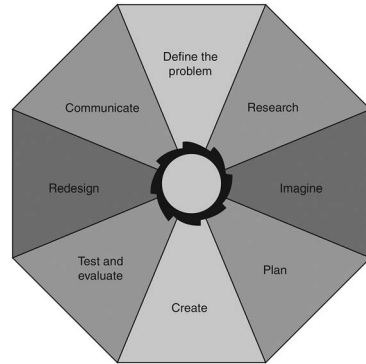




## Design Tool 8.2: The Engineering Design Process for Student Teams

*To student teams:* This is a way that engineers think through how to solve a problem and create new technology. You will be using the same process they use. You do NOT have to follow these steps in this particular order. You might skip a step and come back to it later. You might also go back to a step several times.

You do not need to memorize this process and the definitions. Just be able to recognize what step you are on as you work on your STEM project.



**Define the Problem:** This is the problem or engineering challenge that your team members will work on together.

**Research:** Team members gather information about the problem to understand it and find out more about some possible ways to solve it.

**Imagine:** Team members use what they learn in your research to brainstorm many possible solutions for this problem. Be creative!

**Plan:** Team members choose a solution and plan how they will design and construct a prototype, or model, of the solution.

**Create:** Team members design the prototype they chose. Everyone on the team should have a part in designing this device.

**Test and Evaluate:** Team members test the prototype to see if it successfully meets the criteria and does what it should. They evaluate your prototype based on how well it meets the criteria and solves the problem.

**Redesign:** Team members decide how to improve the prototype and redesign the device. You do not have to start at any particular place in the design process. You might go back to the “Plan” or “Create” steps, for example.

**Communicate:** During the project team members clearly exchange ideas with one another. At the end of the project, they share what they did with the class and perhaps with others outside the classroom.