**Script “The Earth. Dimensions of the Universe”**

**Title: The Earth. Dimensions of the Universe.**

**Authors: Iratxe Martinez**

**Total: 2 teaching periods**

First of all the teacher explains some concepts related to the *scientific language (see ppt).*

***1st Activity:***

Time:

Type of activity: Watching videos

Class organisation: Whole class

Actions/Tasks: The teacher will play two videos: ([The Scale of the Universe 2](https://www.youtube.com/watch?v=uaGEjrADGPA)) and[Universe Size Comparison 2018](https://www.youtube.com/watch?v=GATj2tdBJWc).

***2nd Activity:***

Time:

Type of activity: Classification of planets

Class organisation: In groups

Actions/Tasks: Students look for data on the diameters of the planets and their distance from the Sun. They also have to calculate their sizes and distances at the given scales. After that, they will fill in the chart in the PowerPoint provided (Appendix 1). To finish, students have to find the relationship between sizes and answer the questions in appendix 2, which can also be found below (scientific language should be used at all times).

1. How much bigger is Jupiter than Mercury?

2. What is the size of the sun (diameter)?

3. How much larger is the Sun than the Earth?

4. Considering the speed of light, how long does it take for a beam of light to travel from the Sun to the Earth?

5. Given that on average the speed of a space probe can be around 16km/s, how long would it take for the space probe "Somox" to travel from your house to Mars?

6. And to the sun (if it reached a safe distance of 6-106km)?

7. Given that the size of a cell can range from 1 to 10 microns (or even more), how many cells would have to be lined up to reach the crossbar of a football goal?

***3rd Activity:***

Time:

Type of activity: Doing calculations

Class organisation: Individually

Actions/Tasks: Students do the calculations in Appendix 3 also available on the PowerPoint document.