**Engineering Design with Application to Unpowered Flight Worksheet**

**Answer Key**

1. Create a checklist of needs and constraints, which are the project’s requirements and limitations:

* Needs to be able to fly in the wind.
* Each tetrahedron must use six plastic drinking straws.
* Tetrahedrons may only be connected at the corners.
* Each tetrahedron must be covered on two sides.

1. In the spaces below, draw different tetrahedron kite designs. If more space is needed, use the back of this sheet, or a blank piece of paper stapled to this sheet. Draw arrows to show the forces from wind and gravity.

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|  | **examples** |

1. In the spaces below, draw your redesigned tetrahedron kite design and describe how and why you changed the initial design.

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| **re-design**  **example** | **List of changes made and reasons why:** |
| The second kite (above) was our initial design and |
| it flew really well. We expect that adding another |
| row of tetrahedrons will still allow it to fly while |
| also increasing the number of tetrahedrons used. |
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