

*Dream it, Plan it,  
Make it Happen!*

# Mission Possible: Aerospace Engineering

In this activity, students are invited to “make it happen” and let their curiosity soar with little initial instruction. On their own, they’ll dream, plan and make their creation happen.

## Teachers, here’s your initial story to share:

Paulo and his family recently moved to Alcantara, Brazil so his parents—who are aerospace engineers—can work on a space mission. Paulo is not happy. He misses his best friend, Andre, and the last thing he wants to do is make friends with his new neighbor, Lucas. But then Paulo finds himself working with Lucas to solve an aerospace challenge of their own—designing a parachute that can safely float a large, heavy, and delicious fruit down from a forest tree.

## Can you help with their mission?

Get your students dreaming with these resources including videos of NASA land rovers using parachutes on Mars:

<http://bit.ly/mslparachutes>



## MATERIALS

- Canopy materials** a selection of materials (such as paper, plastic, tissue paper, etc.) cut into a circle with a diameter of 8-12”
- Suspension lines** 4 pieces of string, 8-12” in length
- tape**
- bulldog or binder clips**



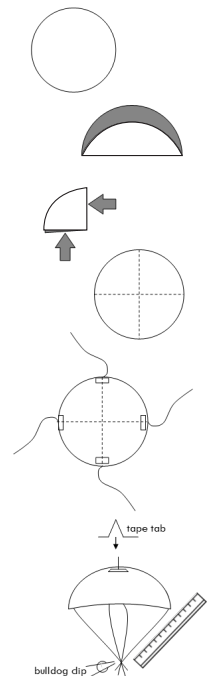
## ACTIVITY DIRECTIONS

1. Using tape, attach one end of each suspension line to the edge of the canopy.

*(for younger students, teachers can fold material or draw lines to assist in where suspension lines should be attached.)*

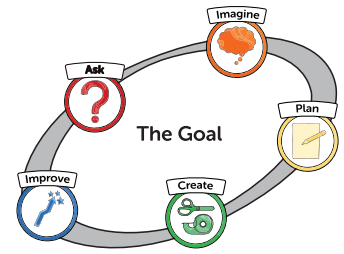
2. Gather suspension lines and attach clip!

3. Measure how long the parachute took to fall (in seconds) and log it on the table on the next page.



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

## Sketch your plan



- What do we already know about \_\_\_\_\_?
- What do we need to know about \_\_\_\_\_?
- What do you think about \_\_\_\_\_?
- What's something we learned in Lesson 3 that can help?



- I wonder if \_\_\_\_\_.
- One idea could be \_\_\_\_\_.
- What is a different way I can solve this problem?



- Tell me about the ideas you imagined.
- I think we should try \_\_\_\_\_ because \_\_\_\_\_.
- Do you agree with this idea?
- How can we combine parts of everyone's ideas?



- Which parts of the design do you like?
- Which parts worked well?
- I would improve \_\_\_\_\_ because \_\_\_\_\_.
- How can we change our design so it works better?



- Which part of the design would you improve?
- Which parts worked well?
- Which parts do you like?

### General Sentence Frames

- I agree because \_\_\_\_\_.
- I disagree because \_\_\_\_\_.
- In my opinion \_\_\_\_\_.
- I support \_\_\_\_\_ because \_\_\_\_\_.

**How long did your parachute take to fall?**  
(in seconds)

Trial 1	Trial 2	Trial 3	Average