**Solar Sails Worksheet**

Please complete all questions and sections below, writing text answers in complete sentences.

1. Why do aerospace engineers want to develop forms of space travel other than rockets?

1. What are some of the benefits of using solar sails?

1. Draw a schematic of your solar sail below, labeling all materials needed to construct it.

**Materials List**

1. Describe Newton’s three laws of motion.

1. Where in this experiment did you observe each of these three laws of motion?

**Testing**

Complete the table below with information from each solar sail trial.

|  |  |  |
| --- | --- | --- |
| **Solar Sail Design Name/Description** | **Trial #** | **Distance Traveled (m)** |
| **Design 1:** | **1** |  |
| **2** |  |
| **3** |  |
| **Design 2 (redesign):** | **1** |  |
| **2** |  |
| **3** |  |

**Design and Improvements**

1. If you could redesign your solar sail, what would you change to make it travel farther?

1. What are the most important design considerations when constructing and testing solar sails?

**Fill in the Blanks**

In order for solar sails to propel probes through space, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy is converted into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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