

Exploring Origins

Exploring Stories of Origins

TEACHER GUIDE

BACKGROUND INFORMATION



In this introductory activity, students will explore stories about the origins of the sun and planets from the perspectives of various cultures. Working in groups, the students will present the stories to the class. As the stories are presented, the students will analyze the components to discover similarities and differences.

Science, as a way of knowing, places special emphasis on building from previous knowledge. Isaac Newton, famous for explaining the concept of gravity, said “If I have seen further than others, it was because I had stood on the shoulders of giants.” He was crediting all the scientific thinkers who had preceded him with providing the

conceptual basis for his pioneering work. Benchmarks at all grade levels in the History and Nature of Science section of the Content Standards tell the same story.

Grades K-4

Although men and women using scientific inquiry have learned much about the objects, events, and phenomena in nature, much more remains to be understood. Science will never be finished.

Grades 5-8

Tracing the history of science can show how difficult it was for scientific innovators to break through accepted ideas of their time to reach the conclusions that we currently take for granted.

Grades 9-12

The historical perspective of scientific explanations demonstrates how scientific knowledge changes by evolving over time, almost always building on earlier knowledge.

This concept is an important one to instill in science students of all ages.

STANDARDS ADDRESSED

Grades K-4

Science-

Earth and Space Science

[Objects in the Sky](#)

[Changes in the Earth and Sky](#)

Science and Technology

[Understanding About Science and Technology](#)

Language Arts-

[Reading Standards](#)

[Speaking and Listening Standards](#)

Grades 5-8

Science-

Earth and Space Science

[Earth in the Solar System](#)

Language Arts-
[Reading Standards](#)
[Speaking and Listening Standards](#)

Grades 9-12

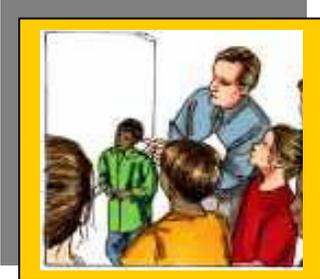
Science-
[Earth and Space Science](#)
[The Origin and Evolution of the Earth System](#)

Language Arts-
[Reading Standards](#)
[Speaking and Listening Standards](#)

MATERIALS

- For each group of students:
 - Solar System Origin Story
 - Analysis Criteria Sheet
- For each student: Student Activity Sheet
- For the class: Activity Sheet Summary Chart
 (construct on chalkboard or chart paper)

PROCEDURE



1. Divide the class into groups of 4-5 students. Allow each group to choose a cultural story that describes objects or events pertaining to the origin of the solar system. Resources available on the Internet and at local libraries are provided in the [Student and Teacher Resources](#) section. Be prepared to provide copies of a variety of creation stories drawn from the resource list or allow students to choose their own story to study.
2. Tell the students to read through their story in their groups and to devise a method of presenting the story to the class. They may choose to make a poster, present a short skit, perform a dramatic reading, or use any other presentation method. Give the students the Analysis Criteria questions (see Figure 1).

Say:
 These questions will be the criteria used to compare the different cultural stories. If your story contains information about one of these questions, make sure that you include that information in your presentation. If your story doesn't address a question, don't worry about that information in your presentation.

The questions listed are included because they are important to the Genesis mission. Discuss other questions with your students that they find important. Ask students to add these new questions to the table.

From Another Angle

Stay in context with the module while adding interactivity and spice by using any of the following procedures in lieu of (or in addition to) the approach taken in steps #1 and #2.

Exploring cultures: For an opportunity to explore your students' cultural contexts, refer to the [Culturegram](#) in the [Food for Thought](#) section of the Genesis Web site. Offered to you as a PowerPoint presentation, the Culturegram is an interactive opportunity for teachers and students to get to know each other better. It also provides recommendations on how teachers can use the shared information to prepare more relevant activities for their students.

Develop student's listening skills: For information on guiding students in this important and often overlooked skill, science educators should refer to [The Art of Listening](#) in the [Food for Thought](#) section of the Genesis Web site.

Expand your students' communication skills with [Communication Activities](#) including:

- Informative Speaking
- Dramatic Interpretation
- Interviewing
- Filming
- Extemporaneous Speaking

Dig deeper into the oral tradition of storytelling:

- [Exploring Stories of Origins Student Text](#)

Figure 1

Stories About the Origin of the Solar System
 Analysis Criteria Questions

1. Which solar system objects (for example, the sun, the Earth, the moon) is the story about?
2. What is the time frame presented?
3. What events were involved in the origins?
4. What is the composition of the objects that were created? (What are they made of?)

- Before the students begin their presentations, ask them to create an Analysis Criteria chart similar to the one in Figure 2. As they listen to each group’s presentation, students will complete the chart, making sure they leave one row blank (see item #5 in Teacher Guide, "The Origins of the Solar System").

Figure 2

Stories About the Origin of the Solar System Student Activity						
Analysis Criteria						
Source of Story	Which Objects?	Time Frame?	What Events?	Composition?		

- After all of the presentations, conduct a whole-class discussion to determine the similarities and differences in the stories. Summarize the information on a classroom chart.

TEACHER AND STUDENT RESOURCES

<http://maori.com/kmst1.htm>
<http://maori.com/kmst2.htm>
 Maori creation stories.

<http://www.ezlink.com/~culturev/CulturMythology.htm>
 Link to Mongol Mythology.

<http://www.pantheon.org/mythica/articles/c/coyote.html>
http://www.pantheon.org/mythica/articles/z/zuni_creation_myth.html
http://www.pantheon.org/mythica/areas/native_american/index.html
 Native American creation stories from several nations.

<http://www.geocities.com/SouthBeach/Lagoon/7152/create.html>
 Creation story from Norse Mythology.

<http://www.webcom.com/shownet/medea/bulfinch/bull1.html>
 Bulfinch’s Mythology: stories from ancient Greece and Rome.

<http://www.ozemail.com.au/~reed/global/mythstor.html>
 Creation stories from all over the world.

http://www.windows.umich.edu/cgi-bin/tour.cgi?link=/mythology/worldmap_new.html
 A tool for Web research instruction.

Bonvillain, N. (1996). *Native American Religion*. New York: Chelsea House Publishers.

- Caduto, M., & Bruchac, J. (1991). *Native American Stories*. Golden, CO: Fulcrum Publishing.
- Caduto, M., & Bruchac, J. (1992). *Native American Animal Stories*. Golden, CO: Fulcrum Publishing.
- Caduto, M., & Bruchac, J. (1995). *Native American Plant Stories*. Golden, CO: Fulcrum Publishing.
- Erdoes, R., & Ortiz, A. (1984). *American Indian Myths and Legends*. New York: Pantheon Books.
- Ganeri, A. (1996). *Out of the Ark: Stories from the World's Religions*. San Diego: Harcourt Brace & Co.
- McGrath, S. (1997). *The Sun Goddess: Myth, Legend and History*. London: Blandford.
- Philip, N. (1995). *The Illustrated Book of Myths: Tales & Legends of the World*. New York: Dorling Kindersley Publishing, Inc.