

THIS THRESHOLD TODAY – STARS LIGHT UP

Purpose

In this activity, students will read news articles that reveal unexpected connections between today's world and the time when the first stars lit up. We are learning new things all the time related to what we know about Threshold 2. This activity will help students see the connection between this class and today.

Practices

Claim testing

As students start to evaluate what they read, they can use the claim testers to help them uncover bias in an article. If an article is full of opinions, it's probably not supported by a whole lot of evidence. Remind students that if they see lots of support, it's more likely the article is objective.

Process

The second major threshold of increasing complexity in this course is the birth of the first stars. Until stars lit up, the Universe was relatively cold and dark and had very little visible structure. The intense heat and pressure and the energy generated by stars would eventually enable still more complexity, like planets and even life. This threshold is crossed over and over again, as new stars form continually in places in the Universe called nebulae. These different stars are born, live, and die over millions and billions of years. Stars of different sizes, or masses, have different life cycles. Scientists, and all of us, continue to learn more about star formation and the colorful lives of stars.

Your students can join in this process of discovery by searching for new stories about the stars. Depending on your students' skill level with research, you might have them use the articles provided or have them search for some on their own. Either way, encourage them to think about article credibility for everything they encounter. Make sure they always consider these questions:

- What authority does the author have about the topic?
- What authority does the website have about the topic?

Remind students to think about attributed versus achieved authority when they evaluate their sources.

Also, have them revisit the questions they asked themselves in the last This Threshold Today activity to help them evaluate authority:

- Does the person have a degree or extensive experience in the field they are talking about?
- Is this person respected by their peers?
- Do they have publications in the field that are cited by others?
- Is the website hosting the content known and respected for featuring this type of content?

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Although answering those questions will help students begin to decide if an author is credible, the next step is to determine if the author is biased. Go over the definition of bias with your students; it might be a word that is unfamiliar to them. Bias can be defined as a spin, viewpoint, or one-sidedness in favor or against a person or group, typically in a way that's unfair. One of the best ways to determine bias is to analyze an article to see if it's mostly opinion, or if the claims being made are backed up with supporting statements (hello, claim testing!). The more an article relies on opinion, the more likely there is bias.

If you have time, review an article with your class to see if you can figure out what statements are more opinion-based and what is more evidence-based. Or, have them annotate one they find themselves!

Research cards have been provided with the This Threshold Today Threshold 2: Stars Light Up Worksheet. Have your students use these cards to record their sources and some of the details about what they discover.

Check out [Newsela.com](https://www.newsela.com) for great articles. You and your students can also look at these articles to help you get started:

- [As Clouds Fall Apart, a New Star Is Born](#)
- [Astronomers Find Star Material Could Be Building Block of Life](#)
- [Lifting the Veil on Star Formation in the Orion Nebula](#)
- [Astronomers Find Huge Stars More Common Than Previously Thought](#)
- [Massive Star Is So Big It Gives Birth to a Tiny Twin](#)



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Purpose

In this activity, you will read news articles that reveal unexpected connections between today's world and the time when the first stars lit up. We are learning new things all the time related to what we know about Threshold 2. This activity will help you see the connection between this class and today.

Practices

Claim testing

As you start to evaluate what you're reading, use the claim testers to uncover any signs of bias in an article. If an article is full of opinions, it's probably not supported by a lot of evidence. If you see lots of support, it's more likely the article is objective.

Process

The second major threshold of increasing complexity in this course is the birth of the first stars. Until stars lit up, the Universe was relatively cold and dark and had very little visible structure. The intense heat and pressure and the energy generated by stars would eventually enable still more complexity, like planets and even life. This threshold is crossed over and over again, as new stars form continually in places in the Universe called nebulae. These different stars are born, live, and die over millions and billions of years. Stars of different sizes, or masses, have different life cycles. Scientists, and all of us, continue to learn more about star formation and the colorful lives of stars.

You can join in this process of discovery by searching for new stories about the stars. As you look for new information related to stars, don't forget to think about article credibility. Keep these questions at the forefront of your mind as you conduct your research:

- What authority does the author have about the topic?
- What authority does the website have about the topic?
- Does the person have a degree or extensive experience in the field they're talking about?
- Is this person respected by their peers?
- Do they have publications in the field that are cited by others?
- Is the website hosting the content known and respected for featuring this type of content?

Although answering those questions will help you begin to decide if an author is credible, the next step is to decide if the author is biased. One of the best ways to determine bias is to analyze an article to see if it's mostly opinion, or if the claims being made are being backed up with supporting statements (hello, claim testing!). The more an article relies on opinion, the more likely it is biased. Talk to your teacher about what bias is if you're not sure.

Use some of the suggested articles below, or find ones on your own that highlight new information that you think contributes to a discussion of Threshold 2 today. The articles listed have been vetted for their credibility. Should you decide to seek out articles other than those listed, be sure to utilize the criteria discussed by your teacher to evaluate the websites that you choose. Use the research cards on the next pages to record your sources and some of the details about what you discover. Here are some articles to use to get started with your research:

- [As Clouds Fall Apart, a New Star Is Born](#)
- [Astronomers Find Star Material Could Be Building Block of Life](#)
- [Lifting the Veil on Star Formation in the Orion Nebula](#)
- [Astronomers Find Huge Stars More Common Than Previously Thought](#)
- [Massive Star Is So Big It Gives Birth to a Tiny Twin](#)

As you carry out research for this class and others, it's useful to document the sources that you come across and the information in them. Use the research cards provided on the following pages to do just that. This will be a functional practice to utilize later in the course, when researching for your Little Big History Project.

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Name: Date:

Directions: Use some of the suggested articles below, or find ones on your own that highlight new information that you think contributes to a discussion of Threshold 2: Stars Lighting Up today. Complete the research cards below for three articles.

- As Clouds Fall Apart, a New Star Is Born
<https://phys.org/news/2019-01-clouds-fall-star-born.html>
- Astronomers Find Star Material Could Be Building Block of Life
<https://phys.org/news/2019-01-astronomers-star-material-block-life.html>
- Lifting the Veil on Star Formation in the Orion Nebula
<https://www.sciencedaily.com/releases/2019/01/190109110053.htm>
- Astronomers Find Huge Stars More Common Than Previously Thought
<https://www.npr.org/sections/thetwo-way/2018/01/04/575399319/astronomers-find-huge-stars-more-common-than-previously-thought>
- Massive Star Is So Big It Gives Birth to a Tiny Twin
<https://www.livescience.com/64333-massive-star-births-tiny-twin.html>

Threshold 2: Stars Light Up	
Headline/Title:	
Date of article:	
Name of website:	
Author:	
Authority	
What makes the author an authority on this topic?	

THIS THRESHOLD TODAY – STARS LIGHT UP

Name:

Date:

<p>How does the information in the article extend what you already know about Threshold 2?</p>	
<p>How does the information in the article challenge what you already know about Threshold 2?</p>	

Threshold 2: Stars Light Up	
Headline/Title:	
Date of article:	
Name of website:	
Author:	

