

Ecosystems of Mexico

What is an ecosystem? A community made up of all of the living (plants, animals, microbes) and nonliving (rocks, sand, soil) things in a certain area.

- The living and non-living elements are linked together through cycles of production (like food from plants), to consumption (like animals eating the food) to decomposition (like bacteria breaking down plant waste and putting nutrients back into the soil).
- Energy cycles, mainly from the sun, are also important in an ecosystem.
- Ecosystems are of any size, but usually they are in particular places.

Can an ecosystem be hurt? Yes. The key to an ecosystem's health is balance. All its members, and the environment itself, are important to that balance. When something disrupts the balance, the ecosystem and all its members may suffer. Both nature and humans can disrupt ecosystems. Can you think of any examples of disturbances from nature? How about from humans? Some examples of disturbances from nature are climate change and natural disasters. Examples of human disruptions are pollution, clearing the land for buildings, and the introduction of a new, aggressive species into the environment.

What are some of the ecosystems of Mexico?

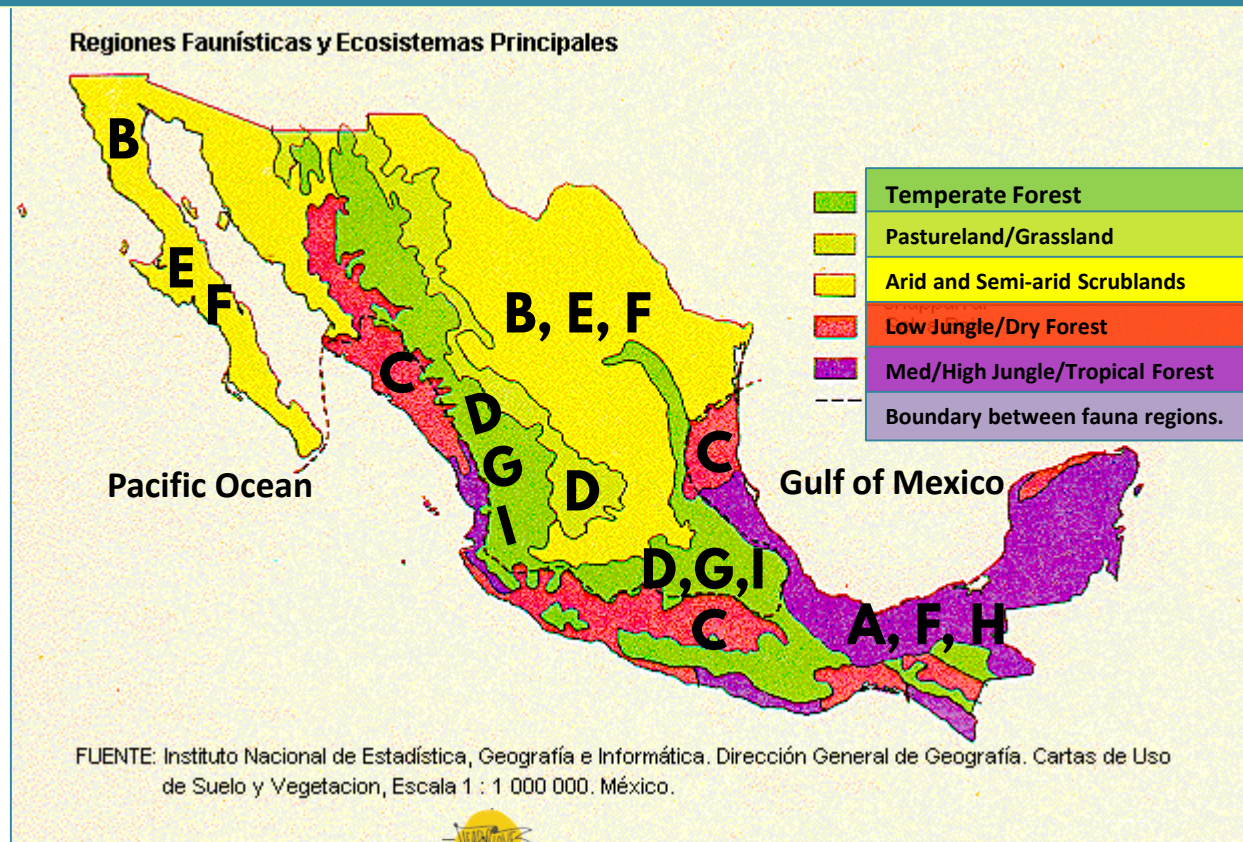
- Temperate Forest:** Trees like firs, oaks and pines grow here. There are also mountains. In terms of climate, it is not too hot or too cold and it only rains part of the year.
- Pastureland/Grassland:** Here you will find abundant grasses sprinkled with shrubs and trees. It is hot during the day and cold at night.
- Arid and Semi-arid Scrublands:** This area is also called the desert. During the day it is very hot and during the night it is cold. It does rain a little in this area. You can find many cacti here!
- Low Jungle/Dry Forest:** This area is also known as the tropical dry forest. It has both a rainy season, where the forest is lush and green, and a dry season where there isn't any rain and plants lose their leaves. There are many low, shrubs in this area, making it quite difficult to walk around.
- Tropical Forest:** In the tropical forest it is hot all year long. The rainforests also grow here.

Can you guess the Mexican ecosystem in which these animals are found?

Draw the letters on the map to show where you think each animal lives.

Then check your answers found in the online resources section for Mexico.

- A. Spider Monkey
- B. Ocelot
- C. Green Parrot
- D. Greater Grison
- E. Spinytail Iguana
- F. Opossum
- G. Mexican Grey Wolf
- H. Jaguar
- I. White Tail Deer



MAYAN NUMBERS EXERCISE

The Maya were an indigenous group of people from the ancient civilization of Mexico. They were excellent mathematicians and developed a very advanced mathematical system for their time.

The Mayan counting system was different from ours because they didn't use Arabic numbers. They used dots, lines, and a shell (for zero). Symbols that likely represented items used in counting (pebbles, sticks, and shells).

FUN FACT: The Maya are thought to have invented the number zero.

INSTRUCTIONS: Study the Mayan numbers in the chart below and then see if you can answer the math questions that follow. Let's learn how to write numbers up to the number 19.

The ancient Maya only used three symbols to represent all numbers.


Numerical Values:

- Dot = a value of 1
- Line/Bar = a value of 5
- ☉ Shell = a value of 0

So, this means:

Zero is represented by a shell
1 to 4 is represented by dots
5 is represented by a line/bar

Multiples of five are represented by lines. Then extra dots are added to complete the numbers.

0	1	2	3	4
	•	••	•••	••••
5	6	7	8	9
—	—•	—••	—•••	—••••
10	11	12	13	14
— —	—•	—••	—•••	—••••
15	16	17	18	19
— — —	—•	—••	—•••	—••••



MAYAN NUMBERS EXERCISE

What numbers are represented below? Can you solve these equations?

Afterwards, try to create some of your own.

Extra Credit: Do some further research on numbers 20 and above.

For example:

$$\begin{array}{c} \cdot \\ \hline \hline \end{array} = \underline{\quad 11 \quad}$$

OR

$$\begin{array}{c} \cdot \cdot \\ \hline \hline \end{array} - \underline{\quad \quad} = \underline{\quad 7 \quad}$$

$$\begin{array}{c} \cdot \cdot \\ \hline \hline \end{array} = \underline{\quad 12 \quad}$$

$$\begin{array}{c} \cdot \\ \hline \hline \end{array} + \begin{array}{c} \cdot \cdot \cdot \\ \hline \hline \end{array} = \underline{\quad 19 \quad}$$

$$\begin{array}{c} \cdot \\ \hline \end{array} = \underline{\quad 6 \quad}$$

$$\cdot \cdot \cdot \cdot + \text{shell} = \underline{\quad 4 \quad}$$

$$\text{shell} = \underline{\quad 0 \quad}$$

$$\begin{array}{c} \cdot \\ \hline \hline \end{array} - \begin{array}{c} \cdot \cdot \cdot \\ \hline \hline \end{array} = \underline{\quad 3 \quad}$$

$$\begin{array}{c} \cdot \cdot \\ \hline \hline \hline \end{array} = \underline{\quad 17 \quad}$$

$$\cdot \cdot \cdot \cdot - \cdot \cdot = \underline{\quad 2 \quad}$$

$$\begin{array}{c} \cdot \\ \hline \hline \hline \end{array} = \underline{\quad 16 \quad}$$

$$\cdot \cdot + \begin{array}{c} \cdot \cdot \\ \hline \hline \end{array} = \underline{\quad 9 \quad}$$

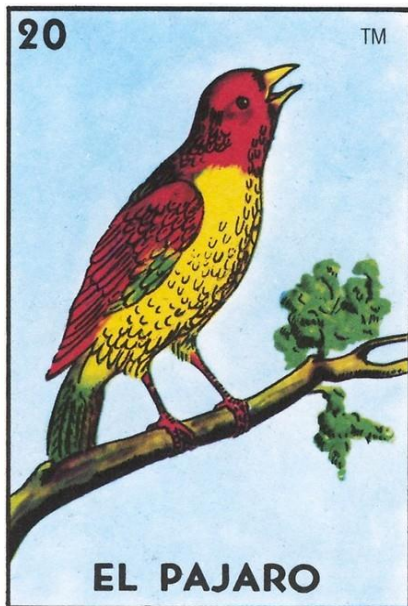
TRY MAKING YOUR OWN EQUATIONS AND
LEARNING THE REST OF THE MAYAN NUMBERS.



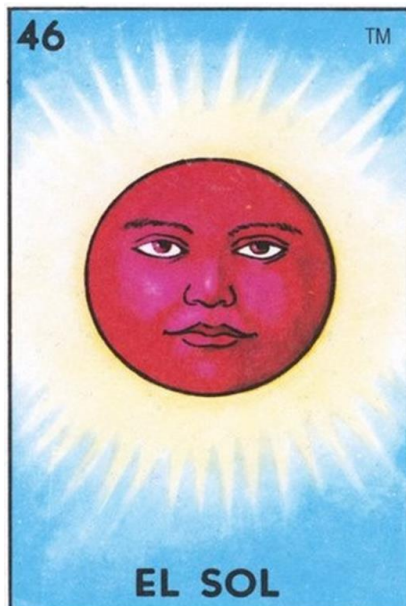
Lotería or Mexican Bingo

Mexican children love playing bingo, but in their version, it is called *Lotería*. They use black beans to cover the cards called out by a singer (caller) in some clever way. When someone covers all the images on their card, they shout, “*Loteria!*”

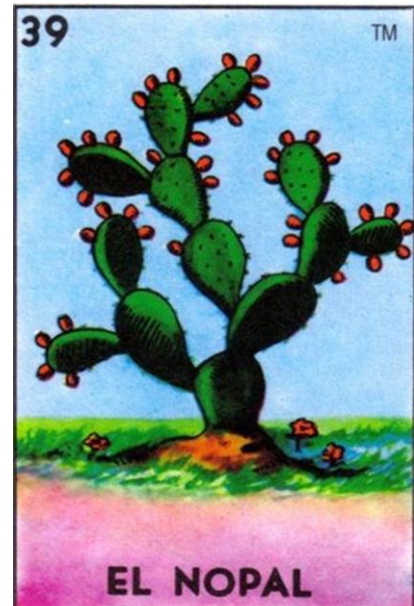
Here are some of the most famous *Lotería* cards. Try translating the Spanish words into your language.



The bird



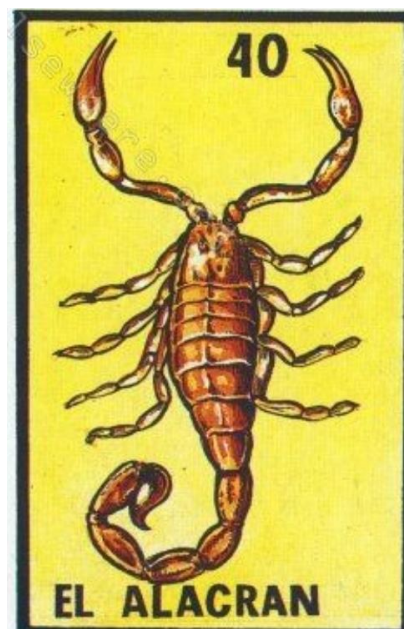
The sun



The cactus



The moon



The scorpion