

THE “SOFT LANDING”

The goal of this activity is **to be able to land a spacecraft**, keeping safe the instrumentation and/or astronauts inside it. To do this mission, you will have to make the best use of the materials that you are going to choose to cushion the impact of the fall from 2 meters high. Therefore, you'll need to build a shell that can keep a boiled egg safe without breaking it despite falling from 2 meters in high.

You can use whatever you prefer to build the shell, but the weight of the spacecraft must not exceed the weight of the boiled egg.

For this activity you can use:

- boiled eggs (ones for group)
- straws
- scotch tape
- tissue paper
- paper
- twine
- scissors
- telephone

For your space mission, you also have to motivate your mission by choosing between the following features:

- the **goal** of space mission, choosing also who's the **sponsor** of the mission, such as:
 - A specific scientific lab
 - Companies for a specific production
 - Military
 - Commercial and telecommunication services
 - Space agencies for space exploration
- **specific feature** of the spacecraft, such as:
 - landing on a planet
 - landing on the ground
 - return ditching
 - heat shield
 - parachutes

rockets
pilot rockets
remote piloting

- **equipment on board** (at least one between the following) in relation to the goal of space mission

multispectral camera
thermal detector
water detector at all stages
radiation analyzer
atmosphere analyzer
sample analyzer

- the **name** of space mission.

Once that you choose this parameters, you can do the tests necessary for the safe landing of your spacecraft.

Enjoy to give the spacecraft a look coherently with the space mission.

Recording your tests and then make a video at least of 3 minutes which you present your mission and show the soft space landing. You have to show any damage to the spacecraft.

With this video, you'll show your work to your class and we'll comment together your choices and how to improve what you have done.

