

Client: Case IH for Kids

Project: *Farmall in the Family* Lesson Plan: Engineering v2

Engineer for the day

Level: Kindergarten

Time: 25 – 30 minutes

Common Core Standards: [RI.K.1](#) [RI.K.7](#) [RI.K.10](#) [SL.K.1.A](#) [SL.K.2](#) [L.K.6](#)

Overview: This lesson teaches students about engineering. Students will learn that one job of engineers is to find the fastest way to do something.

Concept: Understand that engineers use science to solve problems.

Objectives:

- Students will learn what an engineer is.
- Students will understand how engineers use science to help solve real life problems.
- Students will explain how one problem can have many solutions.

Materials:

- Stop watch
- The Casey & Friends book, *Farmall in the Family**

Procedure:

Introduction:

Read pp. 12 – 13 of the Casey & Friends book, *Farmall in the Family*. Tell students that Cousin Frank is an engineer. Then, ask students if they know what engineers do? Allow for answers. Explain that engineers use science to solve problems. What problem was Cousin Frank solving? Tell students that engineers help build roads, make sure buildings are safely constructed, design new ways to improve and make tractors—all sorts of things. And today, the students are going to be engineers!

Learning activity: Students are going to find the fastest way to line up at the door by trying different methods.

1. Explain to students that their job is to find the fastest way to line up at the door without running. Just like engineers, they will use science to discover the best method for lining up!
2. Using your stopwatch, have the class line up in the usual way and keep track of how long it takes. Record the time on the white board. Then, have them line up two or three

more times in this manner. Record the time for each instance they line up. Explain to the students that this provides them with the average time it takes for them to line up in this manner.

3. Next, ask students to brainstorm different ways they could line up faster. Allow for answers and write them down on the board. Provide hints like: line up by table or row, line up by shirt color, line up with students farthest away from the door first, etc.

4. Now, put your methods to practice. Choose one of the methods you discussed. Using a stopwatch, time how long it takes to line up using that method. Record the time and repeat two or three more times.

5. Choose another method for lining up. Time it. Repeat two or three times. Continue this process for all the methods you think might work. Then, have the students sit down in a group to discuss the results.

6. Ask students to identify which method was the fastest way for the class to line up. Maybe it was the original way you always line up! Ask if any of the students were surprised with the results, and why they think that method works the best. Explain that production engineers do this exact same thing! Their job is to find the fastest, best way to make a product—like building a tractor!

*If you don't have access to *Farmall in the Family*, use online resources or other materials that explain what an engineer is.