innovations and inventions farmers use everyday to bring food to your table.