

Name _____

DESIGN YOUR EXPERIMENT

To continue your **scientific inquiry**, test your hypothesis by designing and conducting an experiment.

PART A: Read and Analyze

1. Read the Green Team's approach on the right. Why does the Green Team apply each herbicide to 3 trays instead of just 1?

2. A **control** is a group that receives "normal" treatment during an experiment. What is the control in the Green Team's experiment? Why do experiments need a control?

3. A **constant** is what you keep the same in an experiment. What are the constants in the Green Team's experiment?

4. What is the Green Team's plan for data collection?

PART B: Plan

Now work with your team to justify the procedures for your own experiment. Copy the following chart on a separate sheet and fill it in. Be as **specific** as possible.

- ☐ Include a plan for collecting your data and making sure your results are reliable.
- ☐ Make sure to include any safety precautions.

| STEP | WHY IS THIS STEP NEEDED? |
|----------------------------|--------------------------|
| Step 1: | |
| Step 2: | |
| (Add more rows as needed.) | |

PART C: Test

Test your hypothesis by conducting your experiment. Record your data in a table. (Refer to Activity 7: Analyze Your Data for an example data table.)



SEE IT IN ACTION To test whether a vinegar-based herbicide will kill weeds as effectively as a conventional herbicide, the Green Team has decided to plant nine identical trays of crabgrass. They will use a vinegar-based herbicide on three trays and a conventional herbicide on three trays, making sure to use safety gear. They will not put any herbicide on the last three trays. They will use the same amount of soil for all trays and give all the crabgrass the same amount of sun and water daily. Then they'll measure the crabgrass weekly and record their findings.