



Stackable Instructionally- embedded Portable Science (SIPS) Assessments Project

Grade 8 Science Unit 2 Sample Lesson “Gravity Pulls Us All Together” Gravity and Motion of Objects in the Solar System May 2023

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Science Grade 8

Unit 2: Gravity and Motion of Objects in the Solar System

Sample Lesson: Gravity Pulls Us All Together

Suggested Time to Complete: 100 minutes

Purpose & Use Statement: This sample lesson was developed for state and local administrators and teacher leaders (e.g., curriculum directors, instructional facilitators, professional learning specialists) to (1) illustrate an example of an instructional lesson developed using a principled design approach, and (2) support accompanying process documentation about how to use the SIPS unit as an instructional framework to intentionally design high-quality lessons in an aligned curriculum, instruction, and assessment system. This sample lesson should be evaluated and refined, as necessary, to align appropriately with a standards-based curriculum, instruction, and assessment system prior to its use. Additionally, teachers should refine this lesson to meet the local, cultural, and individual needs of the students.

Desired Results

Overview of the Learning Goals

In this lesson, students analyze and interpret visual data from simulations of a nebula and star nurseries, to see how gravitational forces cause these massive clouds of gas and dust to collapse and form into stars, planets, and other celestial objects. Students then read and obtain information about the processes of stellar/solar system formation, the different types of objects that form, and how gravitational forces lead to objects in orbit, and document their learning and then use that learning to help answer questions they have generated.

Connections to Prior Learning

DCIs

• Prior Learning from 3-5

- The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in size and distance from Earth.
- 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.
- Some objects in the solar system can be seen with the naked eye. Planets in the night sky change positions and are not always visible from Earth as they orbit the sun. Stars appear in patterns called constellations, which can be used for navigation and appear to move together across the sky because of Earth's rotation.
- Each force acts on one particular object and has both a strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative addition of forces are used at this level.)
- The patterns of an object's motion in various situations can be observed and measured; when past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.)

CCC - Patterns

• Prior learning from 3-5:

- Patterns can be observed when the earth, which rotates on an axis, orbits the sun and the moon orbits the earth about an axis. These include day and night; daily and seasonal changes

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in the length and direction of shadows; phases of the moon; and different positions of the sun, moon, and stars at different times of the day, month, and year.

- **Prior learning from this grade band (e.g., Grades 6 & 7):** Students are expected to use graphs, charts, and images to identify patterns in data. They are also expected to use cause-and-effect relationships to identify patterns in data (Appendix G).
 - Multiple MS PEs use this CCC, so students will likely have some experience with the MS CCC elements prior to starting Grade 8 Unit 2.

CCC - Scale, Proportion, & Quantity

- **Prior learning from 3-5:** Students are expected to understand that events depend on phenomena that operate at very different scales, but also that fundamental interactions are present through these differences. They are also expected to understand the importance of units and their association with observable quantities.
 - In Grades 3-5, students learn to recognize that natural objects and observable phenomena exist from the very small to the immensely large. They will also learn to use standard units to measure and describe physical quantities such as weight, time, temperature, and volume (Appendix G).
- **Prior learning from this grade band (e.g., Grades 6 & 7):** Students are expected to become adept at working across different scales and how phenomena observed at one scale may not be observable at another scale. They use proportional relationships (e.g., speed) to gather information about the magnitude of properties and processes.
 - Multiple MS PEs use this CCC, so students will likely have some experience with the MS CCC elements prior to starting Grade 8 Unit 2.

CCC – Systems and System Models

- **Prior learning from 3-5:** Students are expected to understand that a system is composed of components that interact with one another and also that the system can do things that depend on the different components, which may each have a unique function, and that the components operating together can enable the system to carry out functions that individual parts cannot.
- **Prior learning from this grade band (e.g., Grades 6 & 7):** Students are expected to develop additional sophistication in identifying the way that components of a system interact with one another and with the environment (surroundings) of the system.
 - Multiple MS PEs use this CCC, so students will likely have some experience with the MS CCC elements prior to starting Grade 8 Unit 2.

SEP - Analyzing and Interpreting Data

- **Prior learning from 3-5:** Students will have experience with the collection of data using quantitative approaches to collecting data and conducting multiple trials of qualitative observations. They will be able to carry out the analysis and interpretation of the data using logical reasoning, mathematics, and/or computation.
 - In Grades 3-5, students will represent data in tables and/or various graphical displays to reveal patterns that indicate relationships. They will analyze data to refine a problem statement or the design of a proposed object, tool, or process.
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- **Prior learning from this grade band (e.g., Grades 6 & 7):** Students will build understanding and skills with quantitative analysis of data. They will distinguish between correlation and causation and carry out basic statistical techniques of data and error analysis.
 - Multiple MS PEs use this SEP, so students will likely have some experience with the MS SEP elements prior to starting Grade 8 Unit 2.

SEP - Obtaining, Evaluating, and Communicating Information

- **Prior learning from 3-5:** Students will evaluate the merit and accuracy of ideas and methods. This includes obtaining and combining information from books and/or other reliable media to explain phenomena or solutions to a design problem.
- **Prior learning from this grade band (e.g., Grades 6 & 7):** Students progress to evaluate the merit and validity of ideas and methods. This includes integrating qualitative and/or quantitative scientific and/or technical information in written text with that contained in media and visual displays to clarify claims and findings.
 - Four PEs from this grade band use this SEP, so students will likely have some experience with the MS SEP elements prior to starting Grade 8 Unit 2.

Key Vocabulary

Students build conceptual meaning with and use key tier II and tier III vocabulary terms as they make sense of phenomena and phenomena-based design problems. This is not an exhaustive list of terms and should be reviewed and modified by educators, as appropriate.

- Nebula
- Main sequence star
- Star nurseries
- Interstellar Medium
- Astronomical Unit
- Galaxy
- Protostar
- Celestial object

Targeted Stage 1 Learning Goals

Acquisition Goals (AG)

A5. Analyze and interpret data on gravitational forces exerted by massive objects to show similarities and/or differences in the observed effects of those forces.

A14. Obtain, evaluate, and/or communicate information that our solar system includes multiple types of objects that orbit the Sun (and may also orbit one another).

A15*. Construct and present an argument to support or refute an explanation that our solar system includes multiple types of objects that orbit the sun (and may also orbit one another).

A19*. Construct and present an argument about how gravitational forces lead to a regular orbital motion of a moving object.

Common Core State Standards (CCSS):

SL.8.5 RST.6-8.1

Enduring Understandings (EU)/ Essential Questions (EQ):

EU/EQ1 EU/EQ3 EU/EQ4

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Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<input checked="" type="checkbox"/> Analyze & Interpret Data <input type="checkbox"/> Ask Questions <input type="checkbox"/> Construct Explanations <input type="checkbox"/> Define Problems <input type="checkbox"/> Design Solutions <input type="checkbox"/> Develop & Use Models <input type="checkbox"/> Engage in Argument from Evidence <input type="checkbox"/> Mathematics & Computational Thinking <input checked="" type="checkbox"/> Obtain, Evaluate, & Communicate Information <input type="checkbox"/> Plan & Carry Out Investigations	<input checked="" type="checkbox"/> ESS1.A: The Universe and Its Stars <input checked="" type="checkbox"/> PS2.B: Types of Interactions	<input type="checkbox"/> Cause & Effect <input type="checkbox"/> Energy & Matter <input checked="" type="checkbox"/> Patterns <input checked="" type="checkbox"/> Scale, Proportion, & Quantity <input type="checkbox"/> Stability & Change <input type="checkbox"/> Structure & Function <input checked="" type="checkbox"/> Systems & System Models

Formative Assessment Opportunities

Monitoring	Success Criteria	Possible Instructional Adjustments
<ul style="list-style-type: none"> Whole group discussion. Teacher questioning. Student questions, observations, and drawings. 	<p>Students can:</p> <ul style="list-style-type: none"> Record observations of nebula features. Generate questions about stellar/planetary/object formation in space. Use data on gravitational forces exerted by massive objects to show similarities and/or differences in the observed effects of those forces. Use data to support an explanation of the similarities and differences in forces exhibited with objects of varying masses based on gravitational forces exerted by massive objects. 	<ul style="list-style-type: none"> Provide additional pause points to allow students time to document their thinking. Provide students additional time to view simulations. Encourage students to find additional simulations of stellar/planetary/object formation. Ask in the moment questions as students are viewing simulations.
<ul style="list-style-type: none"> Small group conferences and discussions. Teacher questioning. Group notes on chart paper. 	<p>Students can:</p> <ul style="list-style-type: none"> Obtain information relevant to their questions about stellar/planetary/object formation in space. 	<ul style="list-style-type: none"> Ask in-the-moment questions as students explore resources.

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- Student feedback on group notes.
 - Teacher questioning.
 - Document information about the role of gravity as part of stellar/planetary/object formation in space.
 - Communicate information about stellar/planetary/object formation in space.
 - Identify information that supports the idea that our solar system includes multiple types of objects that orbit the sun.
 - Describe the relationships among objects in our solar system as a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them.
 - Describe scientific evidence of Earth's relative position within our solar system.
 - Create roles within groups to encourage all members to participate.
 - Provide resources with shortened URLs, easily accessible links, or QR codes.

Instructional Plan

Lesson Overview

In this lesson, students explore scientific models of the formation of stars, planets, and other celestial objects, making observations, generating questions, and documenting their thinking. Students obtain information on the formation of stars through online research or by reviewing relevant content provided by the teacher. Students document their research in notes and identify answers to their self-generated questions.

Materials & Set-Up

- Videos
 - [Orion Nebula](#)
 - [Star Formation in a Massive Giant Molecular Cloud](#)
 - Core text materials or access to the internet
 - See core text list at end of unit for sample materials.
 - Chart Paper
 - Markers
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- Graphic Organizer
 - [Concept Maps](#) | [Classroom Strategies](#) | [Reading Rockets](#)

Anchor or Investigative Phenomenon: The James Webb Space Telescope (JWST)

The James Webb Space Telescope (JWST) is an infrared space observatory that launched from Earth on December 25, 2021. Webb is the successor of the Hubble Space Telescope. It will explore the cosmos to reveal the history of the universe from the Big Bang to alien planet information and more and is now in orbit in our solar system. The formation of galaxies, planets outside of our Solar System, and newborn stars will be studied by Webb. Webb is a massive telescope that looms three stories high and covers the size of a tennis court.

- Resources:
 - [Details on the orbit of the JWST](#)
 - [Educational resources on JWST – formal learning environments](#)
 - [Educational resources on JWST – informal learning environments](#)

Sample Driving Question: How is the JWST able to stay in orbit around the sun and stay near the Earth?

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through the [Orion Nebula](#). At the end of the video facilitate a short discussion about what stood out to students and remind them that they will be tasked with going back and rewatching the video as part of a more detailed analysis.

The video tour shows the state of the nebula as we observe it now. To see how a nebula will change over time the class watches [Star Formation in a Massive Giant Molecular Cloud](#). Again, have a short discussion about what students noticed during the video. Students may have questions about the small “dots” that come spinning off of objects. Encourage them to make predictions on what they think those could be.

The third simulation is the [STARFORGE simulation](#) which is the result of a highly complex astrophysical model. The teacher leads the class in a first viewing before tasking students with rewatching while in their small groups.

As students watch the videos, the teacher cycles around the group and uses informal assessment opportunities to check for understanding and pose questions to students that encourage them to make connections with prior learning. The teacher asks students about the role of gravity in the simulations, how they see circular motion and orbits in the simulations and conservation properties from Unit 1. The

additional evidence to support their thinking.

Students review their observations, drawings, and questions in small groups and identify which questions they need to explore to better understand how these clouds of gas form into stars.



Students conduct online research or review materials provided by the teacher, or a combination of both, to gather information to find answers to their questions and their questions from the lesson “*Lumpy Space? Empty Space? Why is Our Universe the Way it is?*” Students document their research in notes such as a [concept map](#) on a large sheet of chart paper.

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process of the cloud collapsing is driven by gravity, which pulls the cloud into these dense spots and creates large areas of empty space and lumpy space (the stars). In addition, the conservation of momentum and circular motion begins as the matter spirals together and becomes apparent as objects begin to orbit one another. Additionally, matter forms in spheres that spin, another example of the conservation of circular motion. If students struggle to find examples of conservation of energy the teacher may want to draw students' attention to the orange jets which appear in the STARFORGE simulation, starting around 0:20 sec, "What do you think these orange areas are? Why do they appear suddenly? What do you think is causing them?" Encourage students to reflect on the prior unit and the concepts of kinetic energy and energy conservation. More information on this particular simulation can be found at <https://www.sciencenews.org/article/starforge-star-formation-simulation>.

The teacher then supports students as they rewatch the simulations in their small groups, encouraging them to pause the video and rewatch segments as they document what they notice/observe in the three simulations.

In the next section, the teacher supports students as they read more about stellar formation

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and explore materials. Students read about the formation of stars through gravity, for example see

<https://kids.frontiersin.org/articles/10.3389/frym.2019.00092>.

As they read, have students organize the content using a [concept map](#) or another reading strategy that supports students in developing informational text skills. To support students, the teacher may want to provide examples of concept maps or a blank map to be completed. Additionally, teachers may provide a [walk-through](#) [<https://www.evidencebasedteaching.org.au/concept-mapping-complete-guide/>] on concept mapping.

Depending on the needs of students, the teacher may want to provide curated resources for students to explore in order to find the answers to their questions or students can be encouraged to conduct their own research online.

The teacher provides support to students in evaluating sources and finding the answers to their questions as students work in small groups to gather information.

Explain

- Explain understanding of concepts and processes
- Introduce new concepts and skills to seek conceptual clarity

In preparation for the closing activity, the teacher assists students in identifying key information in their concept maps and preparing to present this information to peers.



Students review their concept maps to determine what information is key and their justification for this. Students prepare questions they still have so that when students divide up into one subgroup, they can take the questions and seek answers

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from other groups while the other sub-group remains at their poster to answer questions.



Students prepare an explanation around questions from the lesson *Lumpy Space? Empty Space? Why is Our Universe the Way it is?* to share as part of their chart paper presentation.

Closing

Students post their chart paper around the room. One or two students from each group remain at the chart to answer any questions while the other group members visit other chart papers to learn what others found. Traveling students document what they learn from other groups with the purpose of sharing the new learning with their group and updating their own chart paper. After the gallery walk, students return to their small groups and talk about the concept maps and share with each other what they learned while visiting other groups. Then as a group, they finalize their own concept map, integrating learning from their peers.

Differentiation Strategies and Resources

“Universal Design for Learning (UDL) is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn” (CAST, 2022). Taking time to reflect on prior instruction when planning for accessible, differentiated, and culturally responsive instruction for diverse learners and culturally diverse classrooms serves to identify ways to improve future instructional practices. The UDL Guidelines provide a framework for this reflection. The guidelines include three principles as ways to focus on variety and flexibility in instructional practices:



Multiple Means of Engagement



Multiple Means of Representation



Multiple Means of Action & Expression

By examining instruction and instructional materials through the lens of each of these principles, teachers can identify and thus reduce or remove barriers to diverse learners.



Learning Opportunities	UDL Principle	Example Differentiation Strategies & Resources
Explore		
<i>Students examine simulations of celestial object</i>		Allow ownership of parts of instructional tasks. <ul style="list-style-type: none">Have students generate their own questions to research celestial object formation.

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<p><i>formation in the nebula.</i></p>		<ul style="list-style-type: none"> • Provide several options for students to practice the science vocabulary terms (e.g., use terms in a story, create a song about each, pair with illustrations that describe the term) and how to present what they did (e.g., perform live, record and share, with photos, written format, orally share).
		<p>Provide safety and reduce distractions.</p> <ul style="list-style-type: none"> • Provide a variety of ways in which students can ask a question or seek help (e.g., individually, small group, asking a peer, etc.).
		<p>Supply or activate background knowledge.</p> <ul style="list-style-type: none"> • The opening videos provide an opportunity for students to recall earlier imagery and learning about the universe.
		<p>Support transfer and generalization of skills and knowledge.</p> <ul style="list-style-type: none"> • Make explicit connections between concepts of mass, orbital radii, and orbital periods of objects in various solar systems.
		<p>Emphasize key information.</p> <ul style="list-style-type: none"> • During the simulations the teacher pauses the video at key moments to allow students time to reflect and observe. The teacher can use scaffolding questions to support students in identifying key information.
	<p>Use technology or assistive technology to broaden access to instructional materials.</p> <ul style="list-style-type: none"> • The class uses simulations to make complex long-term celestial processes accessible. 	
<p><i>Students conduct research on celestial object formation.</i></p>		<p>Provide choices.</p> <ul style="list-style-type: none"> • Allow students to select the resources that they feel are most useful and relevant to their questions.
		<p>Encourage collaboration with partners and in groups.</p> <ul style="list-style-type: none"> • The teacher is intentional in how groups are formed to ensure heterogeneity. If necessary the teacher or class may develop roles to ensure all students are involved in the learning experiences. • Ensure everyone has the means to contribute. For some, this might be to assign a role that matches their strengths, for some, it might be to provide needed vocabulary on their AAC system, and for some, it might be to reduce the size of the group and allow options for seating (e.g., exercise ball).
		<p>Support self-reflection and evaluation.</p>

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		<ul style="list-style-type: none"> As students conduct research they are seeking answers to their own questions and reflecting on their learning. Include ancillary behaviors such as asking questions, contributing to the group, and asking for help. Remind students to use the chart routinely.
		<p>Emphasize key information.</p> <ul style="list-style-type: none"> The teacher uses scaffolding questions to support students' identification of key information, encouraging students to dive deeper into key topics.
		<p>Provide information in a variety of ways.</p> <ul style="list-style-type: none"> Students explore internet resources from a variety of sources. Teacher-curated resources utilize different learning modes.
		<p>Provide support for decoding written text and symbols.</p> <ul style="list-style-type: none"> Students work in small groups and can read to each other, access videos, and teacher-curated materials can be summarized.
		<p>Provide options for accessing instructional activities and materials.</p> <ul style="list-style-type: none"> Resources can be provided using technology or printed versions. Teachers provide appropriate scaffolds for students who require accommodations.
		<p>Provide varied levels of support and practice.</p> <ul style="list-style-type: none"> Videos can be viewed with captions when there is a speaker, and a variety of reading passages are provided that meet students' reading levels.
		<p>Support planning and strategy skills.</p> <ul style="list-style-type: none"> The teacher poses additional questions to students to encourage them to make connections and check their thinking.
<p><i>Students communicate their findings from their research on celestial object formation.</i></p>		<p>Encourage collaboration with partners and in groups.</p> <ul style="list-style-type: none"> The teacher is intentional in how groups are formed to ensure heterogeneity. If necessary the teacher or class may develop roles to ensure all students are involved in the learning experiences.
		<p>Support self-reflection and evaluation.</p> <ul style="list-style-type: none"> Students revisit and verify their understanding of their own questions and reflect on their learning as they engage in discourse with peers and share learning.

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Explain		
<p><i>Students prepare an explanation around questions from Lumpy Space? Empty Space? Why is Our Universe the Way it is? to share as part of their chart paper presentation.</i></p>		<p>Provide safety and reduce distractions.</p> <ul style="list-style-type: none"> Allow students to wear noise-canceling headphones during individual work.
		<p>Connect dominant language (e.g., English) with first languages (e.g., Spanish).</p> <ul style="list-style-type: none"> Have a student respond using the first language and then translate it into English. Check understanding of content and not on sentence structure and grammar. <p>Emphasize key information.</p> <ul style="list-style-type: none"> Have students underline or highlight key information in print materials as they seek answers to the questions.
		<p>Provide options for accessing instructional activities and materials.</p> <ul style="list-style-type: none"> Ensure that all students can physically access and interact with all activities and materials (e.g., a table high enough to allow wheelchair access, an adaptation that allows access to print material, space to move to all areas in a classroom or lab, book holder, adapted keyboard, single switch, etc.). Ensure access is available for students who have a hearing impairment or visual impairment, who are blind, deaf, or deaf/blind (e.g., include an audio description for video content, closed captions for video content, alternative text for graphics, preferential seating, an American Sign Language (ASL) interpreter, screen reader, enlarged text, etc.). Allow for differences in rate, timing, speed, and range of motion (e.g., Allow enough time for all students to process the question and formulate their responses; Allow enough time for all students to move from one activity to the next, or to perform a task.).
		<p>Use technology or assistive technology (AT) to broaden access to instructional materials.</p> <ul style="list-style-type: none"> Make use of technology such as spellcheckers, word prediction software, and text-to-speech software. Provide a screen reader and web-based reader. Ensure that key terms to search the internet (e.g., science terminology) are included on a student's AAC device and that the student has a way to independently or with minimal support access the computer (e.g., adapted mouse, adapted keyboard, enlarge the screen, text to speech, etc.).

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	<ul style="list-style-type: none">• Provide low-tech tools such as pencil grips, page-turners, reading guides/strips, slant boards, tactile rulers, manipulatives, etc.
	Support planning and strategy skills <ul style="list-style-type: none">• Include prompts to check students' thinking and strategy for solving a task.• Model think-alouds to solve a problem or think through a task.
	Provide supports to help with managing information and resources. <ul style="list-style-type: none">• Bookmark key online resources.• Create a digital resource document that includes topics paired with graphics.• Link to a specific part of a web page.• Slip a page from a book, magazine, or worksheet into a plastic page protector and circle or highlight the key section.

Resources

- [Orion Nebula](https://www.spaceflightinsider.com/missions/space-observatories/nasa-video-simulation-takes-viewers-journey-orion-nebula/)
[https://www.spaceflightinsider.com/missions/space-observatories/nasa-video-simulation-takes-viewers-journey-orion-nebula/]
- [Star Formation in a Massive Giant Molecular Cloud](https://youtu.be/O8tULZHivTM)
[https://youtu.be/O8tULZHivTM]
- [STARFORGE simulation](https://youtu.be/M0Rj3hkkPf0)
[https://youtu.be/M0Rj3hkkPf0]
- [Concept Maps](https://www.readingrockets.org/strategies/concept_maps)
[https://www.readingrockets.org/strategies/concept_maps]
- [How Did The Solar System Form? \(Video and Poster, NASA\)](https://spaceplace.nasa.gov/solar-system-formation/en/)
[https://spaceplace.nasa.gov/solar-system-formation/en/]
- [STEM Teaching Tools: Multiple Means of Representation](https://stemteachingtools.org/sp/multiple-means-of-representation)
[https://stemteachingtools.org/sp/multiple-means-of-representation]
- [Evidence Based Teaching: Concept Mapping, A Complete Guide](https://www.evidencebasedteaching.org.au/concept-mapping-complete-guide/)
[https://www.evidencebasedteaching.org.au/concept-mapping-complete-guide/]
- [Cornell University: Concept Mapping](https://lsc.cornell.edu/how-to-study/concept-maps/)
https://lsc.cornell.edu/how-to-study/concept-maps/]

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Core Text Connections

- [How Are Stars Formed? \(How Stuff Works\)](https://science.howstuffworks.com/how-are-stars-formed.htm)
[https://science.howstuffworks.com/how-are-stars-formed.htm]
 - [The Formation of Stars \(NASA\)](https://www.nasa.gov/multimedia/imagegallery/image_feature_1444.html)
[https://www.nasa.gov/multimedia/imagegallery/image_feature_1444.html]
 - [Star Formation and Evolution \(Britannica\)](https://www.britannica.com/science/star-astronomy/Star-formation-and-evolution)
[https://www.britannica.com/science/star-astronomy/Star-formation-and-evolution]
 - [Planet Formation \(Harvard & Smithsonian\)](https://pweb.cfa.harvard.edu/research/topic/planet-formation)
[https://pweb.cfa.harvard.edu/research/topic/planet-formation]
 - [Star Formation \(Harvard & Smithsonian\)](https://pweb.cfa.harvard.edu/research/topic/star-formation)
[https://pweb.cfa.harvard.edu/research/topic/star-formation]
 - [Universe, What We Study, Stars \(NASA\)](https://science.nasa.gov/astrophysics/focus-areas/how-do-stars-form-and-evolve)
[https://science.nasa.gov/astrophysics/focus-areas/how-do-stars-form-and-evolve]
 - [How Do Stars Form? \(Frontiers for Young Minds\)](https://kids.frontiersin.org/articles/10.3389/frym.2019.00092)
[https://kids.frontiersin.org/articles/10.3389/frym.2019.00092]
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