

Making Something Better: Using the Engineering Design in Business (Lesson 1 of 3)

SUBMITTED BY: WGYP Summer Educator

SUBJECT(S): Entrepreneurship

GRADE LEVEL(S): 9, 10, 11, 12

≡ OVERVIEW:

Students will use the engineering design (or scientific method) that they are familiar with in science to apply to creating/designing a better product. Students will select a product and then make it better. They will use marketing research to think about who to market it to and how to market the product.

≡ NBEA STANDARD(S):

- Entrepreneurship, II. Marketing

≡ RELATED ARTICLES:

- [“What Is Design Thinking?”](#)
- [“The Mastermind Behind the Only Gun that Unlocks Like an iPhone”](#)
- [“The Allure of Artificial Intelligence”](#)
- [“Learning to Be a ‘Rocket Scientist of Statistics’”](#)
- [“Innovators Must Master the Art of Brainstorming”](#)
- [“E-Scooters Rev Up Urban Mobility and Debate”](#)
- [“Digital Natives Are Poised to Solve World Problems – and Close the STEM Gender Gap”](#)
- [“Demystifying Deepfakes: 3 Truths About AI-Generated Videos”](#)
- [“Aspiring Scientists Launch the World’s Lightest Satellites”](#)

- “A World Where ‘AI Is Going To Get into Everything’”
- “A High School Freshman Raises Funds on Kickstarter for Her New Kind of Backpack”
- “A Hackathon How-to”

Standards:

- Analyze customer groups and develop a plan to identify, reach and keep customers in a specific target market.

Common Core Standard(s):

- CCR Standard for Reading:
- CCR Standard for Speaking and Listening: Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others’ ideas and expressing their own clearly and persuasively.
- CCR Standard for Speaking and Listening: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

Objectives/Purposes: Students will learn to apply market research to a new product.

Wharton Global Youth Program Article:

[Cheesy Garlic Bread Chips: Lay’s Lesson in Marketing and Brand Awareness](#)

Other Resources/Materials:

- Teacher needs to bring in 10 to 15 school supplies so students can select one to redesign (i.e. folder, bookbag, book shelf, binder, pencil, etc.)

Activity:

1. Do Now: As students walk in, they should take a copy of the article “Cheesy Garlic Bread Chips: Lay’s Lesson in Marketing and Brand Awareness.” Students should read the article silently and be prepared to discuss it. (5-10 min)
2. Teacher will lead a discussion about the article. (5 min)
 - What is the overall message of the article?

- If you were to develop a new product, what does this article tell you to do with it so you will be successful?
3. Teacher tells students that they will be selecting an existing product and making plans to improve it. This is what we call the engineering design process. Select an item, brainstorm ways to improve it, test the improvements and then continue to make it better. We are going to adapt this process for business. In partners, students will pick a product (teacher should have a variety of student, classroom products displayed up front). *(5 min)*
 4. Students brainstorm ideas to improve it and then come to a consensus on one of those ideas. Students will then go around the room and share. *(5-10 min)*
 5. After selecting a product and the improvement, the partners need to think about the following, which are all parts of market research *(10 – 15 min)*:
 6. Who will buy this product?
 7. Why will they buy this product?
 8. How should you market this product to those individuals?
 9. Partners will then take this information and develop a survey that they could hand out to potential customers to learn more about how to market the product and what they would buy it for. *(15 min)*

Practice Outside of the Classroom:

Students can go home and do some research on competitors.

What Worked and What I Would Do Differently:

Depending on how much time is available in class, the teacher might want to have students hand out the surveys on their own and collect the data.

☺