

Lesson Plan: Using a Mayan pyramid to teach about calendars, measuring time, and Mayan culture.

Levels: 6-8, 9-12.

Subjects: Science, math, geography.

Objectives: This lesson aims to introduce learners to Mayan culture, especially the pyramid at Chichen Itza and its function as a calendar. It will address:

- a) The geographical extension of Mayan culture
- b) Key features of Mayan cosmovision
- c) Mathematical features of the pyramid
- d) Ways of measuring the year
- e) The concept of the equinox

Learners will be able to answer the following questions:

- a) Where did the Mayans live?
- b) What were the key features of Mayan cosmovision?
- c) What is Chichen Itza? What is its significance?
- d) How did the Mayans measure the year and how is this significant today?
- e) What and when are the equinoxes?
- f) What other ways can we measure the year?

The Serpent of Light

Before you read

- a) What do you know about the Mayan peoples?
- b) Based on the title, what do you think this article is going to be about?

The Mayan Calendar

Although the south of Mexico is now the poorest part of the country, it's important to remember that it was once a highly developed center of Mayan civilization. Mayan culture reached its peak in Mesoamerica in the third century of our time, stretching from southern Mexico to Nicaragua. The Mayan peoples had advanced knowledge of science, astronomy and math, which they developed through observation and calculation. In their cosmovision, religion, culture, agriculture, astronomy, architecture and math were all interrelated.



While reading

- a) What can you see in the photograph above?
- b) What do you think this building was used for?
- c) Locate Mexico and Nicaragua on the map. Which countries lie between them?

One of the most famous examples of Mayan architecture is the pyramid at Chichen Itza in Yucatan, known as *El Castillo*. This pyramid is 30 meters high and is a representation of the Mayan calendar. Each of the four sides has 91 steps. This gives a total of 364 steps, each one representing a different day of the year. If we add the platform that we can see at the top of the building, we get a total of 365 steps, the number of days it takes for the earth to travel around the sun or

the number of days in a solar year. This is the same calendar that we still use today. It is believed that this pyramid was dedicated to the Sun God.

While reading

- a) Had you heard about Chichen Itza before?
- b) Were you surprised that this building is a type of calendar?



Every year on March 21, the spring equinox when there are an equal number of hours of daylight and nighttime, the shadow of one of the corners of the pyramid is cast on the side of the steps. This gives the impression that a huge serpent, known as Kukulcan, is moving to the bottom of the pyramid to the snake's heads which are carved there. You can see this at the following link on Youtube:

<http://www.youtube.com/watch?v=KAwzfSqMNk4>

After reading

- a) How does the title relate to the rest of the article?
- b) What is the date of the other equinox?
- c) Are the equinoxes celebrated in your country? How?
- d) In what other ways can we measure time and divide the year?