

Connecting the Dots: Understanding the Constellations

Lesson Overview

Overview:	Students will be shown constellations and asked what they see. Next they will view pictures of the constellations from the 1800s. The students will also listen to a myth about the constellation. Finally they will create a constellation of their own.
Grade Range:	6-8
Objective:	At the conclusion of this project, students will be able to: <ul style="list-style-type: none">● Predict constellation shapes.● View and observe pictures of constellations from the 1800s.● Create their own myth about constellations and create their own constellation.
Time Required:	One class period of 45 minutes
Discipline/Subject:	Science (Earth Science)
Topic/Subject:	Culture/ Folklife
Era:	National Expansion and Reform, 1818-1960

Standards

Illinois Learning Standards:

Science:

12-Understand the fundamental concepts, principles, and interconnections of the life, physical, and earth/space sciences.

12.F-Know and apply concepts that explain the composition and structure of the universe and Earth's place in it.

Materials

Handouts:	Constellation Creation Handout/ Dot to Dot drawing and Constellation Myth
Rubrics:	Constellation Creation Rubric

PowerPoint Slides:

Connecting the Dots:
Understanding the
Constellations

What are Constellations?

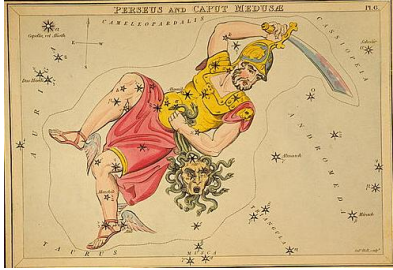
- A constellation is stars that appear to be in groups when viewed from Earth.
- There are 88 named constellations in the sky.
- During ancient times people would use them to navigate and to tell stories.

Connecting the Dots: What Do You See?



<http://www.allthesky.com/constellations/perseus/constell.html>

Here's What They Saw...



Title: Perseus and Caput Medusae / Sidy Hall, sculpt.
 Creator(s): Hall, Sidney, etcher
 Date Created/Published: [s85j]
 URL: <http://www.loc.gov/pictures/item/2002663991>

The Myth Behind It

- The best known stories about Perseus are related to the Gorgon Medusa and the princess Andromeda. Medusa was one of the three hideous sisters whose gaze would turn those who looked at them into stone. Among the three Gorgons, Medusa was the only one that could be killed. It was Danae's suitor, king Polydectes, who sent Perseus to get the Gorgon's head, hoping he would not return from the expedition.
- Perseus obliged and left to accomplish the task given to him. The Gorgon Medusa had snakes for hair, brass hands, tusks and golden wings. Perseus found her and waited for her to fall asleep. Once she did, he chopped her head off.
- When Perseus returned with Medusa's head, Polydectes was taken aback, not having expected to see him again, and he was hostile to Perseus. In a fit of anger, Perseus took out Medusa's head and turned the king into stone.

Connecting the Dots: What Do You See?



<http://www.allthesky.com/constellations/taurus/constell.html>

Here's What They Saw...



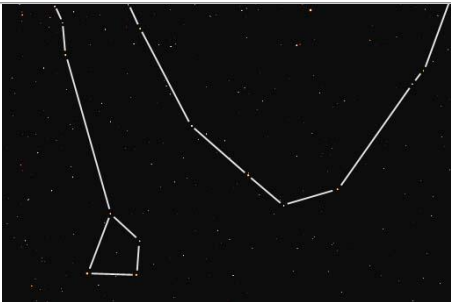
Title: Taurus / Sidy Hall, sculpt.
 Creator(s): Hall, Sidney, etcher
 Date Created/Published: [s85j]
 URL: <http://www.loc.gov/pictures/item/2002663991>

The Myth Behind It

The constellation of Taurus is on the ecliptic and is the second sign of the zodiac. Taurus is of course not any bull, but the god Zeus. Zeus fell in love with Europa, the daughter of a Phoenician king, as a result of one of Cupid's arrows. Zeus' wife Hera was out of town at the time, but just to be on the safe side, Zeus changed himself into a bull before his first encounter with Europa. When Europa saw Zeus, she urged her friends who were gathering flowers to climb up on his back with her.

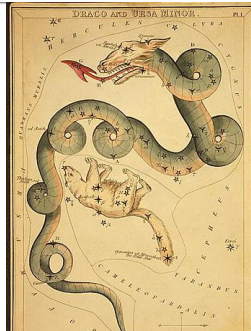
Zeus flew her up to Mount Olympus, where they were married.

Connecting the Dots: What Do You See?



<http://www.allthesky.com/constellations/draco/constell.html>

Here's What They Saw...

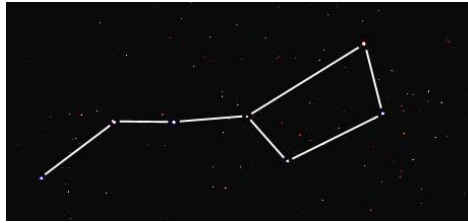


Title: Draco and Ursa Minor / Sidy Hall, sculpt.
 Creator(s): Hall, Sidney, etcher
 Date Created/Published: [s85j]
 URL: <http://www.loc.gov/pictures/item/2002663991>

The Myth Behind It

- A Greek legend tells the story of Draco as a horrible dragon that guarded a sacred spring and slew the soldiers of Cadmus (first king of Thebes) who had been sent to gather water. Cadmus then fought the dragon and won. After the dragon died, Athena appeared and told Cadmus to sow the ground with the creature's teeth. The teeth immediately sprang up as a group of armed soldiers who helped Cadmus found Thebes.

Connecting the Dots: What Do You See?



<http://www.allthesky.com/constellations/ursamajor/constell.html>

Here's What They Saw...



Title: Ursa Major / Sidy Hall, sculpt.
Creator(s): Hall, Sidney, etcher
Date Created/Published: [s825]
URL: <http://www.loc.gov/pictures/item/200265530z/>

The Myth Behind It

- According to the Greeks, the Great Bear was originally Callisto, the King of Arcadia's daughter. After the god Zeus fell in love with Callisto, his jealous wife Hera turned her into a bear. Just before Callisto was about to be killed by her own son Arcas, who did not realize that this particular bear was family, Zeus snatched Callisto away and placed her in the heavens as Ursa Major.

Connecting the Dots: What Do You See?



<http://www.allthesky.com/constellations/gemini/constell.html>

Here's What They Saw...



Title: Gemini / Sidy Hall, sculpt.
Creator(s): Hall, Sidney, etcher
Date Created/Published: [s825]
URL: <http://www.loc.gov/pictures/item/200265531z/>

The Myth Behind It

For obvious reasons, the Greeks decided that Gemini represented twin brothers. The two brightest stars of the constellation are named for each of the brothers. Alpha Geminorum is Castor, while beta Geminorum is called Pollux. According to Homer, Castor was an excellent horseman and his brother Pollux a soldier. When Castor was killed in some dispute, Pollux was so upset that he too wished to die so that he could remain with his brother. Zeus, being a fair god, worked out an acceptable compromise. They would spend half their time in heaven and half on Earth. The twins were often regarded as protectors of sailors and represented by two stars over a ship.

The Challenge

- Now it's your turn! Create a new constellation using the star pattern given to you.
- You must create a dot-to-dot pattern of your constellation.
- Then draw a color picture of your constellation.
- Finally, create a myth or story that goes with your new constellation!
- You will present this to the class and have them guess your constellation from the dot-to-dot drawing. Then you can share the colored version along with your myth.

Library of Congress Items:

Title of Source: Perseus and Caput Medusae
 Creator of Source: Hall, Sidney
 Date of Creation: 1825
 URL of Source: <http://www.loc.gov/pictures/item/2002695399/>

Title of Source: Taurus
 Creator of Source: Hall, Sidney
 Date of Creation: 1825
 URL of Source: <http://www.loc.gov/pictures/item/2002695510/>

Title of Source: Draco and Ursa Minor
 Creator of Source: Hall, Sidney
 Date of Creation: 1825
 URL of Source: <http://www.loc.gov/pictures/item/2002695394/>

Title of Source: Ursa Major
 Creator of Source: Hall, Sidney
 Date of Creation: 1825
 URL of Source: <http://www.loc.gov/pictures/item/2002695502/>

Title of Source: Gemini
 Creator of Source: Hall, Sidney
 Date of Creation: 1825
 URL of Source: <http://www.loc.gov/pictures/item/2002695511/>

Online Resources:

Title: The Deep Photographic Guide to the Constellations
 URL: <http://www.allthesky.com/constellations/gemini/constell.html>
 Description: Gives names of constellations in Latin and gives a description and background.

Procedures

Procedure Step #	Resource or Material Used
1. Begin introducing the PowerPoint.	
2. Ask the question "what are constellations?"	
3. Show the first constellation and ask what they see.	PowerPoint
4. Ask for suggestions of what they saw.	
5. Show the following slides of the LOC constellation picture.	PowerPoint
6. Discuss their reactions.	
7. Show the following slides and read the corresponding myth.	PowerPoint
8. Continue this procedure for the next four constellations.	Powerpoint
9. The last slide presents the assessment to the students.	
10. Handout the "Constellation Creation" packet and discuss the rubric.	Handouts/dot to dot drawing (2) Constellation Myth
11. Allow time for questions and independent work.	

Evaluation

The grading rubric will evaluate the constellations the students created.

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Constellation Creation Rubric

	5	3	1
Constellation Created	A new constellation was created.	A familiar constellation was created.	A constellation was copied.
Dot-to-Dot Pattern	A dot-to-dot pattern was made and easily seen.	A dot-to-dot pattern was made but hard to see.	Only a partial dot-to-dot was made.
Colored Picture	A neat, colored picture is done.	A colored picture is done, but sloppy.	A picture is done, but not colored or only partially done.
Constellation Myth	A new myth was created and was at least five sentences.	A new myth was created and was 3-5 sentences.	A myth was created, but not new or was only 1-2 sentences.
Presentation	Presenter displayed his new constellation and spoke in a clear, loud voice.	Presenter displayed his new constellation but was difficult to hear or understand.	Presenter did not display his constellation well and was difficult to hear or understand.

Total: _____ / ____25 pts. _____

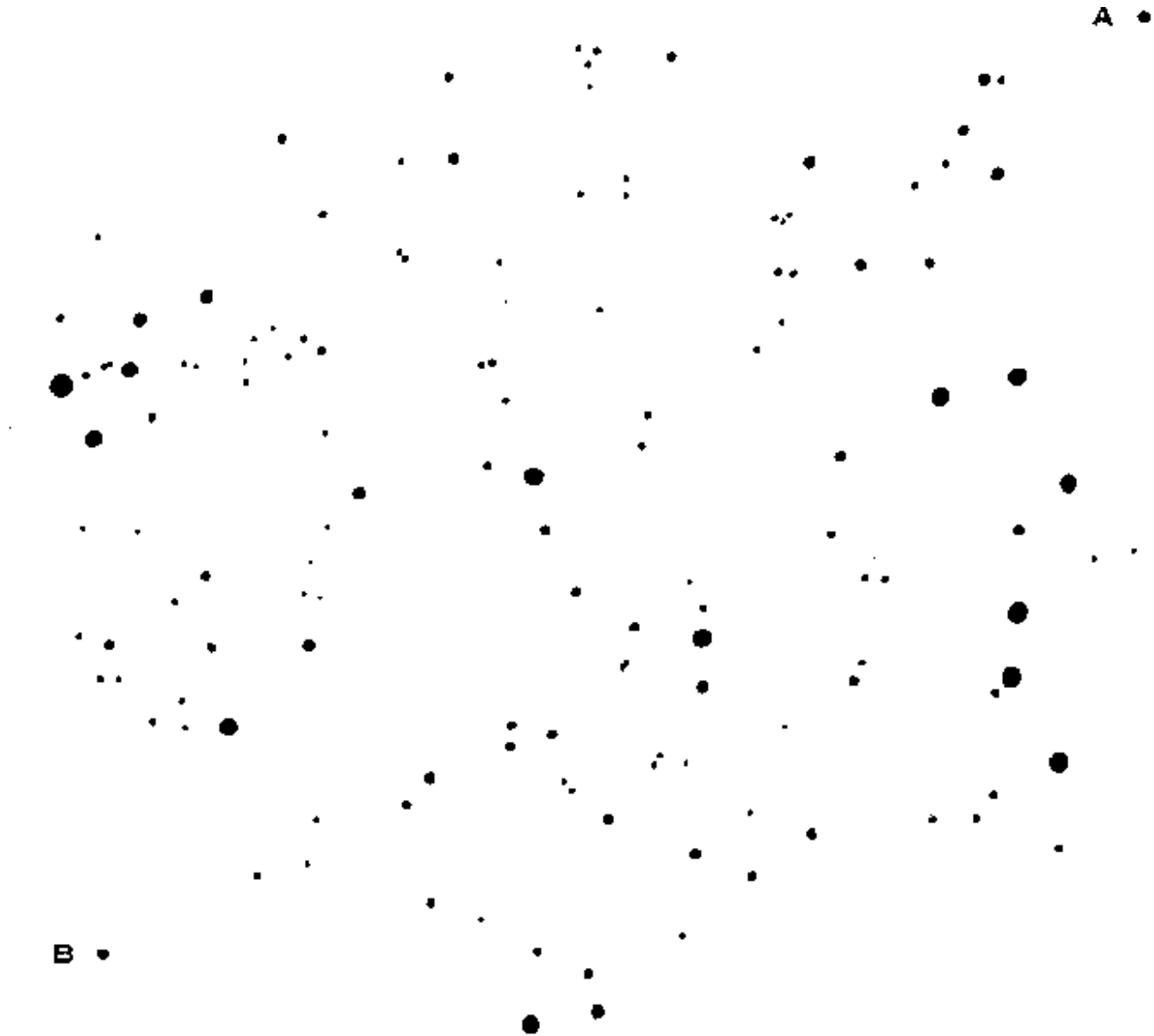
Dot-to-Dot Drawing

Image from: <http://picsicio.eu/keyword/constellation%20star%20map/>



Dot-to-Dot Drawing

Image from: <http://picsicio.eu/keyword/constellation%20star%20map/>



Name:

Constellation Myth (must be at least 5 sentences)





