



$$V = l \times w \times h$$

Art and  
Culture

# Exploring Mexican Artifacts

Measurement



Elisa Jordan

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# Tradition and Culture

Mexico is a country with a strong sense of **tradition** and **culture**. The nation's history dates back prior to the arrival of Christopher Columbus in the Americas. The Olmec people were the first to live in Mexico. They lived near the Gulf of Mexico in the region that now makes up the states of Veracruz and Tabasco. The Olmec people can be traced back about 2,500 years. They are remembered for the giant head **sculptures** they carved out of stone.



The Zapotec, Maya, Aztec, and Toltec were other early cultures in the country. In some ways, the people lived a lot like people today. They had large cities. They used writing systems and calendars. They built temples and schools. They had systems for farming and government.

Things changed after Columbus arrived in the Americas in 1492. Europeans wanted to explore the land. Hernán Cortés, a Spanish explorer, sailed from Spain nearly 30 years after Columbus. After Cortés, more people came from Spain.

Cultures continued to mix in this region. Spanish culture started to influence the culture in Mexico. While some of the old buildings remained, Spaniards began to build new structures. They also introduced different ways of making tools, clothing, and food. They taught people to speak Spanish, too.



Olmec giant head



Maya fortress in  
Tulum, Mexico

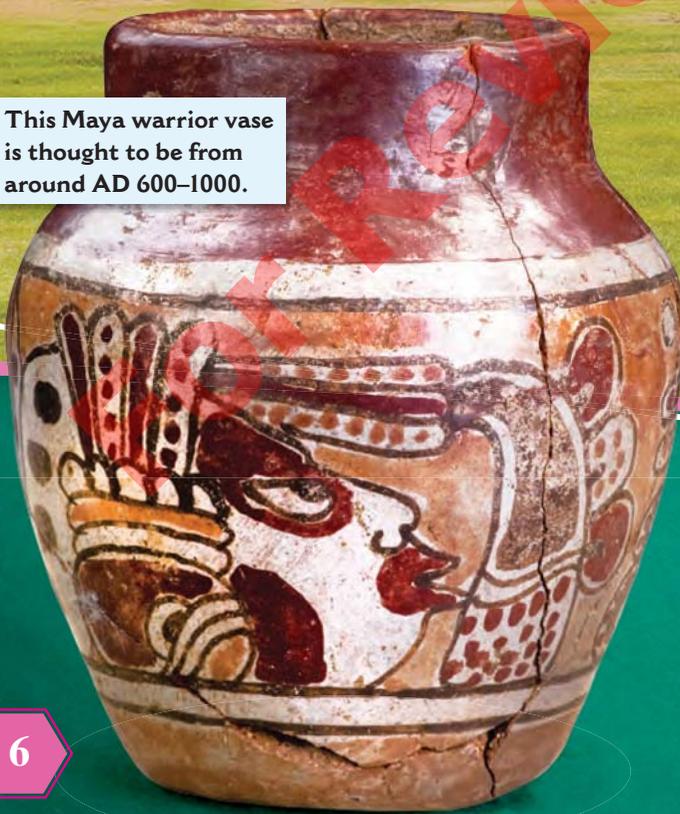




Tourists explore a Maya step pyramid that was built for holding rituals.



This Maya warrior vase is thought to be from around AD 600–1000.



The Olmec, Zapotec, Maya, Aztec, and Toltec people left behind many **artifacts** that have helped people learn about their lives. Artifacts are objects made by humans. They give clues about the past. They may include buildings, tools, sculptures, **pottery**, and clothing. Artifacts help us understand how people cooked meals and where they lived. Some objects give information about how governments worked. Other objects tell about the things people liked to do for fun.

Artifacts link us to past cultures and people. This is important for many reasons. We can learn that we are not much different from our **ancestors**. They did many of the same things we do **today**. We can also learn that the way they did things can affect how we do things now. Many of these traditions have been handed down over the **years**. Understanding how a tradition began helps to keep traditions **alive**.

Mexico's past has shaped the present. The **Spaniards** arrived in Mexico in the 1500s. They brought and spread the **Spanish** language throughout the region. Today, people in Mexico **still** speak Spanish. People also use many of the same tools that were **used** **back** then.

The Toltec warriors standing in the city of Tula are a symbol of battle.



# Tools

Humans have been using tools for millions of years. Tools are objects that can help people do things like eat, cook, build, or make music. People in ancient Mexico used many tools that are still part of the culture today.

## Metate

During **pre-Columbian** times, stone tools called *metates* (meh-TAH-tays) were used to grind plants, seeds, corn, and nuts.

Metates are made of two individual pieces. The large piece is called a grinding stone. This rectangular slab, with a slight incline on one end, is where food is placed. The grinding stone usually starts as a flat surface, but, over time, the flat surface becomes bowl-shaped. The smaller stone is called a *mano* (MAH-noh). *Mano* is the Spanish word for *hand*. The *mano* is moved by hand, in a back and forth motion, over the food on the grinding stone. This tool was an important part of daily life. Women woke early to make food for their families. They would most likely have spent a great deal of time kneeling over a metate grinding corn.

People still use metates today. Most modern metates have three short legs to keep the tools stable during the grinding process. Metates are used to make homemade tortillas, chocolate, and fresh salsa.





metates

A woman finishes grinding corn with a metate.



## LET'S EXPLORE MATH

Metates are made in different sizes. Small metates are used to grind spices, medium metates are used to grind corn, and large metates are used to grind chocolate and coffee. Match each measurement to the metate it describes and answer the following question: are the metates longer than they are wide or wider than they are long? Explain how you know.

**Lengths:**  $1\frac{1}{2}$  feet; 10 inches; 1 foot, 10 inches

**Widths:**  $16\frac{1}{2}$  inches; 8 inches; 1 foot

Size of Metate	Length	Width
small		
medium		
large		

# Math Talk

1. What are two units used to describe mass in the customary system? What are two units used to describe mass in the metric system?
2. Why is *10* an important number in the metric system?
3. How can you use models, such as tables, to organize and find equivalent measurements?
4. What is the relationship between inches and feet? What is the relationship between inches and centimeters?
5. Do you prefer to convert units within the customary or metric system? Why?
6. How do you think scientists use measurement to study Mexican artifacts? How do you think artists use measurement?