

Challenge 8: Demonstrate How It Works

Get Prepared



Challenge Goal: Develop a presentation that shows kids the steps involved in using their innovation



Time Needed: One 45-minute session



What You Will Need:

Printouts

- **Innovation Steps template sheets**
 - 4 per student for younger kids
 - 6 per student for older kids
 - extra copies for all age groups in case they want to start over

Materials

- Engineer's Notebook (from Challenge 1)
- poster board
- glue or tape
- pencils
- crayons, markers, or color pencils

Demonstrate How It Works

1. Pass out the Engineer's Notebooks and copies of the Innovation Steps template sheet. Kids who have done a beginning, middle, and end sequence should have three sheets. Kids who have done the full six steps should have six sheets. (Be sure to have extra copies as kids may want to start over if they make a mistake.) Explain that they will include drawings of the steps for using their innovations in their presentations.
2. Ask kids to look at their "This Is How It Works" steps on pages 8 and 9 of their Engineer's Notebooks. For the first step, they should write "1" on the blank line at the bottom of the Innovation Steps template sheet. They should then draw Step 1 in the space on the template. Older kids should write the sentence that explains Step 1 of using their innovation on the Innovation Steps template sheet.
3. Have kids follow this process to draw and describe three (beginning, middle, and end) to six steps (multiple steps) that show how to use their innovations. Once kids have completed their drawings, review them for clarity. After you have approved their drawings, allow students to color and decorate them.
4. When the Innovation drawing, as well as the Innovation Steps drawings are complete, pass out one poster board to each child.
5. If time permits, allow your students to name their innovations and write the name of the innovation in bold letters across the top of the poster board. Instruct kids to place their Innovation drawing in the center toward the top of the poster board. Then have them place their Innovation Steps drawings in numerical order across the bottom half of the poster.

Challenge 8: Demonstrate How It Works

Demonstrate How It Works (continued)

6. Once everyone has organized their sheets on their poster board, pass out glue or tape so that they can attach the sheets. Make sure everyone puts their name on their poster board.

| | | |
|---|--|--|
| <p>Doctor on Wheels (Name of Innovation)</p> | | |
| <div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>My Innovation</p> | | |
| <div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>How It Works</p> | <div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>How It Works</p> | <div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>How It Works</p> |
| <p>Step <u>1</u></p> | <p>Step <u>2</u></p> | <p>Step <u>3</u></p> |
| <div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>How It Works</p> | <div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>How It Works</p> | <div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>How It Works</p> |
| <p>Step <u>4</u></p> | <p>Step <u>5</u></p> | <p>Step <u>6</u></p> |

Reflection Time

Have kids review their presentation posters. Ask the following questions:

- ***Did you think you could put together this idea when you started? Why or why not?***
- ***What was challenging and how did you overcome that challenge?***
- ***Does seeing your innovation come together get you excited about coming up with more ideas? Why or why not?***
- ***How do you think an engineer or architect feels when they present an idea?***
- ***Do you think it is easy or challenging for them to share their ideas?***
- ***What might they do to be prepared to share their ideas?***



Innovation Steps Template Sheet

How It Works

STEP: _____