

Name _____

CREATE A PROBLEM STATEMENT

The next section of the Mission Folder is called the Problem Statement section. If you choose the **scientific inquiry** path, your team will develop a question you hope to answer. If you select the **engineering design** path, your team will identify a specific problem you hope to solve.

PART A: Choose Your Focus

1. What is the **issue** we chose? _____
2. What specific **topic within that issue** will we focus our project on? _____

PART B: Research

Conduct research to learn more about your problem and how people have tried to address it before. Take notes on **innovations** that engineers have tried or **experiments** that scientists have conducted. Compile a list of at least 10 different sources from your research. Sources include books, periodicals (magazines and journals), websites, and experts.

PART C: Choose Your Path

Now that you know more about your topic, which path will you choose for your project?

- ☐ **Scientific inquiry** (conducting experiments)
- ☐ **Engineering design** (building a prototype or model)

PART D: Ask Your Question **or** Identify Your Problem

- ★ For **scientific inquiry**, you should establish the **question** your team hopes to answer through investigation.
- ★ For **engineering design**, you should state the specific **problem** your team hopes to solve through engineering.

Some ideas to get you started:

- ★ For **scientific inquiry**: What are the effects of...? Which type of...? (Consider words like “prevent,” “identify,” “analyze”...)
- ★ For **engineering design**: We want to reduce... (Consider words like “construct,” “design,” “prototype,” “model”...)

OUR QUESTION OR OUR PROBLEM TO SOLVE:

SEE IT IN ACTION The Green Team selects water pollution as their topic. They decide to pursue the *scientific inquiry* path and narrow their question to: Which type of herbicide will be most effective in controlling weeds while also reducing the level of harmful chemicals in the local water supply? Another team, the Food Waste Warriors, decides to develop an *engineering design* project. They define this problem: We want to address the problem of food waste and illness due to spoiled food.