



Sky, Sun and the Origins of the Count

Module 1 handout · Sky, Sun and the Origins of the Count

The Mexika calendar is a naked-eye, horizon-based astronomy. It is built by watching what the sun, moon and stars actually do from a single fixed point on the horizon — not by imposing an abstract grid on the sky. Using that fixed point on the horizon you watch the sunrise travel, north to south and back again over the course of a year, and you mark the day it returns to a chosen landmark. Two counts run at the same time: a 260-day count of days and a 365-day solar year. This handout collects the vocabulary, the cosmology and the framing ideas you need before the mechanics in later modules.

The two counts

Count	Length	Built from	What it tracks
Tonalpowalli	260 days	20 day signs × the numbers 1-13	The character and destiny of each day; ceremony, naming, divination.
Xiuhpowalli	365 days	18 veintenas of 20 days + nemontemi	The agricultural and ceremonial year, anchored to the sun on the horizon.

Core terms

Nawatl	Meaning
Tonalli	Day, heat, warmth, destiny — the share of solar force a day carries.
Tonalpowalli	The count of days: 260 days, 20 signs paired with 1-13.
Xiuhpowalli	The count of the year: 365 days of veintenas plus nemontemi.
Tonalpohkeh	Day keeper — the person who counts and reads the days.
Zempowalli	One full count of twenty; the base unit of Nawatl numbering.

The Five Suns

Creation is told as a sequence of worlds, each with its own sun, each ending and giving way to the next. Time is cyclical and renewable rather than a single line from a beginning to an end. Each Sun is named for the day sign of its destruction — the glyph of that sign is shown beside it.

Sun	Name	Ended by
 First	Nawi Ozelotl — Four Jaguar	Devoured by jaguars
 Second	Nawi Ehekatl — Four Wind	Swept away by wind
 Third	Nawi Kiawitl — Four Rain	Rain of fire
 Fourth	Nawi Atl — Four Water	Flood
 Fifth	Nawi Ollin — Four Movement	The present Sun; it will end in movement (earthquake)



Quiz

1. Name the two counts that run at the same time, and give the length of each.

2. How many day signs are there, and which numbers turn against them?

3. What does the word tonalli carry beyond “day”?

4. Why does naked-eye, horizon-based astronomy require a fixed point on the horizon?

5. In which direction does the sunrise travel along the horizon over the course of a year?

6. Which Sun are we living in, and what is its full name?

7. What ended the Fourth Sun?

8. Is Mesoamerican time best described as a line or as a cycle? Explain in one sentence.

9. Did the Mexika invent this calendar? Explain.

10. What is a tonalpohkeh, and what does that person do?



Answer key

1. Tonalpowalli, 260 days; xiuhpowalli, 365 days.
2. Twenty day signs, turning against the numbers 1 through 13.
3. Heat, warmth, solar force and destiny — the character a day carries.
4. Because the sun's movement is only measurable against a fixed point on the horizon watched from the same spot; move the observer and every bearing on the horizon changes.
5. It swings from its northern extreme at the June solstice south to its southern extreme at the December solstice and back again, crossing the equinox point twice a year.
6. The Fifth Sun, Nawi Ollin — Four Movement.
7. A flood.
8. A cycle: each Sun ends and time renews, so the count repeats and is re-anchored rather than running out.
9. No. Mesoamerican peoples shared this system for many centuries; the Mexika inherited and refined it.
10. A day keeper — the person who keeps the count and reads the character of each day.

Study tip: before memorizing anything, watch a sunrise from the same place three days running and note where on the horizon the sun clears. That is the whole method in miniature.