

THIS THRESHOLD TODAY – EARTH AND THE SOLAR SYSTEM

Purpose

In this activity, students will read news articles that reveal unexpected connections between today's world and the formation of Earth and the Solar System. We are learning new things all the time related to what we know about Threshold 4. This activity will help students see the connection between this threshold and today.

Process

The formation of planets represents an increase in the complexity of the Universe. Planets are more chemically diverse than stars, and a planet that is neither too far from its star nor too close has the potential to support life. Until about 20 years ago, most scientists believed that there were no planets outside of our Solar System. The discovery of hundreds of exoplanets (planets outside our Solar System) has generated a great deal of excitement in the scientific community and has provided another potential source of evidence for understanding how our Solar System and its planets formed.

Your students can join in this process of discovery by searching for news stories about Earth and the formation of the Solar System. In this This Threshold Today, you will challenge your students to find articles and websites that all refer to the same topic. The more they can find agreement from different sources about the same topic, the more likely that argument is credible. However, don't forget to remind students that those articles and websites still need good evidence to back up their claims. Another thing they should look for is if all the authors are using the same source information or citing the same scientific study. If students discover this is the case, they should be aware that although it might seem like there's a ton of corroboration among the scientists, if only one study is cited, they won't be able to tell if there's any corroboration among studies. And, on the other hand, students might find that authors cite the same study or source and come to completely different conclusions.

Tell students to find three articles and/or websites that generally agree on the same topic. One good way to do this online is to have students open multiple tabs in the same browser that have stories about similar topics, or websites that cover similar subjects. Students can compare across the tabs to see if the information they are encountering from a variety of sources is in agreement or disagreement. They can also evaluate whether each source is discussing the same topic in the same way. Do they agree about the significance of the topic? Do they emphasize the same elements of a story? Students may find that multiple news articles exist about the same announcement from NASA or another organization. Are there differences in the way these are presented?

As usual, students will be asked to fill out their research cards and once again examine the authority of the sources they find.

If your students aren't ready to conduct their own online research, have them check out [Newsela.com](https://www.newsela.com) for great articles. You and your students can also look at these sites to help you get started:

- [With Ultima Thule Flyby, NASA Probe Helps Unlock Secrets of Planetary Formation](#)
- [Seismic Study Reveals Huge Amount of Water Dragged into Earth's Interior](#)
- [You Don't Look a Day Over 100 Million, Rings of Saturn](#)
- [Earth Swallowed Another Planet and \(Maybe\) That's Why Life Exists](#)
- [NASA's New Parker Probe Will Skim the Sun's Surface](#)

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The formation of planets represents an increase in the complexity of the Universe. Planets are more chemically diverse than stars, and a planet that is neither too far from its star nor too close has the potential to support life. Until about 20 years ago, most scientists believed that there were no planets outside of our Solar System. The discovery of hundreds of exoplanets (planets outside our Solar System) has generated a great deal of excitement in the scientific community and has provided another potential source of evidence for understanding how our Solar System and its planets formed.

You can join in this process of discovery by searching for news stories about Earth and the formation of the Solar System.

First, find one article or website you think is credible. After you've done that, try to find another article or website that supports the claims being made in the first article. The more you can find agreement from different sources about the same topic, the more likely that argument is credible. However, don't forget that those articles and websites still need good evidence to back up their claims. Another thing you should look for is if all the authors are using the same source information, such as they are all citing the same scientific study. If you discover this is the case, it may mean that the scientific community has accepted this new finding, but it doesn't necessarily mean that these conclusions are supported by multiple studies or different types of evidence.

Try to find a total of three articles and/or websites that generally agree on the same topic. One good way to do this is to open multiple tabs in the same browser that have stories about similar topics, or websites that cover similar subjects. You can compare across the tabs to see if the information you're finding is in agreement or disagreement. You can also evaluate whether each source is discussing the same topic in the same way. Do they agree about the significance of the topic? Do they emphasize the same elements of a story? You might find that multiple news articles exist about the same announcement from NASA or another organization. Are there differences in how the information is are presented?

You might choose one of the articles below to get you started.

- [With Ultima Thule Flyby, NASA Probe Helps Unlock Secrets of Planetary Formation](#)
- [Seismic Study Reveals Huge Amount of Water Dragged into Earth's Interior](#)
- [You Don't Look a Day Over 100 Million, Rings of Saturn](#)
- [Earth Swallowed Another Planet and \(Maybe\) That's Why Life Exists](#)
- [NASA's New Parker Probe Will Skim the Sun's Surface](#)

As usual, you'll be asked to fill out research cards as part of this activity.

THIS THRESHOLD TODAY – EARTH AND THE SOLAR SYSTEM Name: Date:

Directions: Search online or use the links provided for current news articles related to Threshold 4: Earth and the Solar System. Use the articles listed here or find at least three articles/websites that make similar claims and use them to verify the discovery being discussed.

- With Ultima Thule Flyby, NASA Probe Helps Unlock Secrets of Planetary Formation
<https://www.space.com/42889-new-horizons-ultima-thule-flyby-planet-formation.html>
- Seismic Study Reveals Huge Amount of Water Dragged into Earth's Interior
<https://www.sciencedaily.com/releases/2018/11/181114132013.htm>
- You Don't Look a Day Over 100 Million, Rings of Saturn
<https://www.npr.org/2019/01/17/686178617/saturn-put-a-ring-on-it-relatively-recently-study-says>
- Earth Swallowed Another Planet and (Maybe) That's Why Life Exists
<https://www.space.com/43103-planetary-collision-life-earth.html>
- NASA's New Parker Probe Will Skim the Sun's Surface
<https://www.wired.com/story/nasas-new-parker-probe-will-skim-the-suns-surface/>

Threshold 4: Earth and the Solar System	
Headline/Title:	
Date of article:	
Name of website:	
Author:	
Authority	
What makes the author an authority on this topic?	



THIS THRESHOLD TODAY – EARTH AND THE SOLAR SYSTEM Name: Date:

<p>What makes the website an authority on this topic?</p>	
<p>Relevance to This Threshold</p>	
<p>How does the information in the article support what you already know about Threshold 4?</p>	
<p>How does the information in the article extend what you already know about Threshold 4?</p>	
<p>How does the information in the article challenge what you already know about Threshold 4?</p>	

THIS THRESHOLD TODAY – EARTH AND THE SOLAR SYSTEM

Name:

Date:

<p>How does the information in the article extend what you already know about Threshold 4?</p>	
<p>How does the information in the article challenge what you already know about Threshold 4?</p>	

Threshold 4: Earth and the Solar System	
Headline/Title:	
Date of article:	
Name of website:	
Author:	

