

# Handle with Care!

## Activity 1: Lesson Introduction

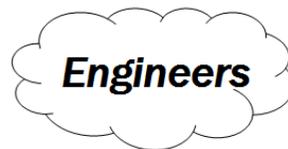
Have you ever stopped to think about where your fresh food comes from? Probably, the grocery store, right? But what about if you lived somewhere so remote your store had no fresh food? You couldn't travel to a big city every time you wanted eggs for breakfast, right? But, you could order your fresh food by mail! The U.S. parcel post system brought packages from farms to homes. This is the same system that, for less than a dollar, will hand-deliver a letter to your grandparents all the way across the country in just a few days!

How are we able to do this? Who is responsible for innovating the way we deliver packages of fresh food from point A to Point B? The answer is engineers!! Engineers are behind just about everything you use on a daily basis, from the time your alarm clock rings, to the mechanics of a school bus, and even to the delivery of that letter to your grandparents! Today, you will think like an engineer in order to complete a design challenge.

**Objective:** Students will be able to design, construct, and test a mail delivery system in order to understand the Engineering Design Process.

## Activity 2: Engineer Word Web

- Write down as many different types of engineers as you can think of:



## Activity 3: Design Challenge

- What problem are you being asked to solve?

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- What constraints have been imposed upon you? \_\_\_\_\_

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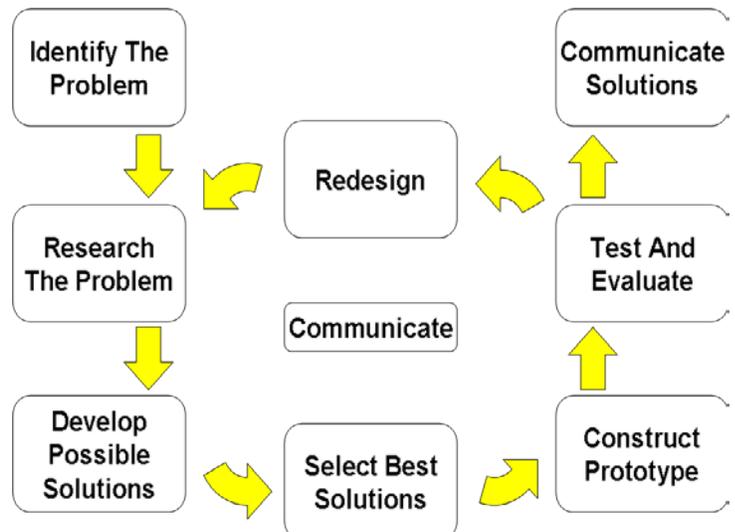


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### *Engineer Design Process*



**Activity 4: Research**

4. We want our precious, fragile egg to safely make it to its destination. To do this, we need to ensure that it is well protected while in transit. What are some common shipping materials that are used for fragile items? Describe or draw pictures of them below:

**Activity 5: Design**

5. With your group, brainstorm some ideas for how you can safely transport your egg. Describe or draw pictures of these possible solutions below:

6. Select the best solution. Name your design: \_\_\_\_\_

**Activity 6: Build**

7. Using the materials that are available for you, construct your prototype. You have \_\_\_\_\_ minutes to complete this task, so be sure to work efficiently.

**Activity 7: Test**

Group Name	Did the egg survive?	Time (seconds)

**Activity 8: Analysis**

8. How could your design have been improved? If you could perform this activity again with the same materials, what would you do differently? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. Could you have done a better job with a different set of materials? What additional materials would you request if asked to complete this challenge again? \_\_\_\_\_

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