WHAT DID ANCIENT CIVILISATIONS KNOW ABOUT THE MOON?

INTRODUCTION

The aim of this activity is for students to do some research about what ancient civilizations knew about the universe and more specifically, about the moon, so that they are able to analyses its importance and then finally do a debate about what would have happened if the moon would not have existed? How would it have affected their vision of the cosmos? How would it have affected the measurement of time? These are some of the questions around which you can focus the debate and there search, however they are open to adaption in accordance with the characteristics of each group**.**

1ST SESSION

The first session consists of dividing the class into groups. The way in which the groups are divided will depend on the characteristics of the group as well as the way in which the teacher wishes to lead it (possible groupings and their characteristics and also cooperative learning theory can be found on the page: Colectivo cinética).

Theses aid groups will then be divided into groups of experts, where one of the civilizations will be investigated. Here are some civilizations or topics that may be of interest and where our students can get the information to make a summary. This first session can be held in the computer rooms, with the support of mobile phones or in paper format if you cannot access these resources. Depending on the group and the number of students, all or some cultures / the mess will be carried out.

In order to contextualize the general history of moon observation you can refer to the following enlace.

In regard to the world of eclipses, one can read a small guide to the iconography of eclipses by the University Compultense.

Regarding the prehistoric, we have numerous examples of lunar calendars that can be joined with archeoastronomy and the study of remaining materials of prehistoric ages. For example:

- The oldest lunar calendar found in Scotland or these painting sin a cave in Ireland. http://news.bbc.co.uk/hi/spanish/science/newsid_1206000/1206977.stm

Some related resources to the knowledge of the moon in **Egyp**t are the following:

- Otro aspecto importante sobre las deidades relacionadas con la luna.
- An interesting artículo to understand how they dated things and how dating knowledge of the moon is useful for us.
- Another important aspect about the deidades (deities= gods) related to the moon.

In Greece, the knowledge about the universe and the moon is very extensive, one of the ideas in which we can focus on is the measurement of the size of the moon and the distance of it from the earth thanks to these resources from CSIC.

Also we can focus on the mythological representations of the moon with this link: mitológica

It is interesting to cross the ocean to understand more about the knowledge that precolombian ancient cultures had about the moon, for a general approach we can read a brief history of astronomy en this artículo , or to know more about the mayan and incan calendar: mayainca

Continuing through history we come to the **Muslim** lunar calendars: calendarios.

For the Medieval world (as much Christian as it was Muslim) we also have many references, a general view can be found in this article: artículo.

Un recurso de la época medieval española son las de la época de Alfonso X, que nos puede llevar al conocimiento de las tablas astronómicas las cuales, eran instrumentos prácticos que facilitaban los cálculos para determinar las posiciones de planetas, Sol y Luna respecto a un punto en concreto, también servían para calcular eclipses y posiciones de constelaciones. Existen desde el mundo griego (Ptolomeo), pero no será hasta el mundo islámico cuando adquieran más desarrollo y complejidad.

A resource from the Spanish medieval period are those from the time of Alfonso X, which can lead us to the knowledge of astronomical tables tablas astronómicas which were practical instruments that facilitated calculations to determine the positions of planets, the Sun and Moon regarding a specific point. They also served to calculate eclipses and constellation positions. They come from the Greek world (Ptolemy), but it will not be until the Islamic world when they acquire more development and complexity.

When the students finish their research they will return to their groups where each one can share their findings with each other and then they will make a small summary that will help to organize the ideas and prepare them for the activity that they will do in these session.

2ND SESSION

In this second session, the summary can be completed in the reference groups and organized in the form of a 'Visual thinking', this consists of making posters with eye-catching drawings and graphs, as well as printed materials that they bring from home after having done there search the first day. The objective is to bring together aloof the information, organize it, rank it and decide its importance after having done there search and the sharing on the first day.

For your organization, we will take into account the divisions of the tasks according to your abilities and interests, for example those who draw best, those who organize the information best, those who support the preparation work, etc.

3RD SESSION

Once there search is done, the summary and visual thinking will be the opportunity in which each group of experts have to present their ideas about their time period. They will have to create a role-play, as if they were from their designated time period, to defend their ideas about the world. For this they may come in disguise or bring elements that support and illustrate their explanation.

The teacher will have to prepare 3-4 questions to guide and focus the debate. Some ideas may be those outlined in the introduction:

- What would happen if the moon had not existed?
- How would it have affected our vision of the cosmos?
- How would it have affected the time measurement?