

# Workshop 8:

# The International Picture

In this workshop, you will have an opportunity to investigate various aspects of the Third International Mathematics and Science Study (TIMSS) other than the test scores themselves. William Schmidt will present differences in curricula, textbooks, and teaching practices around the world, and a group of community members will discuss how the TIMSS results reflect societal and cultural values.



## **WILLIAM H. SCHMIDT**

University Distinguished Professor of Applied Statistics in the Department of Educational Psychology at Michigan State University, William Schmidt is the national research coordinator and executive director of the center that oversees the participation of the United States in the Third International Mathematics and Science Study (TIMSS).

# Workshop 8 timeline

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## GETTING READY

30 minutes

30 minutes—In the News

You were asked to bring with you an article about education outside of the United States. Briefly share the topics of your articles. What kinds of issues do the articles focus on? How might you categorize the issues? Do these categorizations reflect education issues in the United States? What are the similarities? The differences?

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## WATCH THE WORKSHOP VIDEO

60 minutes

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## GOING FURTHER

30 minutes

15 minutes—Revisit Moon Charts

Take a few moments to consider the changes and additions that you have made to the Moon Chart over the course of this workshop series. Discuss the following:

What were your major findings about the behavior of the Moon?

What discoveries surprised you the most?

Which of your prior beliefs were supported/challenged by your observations?

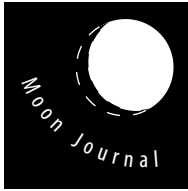
Creating the Moon Chart in Workshop 1 and updating it throughout the series allowed you to keep track of what you learned and how your beliefs changed as you observed the Moon and kept your Moon Journal. How do you (or could you) provide an opportunity for your students to follow their own learning about a topic?

15 minutes—How Far You've Come

Take out the teaching or learning concept map that you made in Workshop 3. Look at the Moon Chart and the Learning Chart that you and your colleagues made. How has your thinking about learning changed since this workshop series began? How will these changes affect your teaching?

Go around the room and share one thing that you plan to do in your classroom to apply what you've learned about learning.

# Suggested activity



## Moon Legends

Our scientific understanding of the Moon and its behavior has not always been what we currently accept to be true. Throughout history and across cultures, civilizations have developed what we know of today as legends and folklore as explanations of Moon observations and its behavior. Legends were the first scientific explanations. People would observe a phenomenon and then describe it with a story. People eventually began comparing different legends of similar phenomenon to find out which were most helpful in explaining what they saw. The following are stories developed by early cultures to describe possible reasons for the behavior of the Moon:

**According to Central Mexican (non-Mayan) cultures,** the Moon and the Sun were created at the same time when the two gods, Tecuciztecatl and Nanahuatzin threw themselves into the Fires of Creation and turned into two Suns. But the gods who organized this also threw a rabbit into the face of Tecuciztecatl, dimming his brightness, making him the Moon.

**The Mayans** believe the Moon Goddess to be a feisty woman. It is said that she once quarreled with her husband, the Sun, who became so angry that he poked out one of her eyes. That is why the Moon Goddess is dimmer than her spouse the Sun.

**The Cherokee tribe of California** tells the story of Father Sun and Mother Moon who lived inside Rock House. Their light did not shine from the sky, so the world was full of darkness. Coyote thought it would be a fun trick to dump some fleas on Father Sun and Mother Moon. Coyote got Gopher to help dig a hole through the soil into Rock House, and Rabbit to help shake a bag of fleas down the opening. The fleas soon covered Father Sun and Mother Moon. When they could no longer stand the fleas, Mother Moon flew out of the house, followed by Father Sun, and they began to race around the Earth trying to get rid of the fleas. That is why, to this day, the Sun follows the Moon across the sky.

**The Snoqualmie tribe in Washington** tells the story of a time when the sky was completely dark and there were two brothers, One Who Walks All Over the Sky, and Walking About Early. One Who Walks was sad to see the sky always dark so he made a mask out of wood and lit it on fire. Each day he walks across the sky wearing his fiery mask. At night he sleeps below the horizon and when he snores sparks fly from his mask and make stars. The other brother became jealous. He smeared fat and charcoal on his face, and makes his own path across the sky.

**The Zunipu tribe of New Mexico and Arizona** tells a story of a time when it was always dark, and always summer. Coyote and Eagle were hunting and they came across a tribe that had the Sun and the Moon in a box. After the people of the tribe had gone to sleep, the two animals stole the box. At first Eagle carried the box, but soon Coyote convinced Eagle to let him carry it. Coyote, being curious, opened the box and the Sun and the Moon escaped and flew up into the sky. This gave light to the land, but it also took away heat, which is why we now have winter.

## QUESTIONS

1. What kinds of Moon behavior do the legends try to explain?
2. What descriptive features of the Moon or Moonlight, visible to the naked eye, are explained by the legends?
3. How are these legends related to the culture of the people who developed them and maintained them over the centuries?
4. Find out something about the people who developed the legends and relate these ideas to the reasons for the importance of each legend.