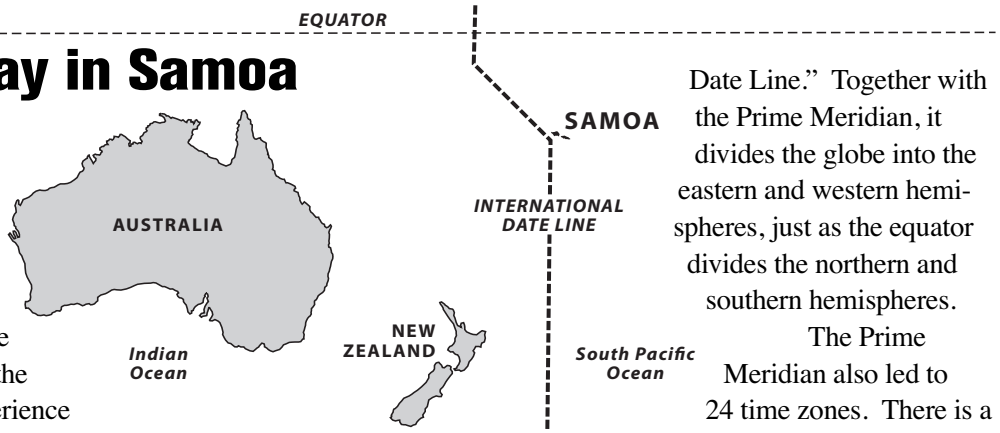
What's Happening IN THE WORLD?

BY LAWRENCE GABLE *VOL 12, NO 4 DECEMBER 2011*

It's a New Day in Samoa



Samoa is an island nation in the South Pacific. It lies between New Zealand and Hawaii, just 20 miles to the east of the International Date Line. That makes it one of the last nations on Earth to experience each day. However, in December it will move to the western side of the Date Line.

Originally all time on Earth was just local time. People used a sundial, so every locality had its own time. However, as early as the 12th century scholars recognized that time posed a problem for travelers.

They imagined two people who traveled around the world in opposite directions at the same speed. The traveler who went to the west would be traveling toward the sun. He would experience more hours of daylight than at home, so he would see fewer sunsets. As a result, by the time he arrived back home he would have counted fewer days than he would have at home. For the traveler who went to the east, the hours of daylight would have been shorter. By the time he arrived back home, he would have seen more sunsets and counted more days than at home.

The railroads finally caused the need for a uniform, worldwide system of time. In the 1800s cities and towns still kept their own local time according to the sun. However, people on trains were moving faster than ever before, and it was confusing for them to change to different times everywhere they went.

Astronomers and representatives from 25 countries met in 1884 to solve this problem. Their meeting in Washington, D.C., was called the International Meridian Conference. They established a line from which the world would measure time and do navigation accurately. They assigned lines of longitude for 360° all around the globe. They designated the line that represents 0° longitude as the "Prime Meridian."

The Prime Meridian is an imaginary line that runs from pole to pole through Greenwich, England. As it continues around the other side of the globe, it represents 180° longitude. There it is called the "International Date Line." Together with the Prime Meridian, it divides the globe into the eastern and western hemispheres, just as the equator divides the northern and southern hemispheres.

The Prime Meridian also led to 24 time zones. There is a different time zone for each hour of the day. For the most part, the time zones correspond to the daylight hours, and they cover about 15° of distance between lines of longitude. In the U.S., for example, the day begins three hours earlier in the Eastern Time Zone than it does in the Pacific Time Zone. Companies in New York City and Los Angeles have to pay attention to that when doing business with each other.

Among all the lines of longitude, the International Date Line has unique significance. It separates two consecutive calendar days. Each new day begins to the west of it. The conference in 1884 did not identify an exact course for it though. As a result, it zigs and zags so that it does not divide countries. For example, it moves east to include Siberia with the rest of Russia, and west to keep Hawaii and the rest of the U.S. together.

This is not the first time that Samoa has switched sides. It used to lie on the western side of the International Date Line. In 1892 it changed, though, because it wanted to be able to do business with the U.S. and Europe more easily. However, now its biggest trading partners are Australia and New Zealand. Those countries are a day ahead of Samoa though, so Samoa loses two business days every week when it trades with them. It cannot trade with them on a Friday, because it is already Saturday there. On a Sunday in Samoa, it is already Monday there.

At the end of December Samoa will become one of the first nations to greet each new day. On December 29 it will move to the west of the International Date Line. It will lose a whole day, so Friday December 30 will simply not exist in Samoa this year. However, Samoans believe that losing a day will be a small inconvenience for the opportunity to conduct business more effectively with its major trading partners.

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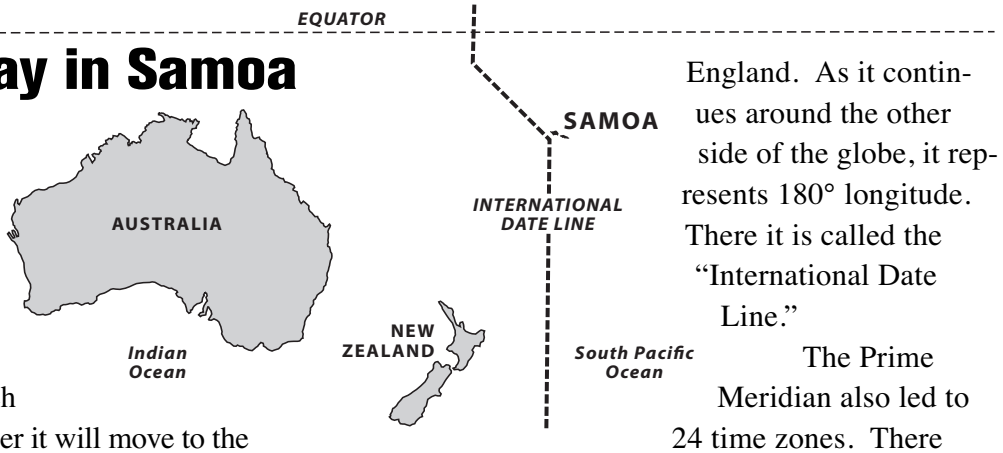

Samoa is an island nation in the South Pacific. It lies just 20 miles to the east of the International Date Line. It is one of the last nations on Earth to experience each day. However, in December it will move to the western side of the Date Line.

Originally all time on Earth was just local time. People used a sundial, so every place had its own time. However, centuries ago educated people recognized that time posed a problem for travelers.

They imagined two people who traveled around the world in opposite directions at the same speed. The traveler who went to the west traveled toward the sun. He experienced more hours of daylight than at home, so he saw fewer sunsets. As a result, by the time he arrived back home he had counted fewer days than he would have at home. For the traveler who went to the east, the hours of daylight were shorter. By the time he arrived back home, he had seen more sunsets and counted more days than at home.

The railroads finally caused the need for a uniform system of time. In the 1800s cities and towns still kept time according to the sun. However, people on trains were moving faster than ever before, and it was confusing for them to change to different times everywhere they went.

Astronomers and representatives from 25 countries solved this problem in 1884. They met in Washington, D.C., at the International Meridian Conference. They made a line from which the world would measure time. They assigned lines of longitude for 360° all around the globe. They called the line at 0° the "Prime Meridian."

The Prime Meridian is an imaginary line that runs from pole to pole through Greenwich, England. As it continues around the other side of the globe, it represents 180° longitude. There it is called the "International Date Line."

The Prime Meridian also led to 24 time zones. There is a different time zone for each hour of the day. The time zones are related to the daylight hours. In the U.S., for example, the day begins three hours earlier in the Eastern Time Zone than it does in the Pacific Time Zone. Companies in New York City and Los Angeles have to pay attention to that when doing business with each other.

The International Date Line is a special place. It shows the world where the new day begins. It does not follow a straight line though. For example, it moves east to include Siberia with the rest of Russia, and west to keep Hawaii and the rest of the U.S. together.

Samoa switched sides once before. It used to lie on the western side of the International Date Line. In 1892 it changed, though, because it wanted to be able to do business with the U.S. and Europe more easily. However, now its biggest trading partners are Australia and New Zealand. Those countries are a day ahead of Samoa though, so now Samoa wants to be on the same day of the week with them.

At the end of December Samoa will become one of the first nations to greet each new day. On December 29 it will move to the west of the International Date Line. It will lose a whole day, so December 30 will simply not exist in Samoa this year. However, Samoans believe that losing a day is worth it if helps them to do business better with their trading partners.

Background Information

Until the 19th century sailors were the only ones who really needed a way of keeping standardized time. Longitude tells how far east or west one is from the Prime Meridian. Ships at sea knew that if they had a timepiece that could tell them the time at home, and they also could tell the local time, then they could know where they were east/west on the globe.

In 1840 a railroad in Britain created a standardized time called "railway time," which was based on what time it was in London.

Most major countries adopted hourly time zones by 1929.

American Samoa is a U.S. Territory that lies east of Samoa. It will remain on the eastern side of the International Date Line.

Samoa has a population of 180,000 people. Samoans whose birthday is on December 30 will get to celebrate either a day early or a day late.

Samoa did not need permission to make the switch. There is no international body that governs such things. Its only obligation is to make its decision known to the international community and to mapmakers.

Kiribati was the last country to change sides of the International Date Line. It is also an island nation made up of several island groups in the South Pacific. The Date Line used to go through the islands, so there was a time difference of 23 hours between neighboring islands. On New Year's Day 1995 it moved the Date Line so that all 33 of its islands would have the same date.

Currently Samoa is 21 hours behind eastern Australia and 23 behind New Zealand. After it makes the change in December, it will be an hour ahead of New Zealand and three ahead of Sydney, Australia.

Jules Verne mentioned the International Date Line in his novel *Around the World in Eighty Days*. The story describes an English adventurer's challenge to circle the globe within 80 days. The main character returns, believing that he has failed, but then realizes that he has won because he had forgotten to change his timepiece when he crossed the International Date Line.

Topics for Discussion and Writing

Pre-reading:

- Use a map to show your class a country that you are familiar with. Identify its longitude and tell what the time difference is between that country and where you live now.

Comprehension:

- Explain why Samoa will not have December 30 this year.

Beyond the Text:

- What is jet lag?
- How did people travel before trains?
- Why do you think astronomers were part of the 1884 conference?

Vocabulary (*advanced article only)

Article-specific: sundial; locality*; scholar*; railroad; astronomer; navigation*; longitude; meridian; equator; consecutive*; inconvenience*

High-use: to pose; uniform; to establish*; accurately*; globe; prime; imaginary; hemisphere*; to correspond to*; unique*; significance*; to conduct*

Sources

BBC News May 10, March 24, 2011

The Herald Sun (Melbourne) May 7, 2011

Edmonton Journal May 15, 2011

www.thegreenwichmeridian.org

www.timeanddate.com

CA Curricular Standards (4–12)

English-Language Arts

Reading 1.0 Vocabulary Development
2.0 Comprehension (Informational Materials)

Writing 1.0 Writing Strategies
2.0 Writing Applications

ELD—*Intermediate and Advanced*
Reading Vocabulary Development/Comprehension
Writing Strategies and Applications
Listening and Speaking

History-Social Science
4.1; 5.2; 7.11