

SCIENCE FAIR CENTRAL

ENGINEERING DESIGN CHALLENGE

Engineering is the application of science and technology to solving a problem. Engineers look for problems they want to solve or how to improve a process or physical design. Creating an invention is an example of an engineering a solution.

Ask

As with investigations, the key to defining the project is by posing the right question. Students can ask themselves, “What bothers me?” “What have I heard other people complaining about?” Is it something that could be fixed or improved on. Find a local problem or something that needs to be improved.

Imagine

Brainstorm several ideas and consider many different solutions. Then, research your idea to find out what others know. This might include looking at other products or solutions that exist already.

Plan

Select one solution and make a plan! Design the solution and the method for testing to see if it works.

Create

Create a solution and explain why it should work. Build a prototype using a physical model or Computer-Aided-Design Software.

Test

Test the solution and collect data to be sure your solution made a change. Make sense of the data – how do you know it worked, or didn’t work? Did it solve the identified problem?

Improve

How could you improve your solution? Make revisions based on your test results and observations. Draw new designs to continue to improve your idea.

