**CO2 DRAGSTERS:** Download this document to your computer. Write complete sentences explaining “YOUR DESIGN PROCESS” in boxes on the right while following the dirctions under “DESIGN PROCESS” on the left. **Submit this as assignment for the CO2 DRAGSTER (50 pts)**. Your sketches will be checked separately.

**DESIGN STEP 1 – DEFINE THE PROBLEM**

In the box to the right, write a brief explanation that clearly identifies the problem, design criteria, and constraints.

**DESIGN STEP 1 – DEFINE THE PROBLEM**

**DESIGN STEP 2 – BRAINSTORM & RESEARCH**

Explain how you might apply **physical science** concepts in your design. What did you look for when you conducted research? Name at least one source or website you used. What was your team considering as *thumbnail sketches* were being done?

**DESIGN STEP 3 – DEVELOP SOLUTION**

Write a **brief hypothetical statement** related to a *gravity* test and *aerodynamic* test for one of your team dragsters? State **how** you think that dragster will perform and **why**. How is this hypothesis reflected in your *concept sketches*?

**DESIGN STEP 4 – PRODUCE & TEST DESIGN**

What challenges did you have drawing your *3D Models*? What changes did you need to make in order to meet *size constraints*? Identify something you learned related to *manufacturing*. What did you do to **test your hypothesis** from STEP 3? What data did you collect during the tests (distance, observations, mass (weight), etc)?

**DESIGN STEP 5 – EVALUATE THE SOLUTION** Do your dragsters meet the problem statement, criteria, and constraints? Were your tests from STEP 4 **VALID** or **INVALID**? If **VALID,** explain why. If **INVALID,** explain why your hypothesis was not correct.

**DESIGN STEP 6 – SHOW/PRESENT SOLUTION**

If your *prototype* solutions are awesome, you will impress the judges with craftsmanship and originality. You cars will be competitive with other cars on the test track. What kind of feedback did you get from the judges regarding design? How fast was your fastest team dragster?

**DESIGN STEP 2 – BRAINSTORM & RESEARCH**

**DESIGN STEP 3 – DEVELOP SOLUTION**

**DESIGN STEP 4 – PRODUCE & TEST DESIGN**

**DESIGN STEP 5 – EVALUATE THE SOLUTION**

**DESIGN STEP 6 – SHOW/PRESENT SOLUTION**

**DESIGN PROCESS**

**YOUR DESIGN PROCESS**

DESIGNER NAMES:

**DESIGN STEP 6 – SHOW/PRESENT SOLUTION**: This step is crucial for sharing your ideas and getting feedback from others about your design solution. The information you get from the feedback is often used to improve your design solution. After you show (present) your dragster solutions, you will be required to provide feedback and suggestions for improvement for at least two NON-TEAM dragsters in your class. This will be done as postings on Edmodo.

**SHOW YOUR DRAGSTER SOLUTIONS:** Copy and paste a photo of each of your team dragsters in the boxes below. Your teacher will furnish pictures of your dragsters in a folder on your computer desktop.

**DRAGSTER 2**

**DRAGSTER 1**

**DRAGSTER 4**

**DRAGSTER 3**

**AFTER COMPLETING THIS ACTIVITY, BE SURE TO DO THE FOLLOWING:**

* SUBMIT THIS DOCUMENT AS AN ASSIGNMENT FOR CO2 DRAGSTER CHALLENGE.
* FOLLOW THE PROCEDURE POSTED ON THE ASSIGNMENT PAGE FOR UPLOADING YOUR DOCUMENTATION FOR THIS PROJECT.
* FOLLOW THE PROCEDURE TO SUBMIT EVIDENCE FOR COMPETITIVE **CATEGORY FOUR**.