

Background information

Title: “Investigating our Solar System”

Brief Description: Through this activity students will learn about the main characteristics of the planets of our Solar System and will make comparisons about distances and planet size.

Keywords: Planets, Solar System, the Sun

Target audience: 6th grade Primary school students

Age range: 11-12 years old

Context(s): School

Time required: 45’-60’

Technological tools required: MetAclass app, tablet/smartphone, model markers

Authors background: General education Primary school Teacher

Connection with the curriculum: This scenario is aligned with “Unit A: The Earth as a celestial object” of the new Geography curriculum for the 6th class of Primary School.

Learning objectives:

- To learn about the planets of the solar system and estimate their characteristics.
- To align the planets based on their size
- To arrange the planets based on their distance from the Sun.

Material:

- Three-dimensional models of the planets of our solar system
- Mobile phone or tablet with augmented reality application.
- AR Planet markers

Guidance for preparation: upload scenario to student’s devices, follow the steps of this guide.

INVESTIGATING OUR SOLAR SYSTEM

1. Setting the scene

Begin the conversation by showing an image of the night sky and asking students what all the shining dots that they can see in the night sky are.

Ask students what the difference between stars and planets is and how many planets they can see in the night sky.



Spark their curiosity by providing them with the marker of a digital planet and a device to scan it and observe it, using the MetAclass app.



2. Look around

Engage students in a brainstorming session to elicit their prior knowledge about the planets of our solar system, how they look like, how big they are, or about their distance from the Sun.

Write down their ideas on the whiteboard and define the main goals of the activity (what the planets of our solar system are, how big they are, how far they are).

Start a conversation about the distances in the solar system and what is an [astronomical unit](#) (AU).

Help students understand what Augmented Reality is and how to use MetAclass application to explore science.

3. Investigation

Part 1

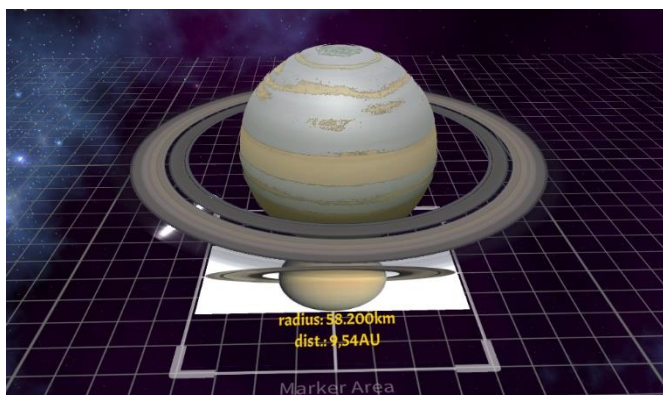
Encourage students to start their investigation by scanning the provided marker and explore their digital model from different angles. Then answer the following questions in their notebook:

- How does your planet look like?
- How big is your planet?
- How far is your planet from the Sun?
- Start your research and try to identify the name of your planet.



Part 2

Student teams scan all markers of the class to search for information **about the size** of every planet and arrange them in order starting from the largest, using their notebook.



Part 3

Student teams exchange information with each other and cooperate to arrange markers/digital planets in order, based on their records about the planets' **distance from the sun**.



Part 4

Teams create an artwork showing our solar system and planets, according to the information they acquired during their research.

4. Communication and discussion

Focus the class on discussing the differences among the planets of our solar system that the groups discovered.

Highlight the key features of each planet.

Ask students to present their artworks about the Solar System and the main information they have acquired.