

Grades: 6-8

Nova - The Planets: Inner Worlds

The rocky planets - Mercury, Venus, Earth and Mars - were born of similar material around the same time, yet only one supports life. Were Earth's neighbors always so extreme? Is there somewhere else in the solar system where life might flourish?

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- Why is the Earth the only planet with life?
- Explain how the four rocky worlds were formed.

Question Box 2

- How are atmospheres created in various planets?
- Explain the gravitational deceleration of the Messenger Mission?
- Why were Huyens Probe images of Titan indicative of similar features we find here on Earth?
- Explain the life cycle of a star using the HR diagram.

Box 3 (Tasks)

- [Exploring Space Science Mathematics](#)
- Draw an illustration for this episode (poster, infographic, etc)

Box 4 (Enrichment)

- Make a PowerPoint or of Cassini's Mission from inception to the final data analysis. Should we continue exploring new moons/planets in search of life?

Box 5 (Real Life Connection)

- Please provide budget reports on how continued exploration will affect the US economy and global environment.
- The cost of traveling to and from space is huge. Elon Musk saw this problem as

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an opportunity to create his company, SpaceX. As you watch these episodes of our solar system, ask yourself the following questions:

- What's keeping mankind from doing more in space?
- What opportunities does our solar system present?
- What kind of careers/businesses might be needed in our future to take advantage of those opportunities?
- Collect answers to those questions after each episode. Let the information you gain from each episode spark your imagination and creativity. On Friday, you will put to use the ideas you've collected.
- Find out more about Elon Musk's SpaceX at: <https://www.spacex.com/elon-musk>