

## Investigating Science

Previous compulsory steps / Prior students' knowledge	None
Learning objectives	Learning about basic astronomy concepts and relative science laws and physical philosophers' views about Cosmos
Subjects	Science, Planetary motion, physical philosophy.
Recommended Age	10-14
Material needed	Video Projector
Sequence duration	45 minutes
Individual or group activity	Group activity
Skills developed (after learning objectives)	Critical thinking, research, collaboration, communication, creativity
Price range of the game	Free Videos
Extension / differentiation activities	In a "flipped classroom" scenario this game could be a "perfect homework". Teacher could propose it after this sequence aiming at concepts like Moon phases, The zodiac constellation, Parallax effect and many more. / This is a game that students could also play in their PCs in an IT laboratory.
Tips to make the sequence more accessible or inclusive	The videos used in this sequence have no subtitles option. However, someone could add subtitles in the video <a href="#">here</a>

## Step by step: how to implement the sequence

This pedagogical sequence may serve for students as a way to learn ancients' philosophical ideas about Cosmos, and to get to know basic astronomy concepts and relative science laws.

The sequence is implemented with the use of videos which are walkthroughs of the game: "Odyssey - The Invention of Science".

The game is a puzzle-based game. You or your students as players are on an island somewhere in the Caribbean. You can walk on the island trying to save a family but in order to do so you must open doors and overcome obstacles by solving puzzles based on scientific concepts.

The game includes information about concepts and philosophical ideas presented in the form of a diary of one of the children of the family (you must save) and the solution is obtained interactively.

Teacher will use the videos in order to walk around, read and solve the puzzles with their students in a collaborative way in order to introduce them in the primary scientific concepts that started to form in the Ancient World.

- **Step 1 – Introduction to the topic (5 minutes)**

The teacher must make an introduction about ancient's beliefs about earth, elements and stars and prepare for the diversity of perceptions of the ancients from the established scientific knowledge of today.

- **Step 2 – Polar Star (20 minutes)**

In the video that follows at the first 3m, students will be introduced to the game content and the gameplay.

- [ODYSSEY The Next Generation Science Game : Walkthrough 1 - North Star : Polaris](#) (3:00 to 10:00)

The students will learn or refresh their knowledge about North Star: Polaris solving the first puzzle of the game.

- **Step 3: Antipodes and Flat Earth (20 minutes)**

Teacher could firstly talk about the misconception that arises through various historical periods (with limited presence among educated people though) that the Earth is flat. Then augment with relative information about various people's beliefs about antipodes (see various sources [here](#))

Then they will use the next video to solve the puzzle of antipodes

- [ODYSSEY The Next Generation Science Game : Walkthrough 2 - Globe Statue : Antipodes](#)

and discuss with students about these concepts.

## References

*ODYSSEY The Next Generation Science Game : Walkthrough 1 - North Star : Polaris.* (2017, April 20). [Video]. YouTube.

[https://www.youtube.com/watch?v=pKvl8PQAeJY&list=PLoi8XQWRo3plaA6i7ydKDxD E2UzS4QQBo&index=1&ab\\_channel=Fredericma45Gaming](https://www.youtube.com/watch?v=pKvl8PQAeJY&list=PLoi8XQWRo3plaA6i7ydKDxD E2UzS4QQBo&index=1&ab_channel=Fredericma45Gaming)

*ODYSSEY The Next Generation Science Game: Walkthrough 2 - Globe Statue : Antipodes.* (2017, April 20). [Video]. YouTube. [https://www.youtube.com/watch?v=r-VRW0QyXXc&list=PLoi8XQWRo3plaA6i7ydKDxD E2UzS4QQBo&index=2&ab\\_channel=Fredericma45Gaming](https://www.youtube.com/watch?v=r-VRW0QyXXc&list=PLoi8XQWRo3plaA6i7ydKDxD E2UzS4QQBo&index=2&ab_channel=Fredericma45Gaming)

*Odyssey - The Invention of Science: Episode 1.* (2021, July 11). [Video]. YouTube.

[https://www.youtube.com/watch?v=V3nJrXRE4N0&ab\\_channel=ManSharkSubLPs](https://www.youtube.com/watch?v=V3nJrXRE4N0&ab_channel=ManSharkSubLPs)

Wikipedia contributors. (2022, September 1). Antipodes. Wikipedia.

<https://en.wikipedia.org/wiki/Antipodes#References>