

# GROWING SEEDS

Goals of this challenge is to study, through concrete tests, **how seeds grow**. As truly space researchers, you need to understand what **the effect of gravity and different types of environments** is on plants growth.

You can choose the types of seeds (lentils or beans) and you will make it sprout in cotton for four days and, once germinated, you have to separate sprouts in pairs and put each couple in a different environment:

- leave a couple outdoors (reference seeds)
- a couple growing in the dark under the bed or inside a wardrobe (room without light)
- a couple growing in a closed pot (environment without exchange of atmosphere)
- a couple growing outdoors but after rotating the plant by 90 ° (environment with rotated gravity)
- a couple growing outdoors but after having rotated the plant 180 ° (environment with rotated gravity).

You can also choose other and new types of tests to be done with seeds besides those indicated.

To document the challenge, you will have to take a photo a day of each of couple of sprouts to see the evolution of what will happen.

You have to remember to water the seeds every two days.

For this activity you can use:

- cotton
- glass jars
- legume seeds
- water
- 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.

Recording your tests and then make a video at least of 3 minutes which you present your mission and show the photos that you did during the experiments phase.

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.