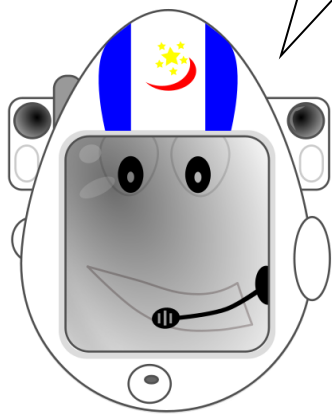


Land on Mars!

YOUR MISSION: Design a spacecraft that can be dropped from a height of at least 2 metres that will enable the pilot to survive intact.

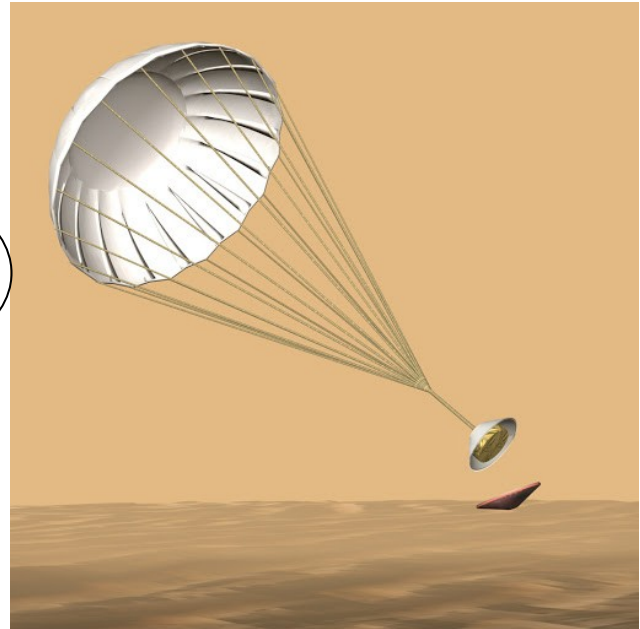
THE PILOT: a raw hen's egg (just a regular egg from the fridge). No boiling it first!



Reporting
for duty!

MATERIALS: you can use any materials except for metal and wood to create your spacecraft. It must have the following components:

- a pilot's seat for the egg—something to keep it from rolling around inside the spacecraft.
- A sealable plastic bag (to keep the egg inside, just in case it breaks).
- shock absorbers to absorb the force of impact—this can be foam padding, balloon airbags, springs, or other items that will keep the egg from breaking.
- A landing system—this can include a parachute to slow the speed of impact, legs or wheels at the bottom of your spacecraft, or whatever else you want to try!



REFERENCES: There are several examples available on the internet. Take a look at these websites:

- <https://www.nasa.gov/stem-ed-resources/egg-drop-lander.html>
- <https://science-u.org/experiments/mars-egg-lander.html>
- https://www.teachengineering.org/activities/view/cub_mars_lesson05_activity1

TEST FLIGHT: You can do as many tests of your Mars Lander as you want. If at first the egg doesn't survive, modify your design or try a different idea.

Once you're ready, take a video of your spacecraft falling a distance of at least 2-metres (about 6 ½ feet), and then open the lander to show the fate of the egg. Post the video on social media with the hashtags #ManitobaMuseum and #MarsEggDrop, or send it to us at space@manitobamuseum.ca. We'll shout out to everyone who enters, and show the best videos on our weekly Dome@Home show, Thursdays at 7 p.m. Central.