



FOR RELEASE: THURSDAY

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**PROJECT: FROM THE STAR TO THE MOON**

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Dear partners:

Then, we leave you a basic working document with some ideas that have occurred to us (Mariano and Felipe MAT) to develop a project next year.

As the subject is very broad, we have thought that those who want to participate can go thinking about ideas, methodologies, procedures, etc. to start already in September with some ideas to work on.

The project is under construction, although it has some basic pillars. We have some clear ideas of how it should be articulated, but it is good that we collect your proposals and put them in common. You will see that there are many lines of action. You can suggest the ones you want.

It is important that we remember that ALL the material of the trip to the Moon is available at [nasa.gov](http://nasa.gov), that there are Tera of information on this subject and that therefore we must build specific activities or actions, concrete and that contribute something original and pedagogical. We insist everything is already documented; it is about us filtering in search of a "different" project on a very "hackneyed" topic.

We thought that until July 31 we received your proposals in the following addresses, a kind of unidirectional online brainstorming.

[felipe.ieslaestrella@gmail.com](mailto:felipe.ieslaestrella@gmail.com)

[marianoelopman@gmail.com](mailto:marianoelopman@gmail.com)

In September we resume the activities, this is Spain not Sparta...



## La Estrella celebra la llegada de la Humanidad a La Luna

On July 21, 50 years ago, Humanity abandoned its "natural place" and placed its foot on a celestial body different from Earth for the first time.

Can we afford not to celebrate? Can we be able to not share this fact with our students and use it as a discursive element for almost all subjects?

So, for the first quarter we propose a project:



# Objective Moon

FROM THE STAR TO THE MOON

*"... and we do not do this because it's easy,  
but quite the opposite, because it's difficult."*

### Coordinators

- Felipe E. Ramirez (Mathematics Department)
- Mariano López (History Department)

### Participants

All teachers interested in working on the project. They do not have to be dept. complete.

### Methodology - organization

The aim is to carry out an STEAM interdisciplinary educational project at IES La Estrella, to be developed throughout (at least) the first quarter of the 2019-20 academic year. Some activities by their characteristics may continue after this date.

Using the astronautic analogy, the project is organized around a series of MISSIONs each with clear and complementary objectives to achieve a global and integrating result of the project.

A possible planning these MISSIONs can be:



## **MISSION I. Curriculum**

Maintain a curricular commitment of teachers / students. involved to address this event from the different subjects. I would need the approval of the Dept. to be included in the programming in a timely manner.

To do this, some actions have already been planned that can be estimative and timely to work in the different subjects and / or departments and which are recorded at the end of the document.

## **MISSION II. Exhibitions**

- Model of the Moon 1m diameter, rockets, modules, space probes, suits ...
- Drawings: classic Soviet posters, commemorative stamps, student work
- Photos

## **MISSION III. Cycles**

- Conferences: history, technology, politics ... by recognized professionals in the field or teachers at the center.
- Documentaries.
- Fiction movies.

## **MISSION IV. Contests of the center**

Motivate the students by involving them in their most expressive aspects.

- The painting, story, essay, cover / back cover of La Voz can have the Moon as an integrating element

Resource of everything in general:

<https://www.histocast.com/podcasts/histocast-188-the-man-on-the-luna/>

<https://www.nasa.gov/>

<https://www.nasa.gov/topics/humans-in-space>

## **MISSION V. Visits**

To put students in contact with the reality of research and space exploration. Obtain resources.

- Center for Bio Astrophysics of the CSIC-INTA,
- NASA Robledo de Chavela tracking station,
- Madrid Planetarium,
- Night observation of the Moon.



## **MISSION VI. Contacts**

Obtain resources as material for exhibitions, copies of documents, information, ...

- NASA
- Embassy of the United States UU in Madrid
- Astronomical Association of Madrid.

## **MISSION VII. Contests participation, diffusion, awards ...**

Obtain public recognition, grants and awards.

- STEM Project Will there be a call?
- Science in Action 2020
- Project Center
- Science Week

## **MISSION VIII. Training**

● Promote a seminar, working group, or course for the teachers of the center with recognition of training credits.

## **MISSION IX. Materialization**

- Generate a set of pedagogical activities related to the Moon from the actions, activities, productions of the different areas.
- Creation of pedagogical materials related to La Luna.



## Some ideas by areas

Department Ideas / Topics / actions:

### Language and literature **The Moon in Literature**

<https://www.youtube.com/watch?v=uAERYfeiYBc>

### Geography and History

Where does the fascination for the Moon come from? gods and kings. Astrology vs Astronomy. The nineteenth century and the visionaries: Jules Verne. The 2nd World War. The Cold War and the conquest of space.

<https://www.youtube.com/watch?v=DqaNOm08A44> (The reason for the project).

<https://www.youtube.com/watch?v=1T7Eea2Ufc8> (How has Humanity seen the Moon?)

<https://www.youtube.com/watch?v=fXTML ODBDM> (Neil Armstrong)

<https://www.youtube.com/watch?v=eXIDFx74aSY> (Von Braun)

### Technology

Study of technological limitations in the 60s. Indispensable technologies that had to be developed. Study of the technologies we have today thanks to space exploration. Evolution of propulsion engines.

<https://www.youtube.com/watch?v=OCjhCL2iq1Q> (The design)

<https://www.youtube.com/watch?v=S9HdPi9Ikhk> (Moonwalk)

<https://www.youtube.com/watch?v=r2LDXoW78u0&t=66s> (Make a rocket)

<https://www.youtube.com/watch?v=HAVqozRszeQ> (Rocket models)

### Arts and Crafts

The Moon as a source of inspiration. The Moon in The Prado. Sculptures ...

<https://www.youtube.com/watch?v=2AV59AHenci> (Astronomy, Art and the Moon)

### Mathematics

How was space measured in Antiquity? Size of the Sun, distance from Sun to Earth, lunar diameter etc. The sphere.

<https://www.youtube.com/watch?v=09y AVYMEUs> (Demystifying the theories about the falsehood of the arrival to the Moon). Physics Planetary movement. Ballistic movement.

Why is reentry crucial? Physics in zero gravity. How measurements are made in the Moon: it serves a scale or a dynamometer

### Physical Education

Training to be an astronaut. Special physical needs. The influence of gravity on the human body. Future disorders of living without gravity.

<https://www.youtube.com/watch?v=qmQeskmASAO> (Training to be an astronaut)



### Chemistry

Is it different to make a sponge cake without gravity? Do atoms behave the same without gravity?

<https://www.youtube.com/watch?v=57fSPyVfgMc> What is the Moon made of?

### Biology

The Solar System and the origin of the Moon ... visions and explanations. Life on other planets. How to live in La Luna? How to cultivate on the Moon? (Mars)

<https://www.youtube.com/watch?v=WGTBJHFNywI> (Birth of the Moon)

<https://www.nasa.gov/stem-ed-resources/moon-munchies.html> (NASA lesson plan)

### Classic Studies

The moon: a classic mystery. The Moon in the Aristotelian cosmos.

### Music

The Moon as a source of musical inspiration. Interpretation of musical themes related to La Luna. "Lunatic concert" at Casa de Vacas

<https://www.ranker.com/list/songs-about-the-moon/ranker-music> (Songs about the Moon).

MUSICAL "THE MAN ON THE MOON" Felipe Jiménez.

### Philosophy

Ethical problems related to La Luna and its property. Who does it come from and put a flag on? Historical parallels: America, Oceania, colonialism, International Law ... Antarctica.

<https://www.infobae.com/2011/07/27/1030114-quien-es-el-dueno-la-luna/>

### History of Science

From Galileo to Armstrong. Prestige, science and space conquest.

### Economy

Was it worth going to La Luna? What economic consequences did it have for the US the development of space programs? Communist and capitalist economies and space conquest.

<https://theapolloll.weebly.com/economic-impact.html> (Economic Impact and others)

### Foreign languages

French and English Vocabulary related to the vision of the Moon, technology...: space missions, poetic language.

<https://www.youtube.com/watch?v=-bQaYnTcm3c> (French by France Culture)