

Mission from NASA

Grade

5

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Difficulty **1**



45 minutes



small group

Tags: Science, Astronomy

App/Tech Tools

Galactic Explorer app, MERGE Cube, MERGE Headset (optional), device (phones/tablet)

Materials

Planet card checklist posted on screen or handout one per group, Paper and markers/colored pencils/crayons

Learning Objective

The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night and different positions of the sun, moon, and stars at different times of the day, month, and year.

Suggested Vocabulary: Inner planets, Outer planets, Galaxy, Solar system, Characteristics, Comparison

Activity

1. **(Optional)** You can set the stage for the activity by saying, "This is Commander Blast from NASA. We have a mission for your class if they choose to accept it. We want to explore whether people can live on other planets and we need your help."

We need your students to investigate the 7 other planets in our solar system (not Earth) using Galactic Explorer for Merge Cube App in your classroom. You must create 7 informational planet cards for our astronauts to investigate

so they can decide what planet would be best to live on! Remember, you do not have to create a planet card for Earth. Your teacher will give you further details on what must be included on your planet cards if you choose to accept this mission! Good luck!”

Say: “Okay class – are you ready to accept this mission? (hopefully class says yes)
Okay, we have our mission, let’s get started!”

2. Pass out Merge Cubes to each student or small group.
3. Hand out Merge Headsets (if available) equipped with phones to each student or small group.
4. Have students activate the Galactic Explorer for Merge Cube App.
5. Hand out paper, coloring supplies, and planet card checklist.
6. Use the special Headsets (or say iPads if not using goggles) and information you learn on the Galactic Explorer for Merge Cube App and create informational planet cards for the astronauts to investigate. You will create 7 cards (Mercury, Venus, Mars, Jupiter, Saturn, Uranus, and Neptune). Remember the astronauts are looking for a new planet where people can live.
7. Each planet card must have (post on large screen or handout out copy to each group): Name of planet, picture of planet (use correct coloring and characteristics), comparison of size of planet to size of Earth, location of planet in solar system, and at least 3 facts about the planet you learn from the Galactic Explorer for MERGE Cube App.
8. Students can create the 7 cards individually, with a partner, or as a small group. Start the class countdown. When you get to 0, students can put on VR goggles or begin using app on their iPads. Students will investigate the planets required to complete their planet informational cards. Allow students plenty of time to investigate each planet using the MERGE Cube and Galactic Explorer for MERGE Cube App to create their informational planet cards.
9. When students have finished creating their 7 informational planet cards – give them time to share their cards with each other. Have them share with the class or small group which planet would be best for the astronauts to live on and explain why.

Suggested Questions

- Where is Earth located in the solar system – describe in connection with each planet you made an informational card for?

- What do the inner planets have in common based on your visual observation using the MERGE Cube?
- What do the outer planets have in common based on your visual observation using the MERGE Cube?
- What differences did you observe when viewing the inner and outer planets using the MERGE Cube?
- How does a planet's position from the sun affect the planet?
- Why did you not create an informational card for Pluto?
- **BIG DISCUSSION QUESTION:** Do you feel the information you learned about each planet using the MERGE Cube was enough information to decide if people could live on that planet? If yes – why? If no – what other information would an astronaut need to know about the planet to decide if it was a good planet to live on or not?

Extension Ideas

- Have students create videos where they pick one of their planet informational cards to share with Commander Blast from NASA to share with the astronauts.
- Have students write a letter and include one of their planet informational cards to share with Commander Blast from NASA to share with the astronauts.

