**Optional** STEM Safe Landing Building Challenge

**Background:** During a natural disaster, one way for people to get the essential supplies needed to survive, like food and medicine, is when they are airdropped from helicopters.  The job of an engineer is to make sure that containers of important supplies aren’t damaged when dropped from great heights.

**Directions:**Your challenge is to “design and build” a container, no more than 6 inches by 6 inches, that will protect food when it “drops onto the ground”.  You are encouraged to discuss different ideas and designs with family members.

**STEM Skills Presented in this Lesson:**

* Science: Students will use the engineering design process and will observe, communicate, and compare while completing this project.
* Engineering: Students will engineer a container that can hold an object and has a parachute.
* Math: Students will explore area, lines, shapes, patterns, and mathematical relationships as they work to plan and engineer their container and parachute.

**Materials included:**

* 1 napkin, 6 index cards, 6 plastic straws, 2 rubber bands

You may use any other materials, but *you can’t make your container larger than 6  inches by 6 inches.*

**Suggestions:**

* Conversations with family members are encouraged!
* Make sure your design is level when you release it.
* The container must land upright
* Slowing the fall with a parachute will help cushion the fall; it will act as a shock absorber.  Springs and cushions are great shock absorbers to prevent bouncing.

**Testing:**  Must be able to be dropped at a height of 8 feet.

**Due date:** February 25, 2019

This lesson was taken and adapted from the source and is the intellectual property of: <https://pbskids.org/designsquad/pdf/parentseducators/DS_SafeLanding_Leader.pdf>

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Safe Lander Science Challenge

 The materials I used were: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  I chose these materials because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The person (or people) that helped me with this project is/are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Ideas I got for my project from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.