

Inca Puzzle: Machu Picchu



Inca: Roads and Runners

Name: _____ Date: _____

Directions: Read the text below, then follow the directions. When you are finished, show your map to your teacher to earn a puzzle piece.

The Incas built a vast system of roads, over 14,000 miles (22.4 km) in all. There were two main roads, one that went north-south near the coast and another that ran north-south through the Andes Mountains. Many crossroads linked these two main roads. These roads allowed Inca rulers to control faraway places by quickly moving the military and by providing efficient communication. They also helped the Inca to transport building materials over great distances.

The Inca had a system of message runners who quickly carried information along the roads. There were messenger stations spaced every couple of miles, and when a runner neared the next station he would blow a shell trumpet, signaling the next runner to get ready. Like a relay race, messengers passed news from one to the next, and ensured that messages traveled as quickly as possible.

Directions: Work with a partner to make a map of the Inca Empire. Make sure you label the capital city of Cuzco and the Andes Mountains, and draw the two major roads. In a corner of your map, draw another small map of South America, showing how the Inca Empire fits on the continent. On the bottom of your map, write a short description about the Inca system of message runners. Use this outline as a guide to help you get started.



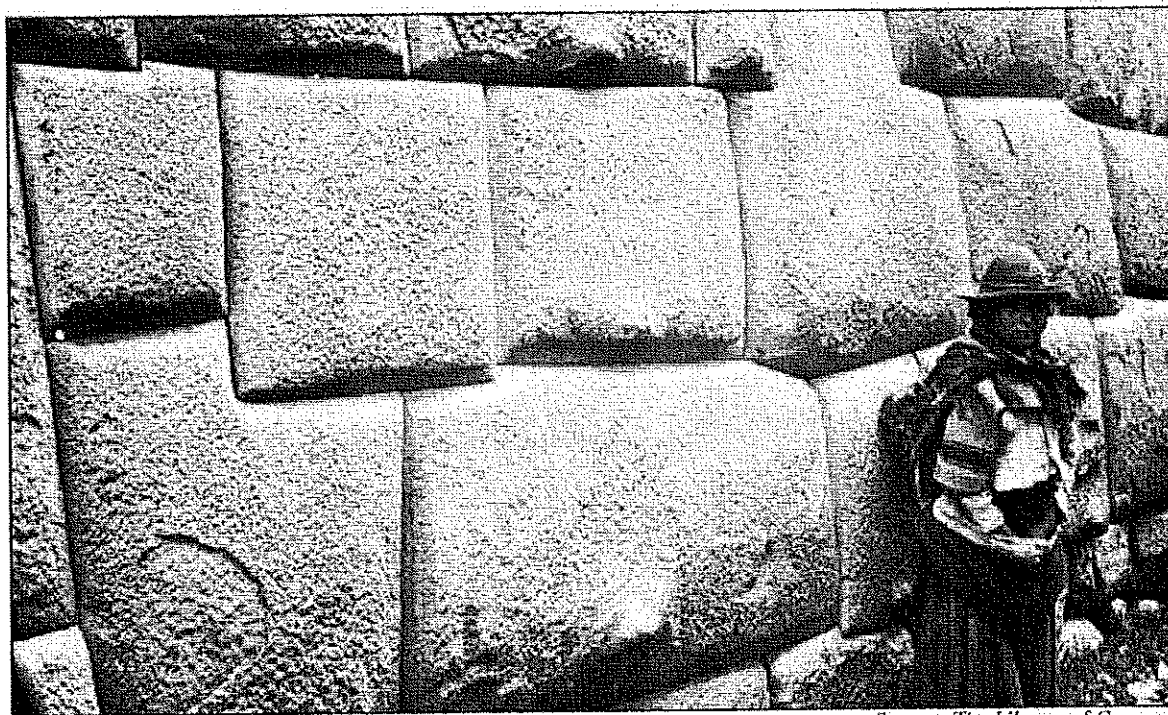
Inca: Stone Carving

Name: _____ Date: _____

Directions: Read the text below, then follow the directions. When you are finished, show your stone wall to your teacher to earn a puzzle piece.

The Incas were such expert stone carvers that their stone buildings fit together perfectly like puzzle pieces, without needing to be held together by mortar. It seems like a building without mortar would be less strong, but when there was an earthquake, the Inca stone walls wobbled and then fell right back into place, instead of cracking and falling like the walls that depend on mortar.

Unlike most civilizations that built stone walls, the Incas didn't use square blocks. Instead, they left the rock as close to its original shape as possible, just flattening out the sides needed to make them fit. In the picture below, you can see how many irregular blocks sit together perfectly. It's said that Inca stonework was so tight that you couldn't even fit a sheet of paper between the blocks.



Source: The Library of Congress

Directions: Work with a partner to create an Incan stone wall. Start with a bar of soap. Cut it into blocks, and then carve these blocks so they fit together to make a wall. Your stone wall needs to include at least five separate blocks. Mount your wall on a cardboard base.

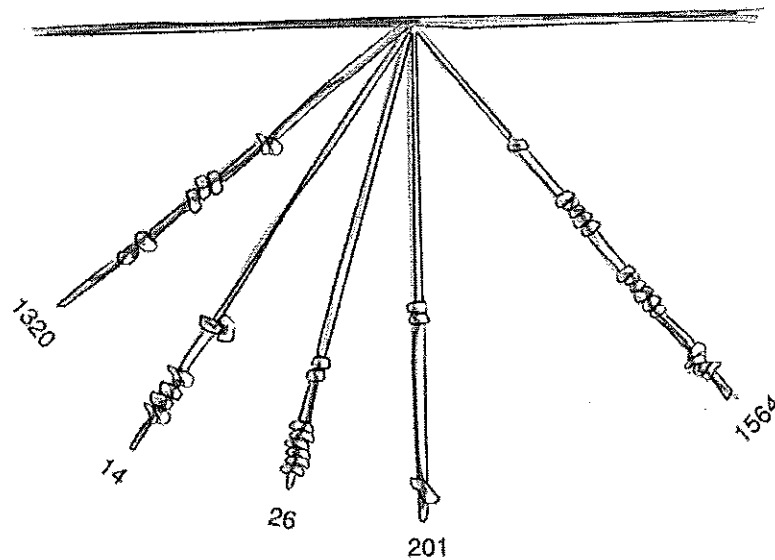
Inca: Quipus

Name: _____ Date: _____

Directions: Read the text below, then follow the directions. When you are finished, show your *quipu* to your teacher to earn a puzzle piece.

The Incas didn't have writing and had to find another way to record information. They especially needed a way to record what was going on in far provinces of the empire so that messengers wouldn't get the information mixed up. Rulers needed information about the army, food, gold, population, and time.

The tool the Incas invented to record this information is called a *quipu*. On a *quipu*, various colors of string meant different things. For example, the thread that told how much gold a province had was yellow, the army thread was red, and the amount of food a province had could be green. In each thread, the Incas tied knots to tell how much of each of these things they had. The furthest knots from the center represented ones, the next knots were tens, etc. For example, on the second string of the *quipu* below, there are four knots at the bottom and one knot closer in—thus, there is one "ten" and four "ones," which makes 14.



Directions: Work with a partner to create a *quipu*. First, pick three colors to represent different things. For example, you might choose green to represent the number of cents in your pocket or blue to represent how many hours are left until school is out. Next, create your *quipu*—tie three colored strings (or use pens to create colored string) to a higher string as in the picture above. Tie knots in your colored strings to show how many of each of these things there are. Write an explanation for your *quipu*.

Inca: Terraced Farming

Name: _____ Date: _____

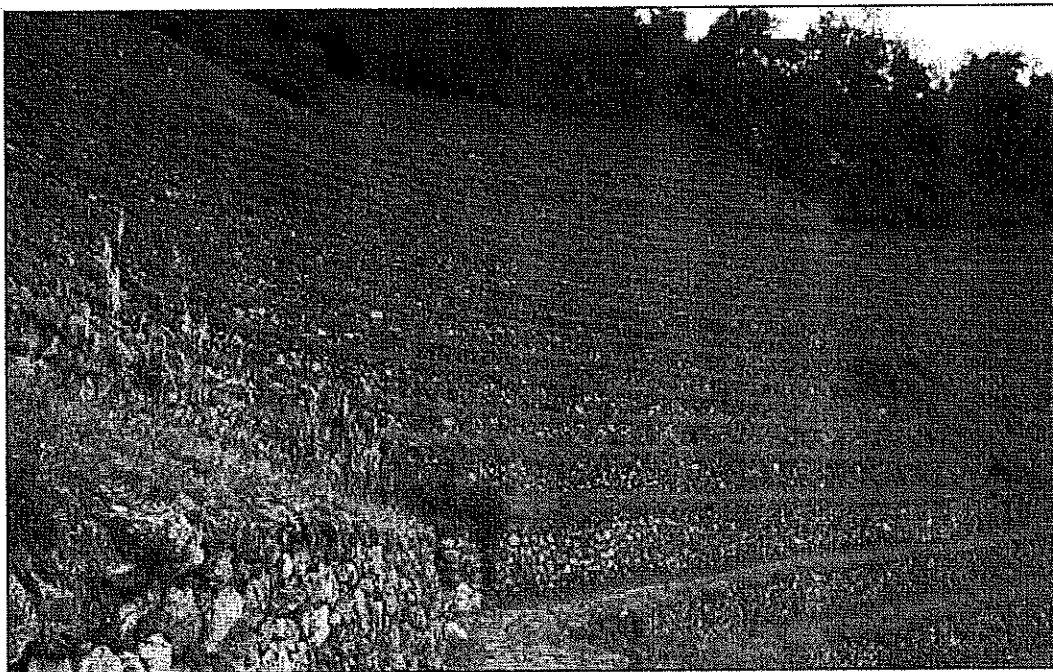
Directions: Read the text below, then follow the directions. When you are finished, show your model to your teacher to earn a puzzle piece.

The Andes Mountains are second only to the Himalayas in altitude. The Incas, who lived in the Andes, didn't have open fields to farm and had to learn new farming techniques that worked in the mountains.

Most importantly, they had to solve the problem of soil erosion—if the Incas farmed on steep hillsides, all the good soil would wash toward the bottom of the hills as it rained. To solve the problem of soil erosion, the Incas developed terraced agriculture. The Incas carved the hillside into a series of flat steps. Each step was reinforced with a stone wall. In this way, the Incas took sloping ground and made many stairs of flat ground, which wouldn't wash away.

The Incas also created a system of irrigation ditches to carry water to dry regions. Instead of using stone, which cracked, or sand, which let the water escape, the Incas used clay to line their irrigation ditches. The clay soaked up just enough moisture to avoid cracking, while keeping the water inside the ditch.

Directions: Look at the picture of terraced farming below. Work with a partner and use craft materials to create a model of terraced farming. Mount your model on cardboard, and write a description of terraced farming on the base.



Source: Kim Copeland

Inca: End of the Empire

Name: _____ Date: _____

Directions: Read the text below, then follow the directions. When you are finished, show your answers to your teacher to earn a puzzle piece.

In 1532, Francisco Pizarro and his group of 180 conquistadores arrived in South America from Spain. The Inca Empire was threatened for the first time. Pizarro arranged a peaceful meeting with the Inca ruler, Atahualpa, but instead of deciding how to live in peace, Pizarro kidnapped Atahualpa and held him for ransom. The Inca were forced to pay \$50 million in gold for their ruler's release. After getting the money, the Spanish decided to kill Atahualpa anyway. Then, the conquistadores marched straight toward the capital city of Cuzco.

Once the conquistadores sent gold back to Spain, reinforcements soon arrived. Pizarro still had only 400 soldiers to the Incan 40,000, but was able to defeat the Incas for the following three reasons:

1. Many of the Incan warriors died of the disease smallpox, which was brought to them by the Spanish conquistadores. Smallpox killed two out of every three Incans.
2. The conquistadors were able to convince tribes under Incan rule to help them overthrow the Incas.
3. While the weapons of the Incas were effective in tribal warfare, they were no match for the guns of the conquistadores.

However, the conquistadores weren't able to completely wipe out the Incas. A group of Incan warriors retreated to the mountain city of Machu Picchu, where they had no contact with Western society until they were discovered by Hiram Bingham in 1911. Machu Picchu was built to honor the sun god, the most important of all the Incan gods.

Directions: Use the information above and research materials to answer the following questions on your own paper.

1. In what year did Francisco Pizarro arrive in South America?
2. How did dishonesty help the conquistadores conquer the Incas?
3. What is the name of the city where the last of the Incan warriors fled?
4. What is the name of the disease that killed 2/3 of the Incan population?
5. What was the capital city of the Incan Empire?
6. How do you think the world would be different if the Incas had been immune to the disease you listed in question 4?