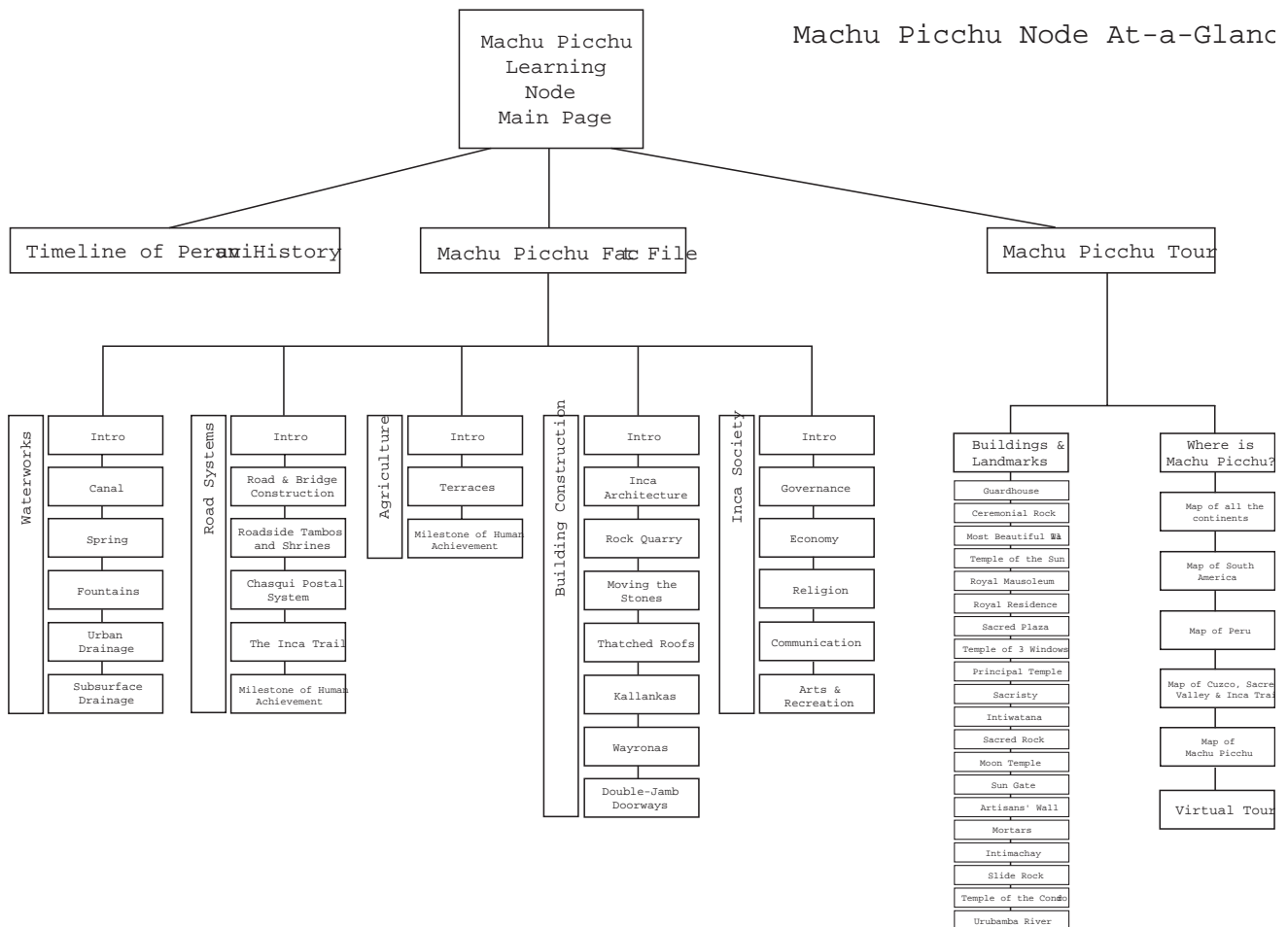


# Learning Node Contents

To become familiar with the content within the learning node, it is best to explore the software itself. However, this section provides a printed version of all of the information within the node as a quick reference guide. Information within the Machu Picchu & the Inca learning node is presented in different learning modalities to meet the needs of many types of learners.

## Node Layout

The node is organized into three different sections: Timeline, Fact File, and Tour. The Machu Picchu & the Inca Node At-A-Glance shows the organizational layout of the software.



### Timeline

The Timeline reviews a brief outline of Peruvian History. The following pages provide the Timeline content for easy reference.

### Fact File

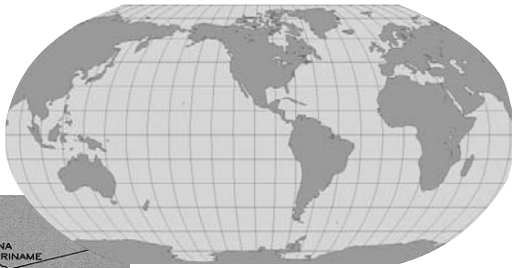
The Fact File section is like an electronic encyclopedia with visual access to five main topics: waterworks, road systems, agriculture, building construction and Inca society. Each subtopic provides a wealth of information for the learner. The following pages provide the Fact File contents for easy reference.

### Tour

The Tour section of the software takes the learner on a virtual fieldtrip of Machu Picchu. First, a map of the continents prompts students to locate South America. Then they are directed to locate the country of Peru on a map of South America. Subsequent maps guide students through Peru, the Sacred Valley and finally to Machu Picchu.

Students are then directed to put on the head mounted display and take an immersive tour of Machu Picchu. This tour uses 360 panoramic images to guide students through the sacred Inca city, as though they were actually there. From within each of the panoramas, students can click on hotspots and link to additional learning content.

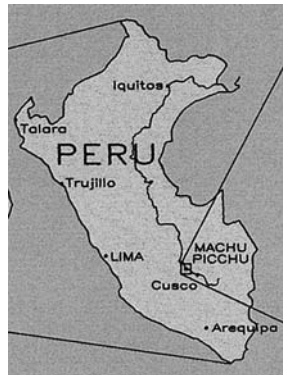
# Where is Machu Picchu?



Machu Picchu is located in the country of Peru on the continent of South America. Click on South America to continue.



Peru runs along the western coast of South America bordering the Pacific Ocean on its West Coast. Peru borders the countries of Ecuador and Colombia to the north, Brazil and Bolivia to the east and Chile to the south. Find Peru on the map and click on it to continue.



Machu Picchu is located in a region of Peru known as the Sacred Valley. This region is near the city of Cuzco in the southern portion of the country. Locate the Sacred Valley and click on it to continue.



The Urubamba River runs through the Sacred Valley. Visitors can either take a train from Cuzco through the valley to Machu Picchu or they can hike along the Inca Trail, following the same path that the Inca Emperor would have followed. Find the city of Machu Picchu and click on it to continue.



The site of Machu Picchu is located on a ridge between the mountain peaks of Huayna Picchu and Machu Picchu. Because of its remote location Hiram Bingham did not rediscover Machu Picchu until 1911. Machu Picchu is a beautiful site that has remained well preserved and is a tribute to the Inca engineers. Click to take a virtual tour of the ruins of Machu Picchu.

# Timeline of Peruvian History

Peruvian history can be traced back to around 6000 BC. Little is known about these people but that they were cave dwellers and left pictorial renditions of hunting and red and black geometrical designs on the walls of their dwellings. By about 2500 BC small villages inhabited by farmers and fishermen began to spring up in the fertile valleys of northern Peru. At about this time ceremonial buildings were constructed and ceramic pottery was introduced and developed. Over the next 2000 years civilization progressed as farming communities developed metallurgy, textiles, weaving, ceramic pottery and in some places impressive ceremonial centers were

**Chavin:** Around 800 BC a culture emerged that began to unify a large portion of Peru. This culture centered on a feline god who could see into the future. This deity was known as Chavin. The Chavin culture centered in the north where a large temple was built and pilgrims came from the coasts to honor this deity. This culture introduced the loom and worked with metal to create religious items. After 500 years the Chavin civilization began to decline.

**Moche:** On the coast of Peru the Moche civilization began to assert influence around 400 BC. The Moche are known for their advancements in metallurgy, ceramic pottery, and pyramids. Although they did not develop a system of writing much can be understood by looking at the work of their artisans as they rendered scenes from everyday life on their pottery.

**Nazca:** In the north the Nazca civilization was emerging in conjunction with the Moche. This civilization flourished from about 100 BC to 600 AD along the south coast of Peru. The Nazca are renowned for the Nazca lines, these geoglyphs span the desert for miles and are in the shapes of animals, humans, and geometric designs. The purpose of these lines is unknown today. They were made by removing a layer of Manganese and iron oxide pebbles from the desert floor.

**Tiahuanaco & Huari:** In the Andes around 400 BC two major cultures began to arise. The city of Tiahuanaco near Lake Titicaca was a ceremonial and administrative city and covered two square miles. This city had many large stone structures. These cultures are known for their unique approach to agriculture and irrigation and their emphasis on military organization.

**Chimu:** From 1200 to 1400 AD the coastal civilization of the Chimu amassed a vast empire. They created many textiles and metallurgical items and had a system of manufacturing and storing these goods. This empire flourished until the Inca arrived.

**Inca:** The Inca began to emerge as a culture around 1200 AD. The capital of the Inca was Cusco. The Inca are known for their expertise in textiles, gold working, vast road systems, and fine stone working. The Sapa Inca Pachacuti became emperor in 1438 AD. He rebuilt Cusco and expanded the empire on a grand scale. His son Topa Inca succeeded him in 1473 AD and the Inca empire spread into central Chile. Huayna Capac ruled after his father Topa Inca and died of smallpox in 1526 AD. A civil war broke out in the Inca Empire over which one of his sons would succeed him as emperor. The Spanish arrived as the empire was in strife and they captured Atahualpa, one of the warring brothers who had laid claim to Cusco. The Spanish conquistador, Francisco Pizarro had Atahualpa executed in 1533 AD. The Spanish ultimately defeated the Inca in 1572 AD at the jungle retreat known as Vilcabamba.

800BC–200BC	Chavin civilization emerges as the first cohesive culture and unites much of northern and coastal Peru.
200BC–650AD	Moche culture grows as an advanced civilization on the coast of Peru and develops advanced methods of metallurgy.
200BC–650AD	Nazca civilization grows in conjunction with the Moche and creates mysterious geoglyphs in the desert.
200BC–1000AD	Two major cultures emerge in the Andes, the Tiahuanaco and Huari. They develop advanced agricultural methods and military organization.
1200AD–1400AD	Chimu established a vast coastal empire. The coastal city of Pachacamac was an administrative center during this time.
1250AD	Inca establish Cusco as capital.
1438AD–1473AD	Pachacuti rebuilds Cusco and expands empire.
1473AD–1489AD	Topa Inca succeeds Pachacuti and expands the empire into central Chile.
1492AD	Columbus lands on the island of Hispanola.
1511AD	Huayna Capac leads campaign into Ecuador.
1513AD	Spaniards cross the Panama isthmus and discovered the Pacific Ocean.
1514AD	Small pox brought by Spaniards to South America kills many indigenous people.
1524AD	Francisco Pizarro leads his first expedition from Panama to the coast of Columbia.
1526AD	Huayna Capac dies of small pox.
1527AD	Pizarro enters Peru during his explorations.
1530AD	Civil war breaks out in Peru among the Inca over who will be the next emperor.
1532AD	Francisco Pizarro and his men defeat the Inca in Cusco.
1572AD	The Spanish defeat the last resisting Inca in the jungle retreat, Vilcabamba.

# Waterworks



## Introduction

The Inca Empire was vast and stretched for more than 3,600 miles along the West Coast of South America. The climates and topography vary widely from desert areas to highlands and rainforest regions. Each of these regions have unique features that required the Inca Engineers to be ingenious in their approach to creating an efficient waterworks system when planning towns and estates for the Sapa Inca. The waterworks systems were essential for the Inca and had many functions. In some regions it was necessary for irrigation and in the cities the waterworks were used for hygienic purposes as well as for religious ceremonies. These systems could be elaborate, directing the flow of thermal springs to provide hot water to the residences of royalty.

The diversity of each of the regions posed individual problems specific to the region. In the valleys bordering the coastal desert the climate is so dry that no more than 2 inches of rain falls a year. In these valleys crops were irrigated by an elaborate waterworks system. Up in the Andean Highlands rainfall was more than adequate for the native crops, but for corn-a plant native to a lower elevation-more water was required. In these areas where the terrain is rocky and forbidding, using simple tools, the Inca constructed networks of channels and canals to provide water for crops such as corn. In some cases they redirected rivers to control the flow of water. To reduce flooding the Inca would line the riverbeds with stone and create canals to divert the water overflow. In the Amazonian Rainforest regions the almost continual rain and jungle growth have been a deterrent for archeologists when studying this civilization, and still much is unknown about the infrastructure in this area.



The Inca did not have a written language, but through the remains of their cities we can surmise much about their civilization. The Inca had an advanced understanding of hydrology and durable construction methods. Machu Picchu is a site of Inca ruins in the Andean Mountains in Peru. Since Machu Picchu was not plundered by the Spanish and not rediscovered until 1911, it is a great tribute to the abilities of the Inca civil engineers. The ruins of Machu Picchu are located on rugged, steep terrain and laid out on a mountain ridge between two mountain peaks.



The waterworks system of the ancient Inca generally consisted of a water source, canals, fountains, drainage methods, and irrigation if necessary. These facets work together at the site of Machu Picchu and can be seen functioning today. The techniques of the Inca engineers are what have allowed this set of ruins to remain intact today, their knowledge of hydrology and hydraulics have kept the waterworks system functional today. The ruins of Machu Picchu are a monument to the ancient Inca Engineers and display the understanding they had of urban planning.





### Canal

The canal in Machu Picchu was built to carry water from the spring to the center of the city. It is 2,457 feet in length. The Inca engineers built the canal to last, as it is still functioning today. The canal is rectangular; the flat fieldstones were fitted tightly together and could be sealed with clay to prevent water seepage.

The Inca built terraces on the mountain of Machu Picchu where the spring is located to support the canal. These terraces were built to help resist sliding and settling of the land. The canal was built on varying gradients according to need to ensure that the water would flow at a steady pace, usually around 10 to 20 gallons per minute. At capacity the canal could carry water up to 80 gallons a minute. Using gravity and the precise gradient controlled the rate of water flow. If the slope was not correct the water would overflow or not flow fast enough into the fountains in the city.

When the Inca civil engineers planned the site of Machu Picchu the precision of the canal grade had to be taken into consideration as it is a determinant to where the canal could discharge water into the first fountain. A main concern for the Inca was that the water be purest in the royal residence and religious sites where the first fountain is located. Before the buildings could be built the location of the spring and the grade of the canal had to first be understood. This canal built 5 centuries ago demonstrates the Inca's ability to plan their cities, and transfer water over long distances, and rough terrain to create a lasting legacy.



### Spring

The source of water for Machu Picchu is a naturally occurring spring located on the north side of Machu Picchu Mountain. The Inca engineers enhanced the yield of water from the spring by building a series of water collection works. The Inca engineers used their understanding of groundwater and hydraulic engineering to create this system. They built a sturdy permeable rock wall approximately 48 feet long at the point of emergence. At the base of this wall the Inca built a rectangular collection trench for the water to flow through the wall and to accumulate into the channel. From the channel the water connects to the water supply canal that directs the flow of water down the mountain and into the city. To ensure that these structures would last the Inca engineers built a series of terraces to support them and prevent land erosion. A second naturally occurring spring supplements this water collection. This second spring is located about 130 feet above the water supply canal. The water from this spring flows from the point of emergence and into the canal that the Inca engineers built.

If there had not been a sufficient water source, the city of Machu Picchu would not have been built at this location. Before the city was built, the Inca engineers had to evaluate the water supply to determine if it was an adequate source for the city. According to the number of residential buildings in Machu Picchu, it is thought that 300 people lived in the city. It is estimated that the springs were able to sustain up to 1,000 residents, during ceremonies when royalty were present. The yield of water depended on a good understanding of hydraulic engineering and an understanding of the region's rainfall. The water quality was good and was used until recently for tourists visiting Machu Picchu. This waterworks collection is still functional today, but because of the increased numbers of people visiting this site the government has water piped into the nearby tourist hotel.



### Fountains

The series of fountains in Machu Picchu are centrally located and are on a linear layout running east to west along the main staircase. There is a vertical descent of approximately 85 feet from fountain 1 to fountain 16. Sixteen fountains make up the fountain system and these fountains served for differing functions in Machu Picchu. This series of fountains were designed to provide domestic water, to enhance the environment, and to be used for religious purposes. The first fountains flowing into Machu Picchu are located at the most sacred areas containing the main temples and residence for royalty. The first fountain contained the purest water, this fountain was constructed near the doorway of the royal residence. This enabled the Emperor to have the best water possible available when he was visiting Machu Picchu. The next two fountains are located at the most holy sites in Machu Picchu for use in religious ceremonies.

The fountains have the same basic design. The fountains are rectangular in shape and made out of carved, fitted stone. Water flows from the canal to a cut stone conduit and into the top of the fountain where a stone cut lip juts the water into the stone basin to the bottom of the fountain enclosure. At the bottom of the fountain a 1 to 2 inch outlet drains the water down into the canal and on to the next fountain. The water from the fountains was collected into the Inca water jugs called aryballos for use. These fountains are running today and the visitor can observe people using them to fill their water bottles, although drinking the water is not advised.



### Urban Drainage

The planning ability of the Inca engineers is evident in their urban drainage system. Without a well-designed drainage system the buildings in Machu Picchu would be reduced to a pile of rocks today. The rainfall from storms would have worn away the structures to ruin due to erosion and landslides.

The urban area of Machu Picchu has approximately 200 buildings and covers 21 acres. A main drain canal or dry moat was built to collect the water from rainfall. This main drain canal separates the agricultural sector from the urban sector in Machu Picchu. During storms rain, carried by gravity, flows down the many stairways located in Machu Picchu and drains into channels, these channels connect to the dry moat and then the water is carried outside of the city.

Storm drain outlets can be seen throughout the site of Machu Picchu. These drain outlets are found on the stone walls and buildings. The Inca built the outlets into the walls in strategic locations to ensure good removal of water from rainfall. Below these drains, in some cases, there are small canals chiseled into the rocks below to control the flow of the water draining from the outlets. These surface drainage facilities were carefully planned, placed, and formed according to the need of each specific site.



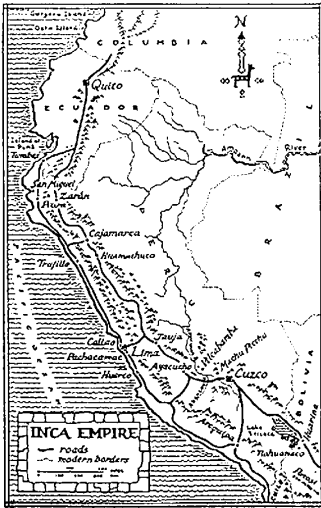


### Subsurface Drainage

A good subsurface water drainage system is crucial to the building site of Machu Picchu. This unseen feature is what stabilizes the buildings and has allowed Machu Picchu to stand in such a complete form today. Before any of the buildings could be placed on the ridge between the two mountains of Machu Picchu and Huayna Picchu an immense underground subsurface drainage system had to be constructed to reduce the element of erosion. Approximately 60% of Machu Picchu's construction was devoted to this subsurface drainage system.

To protect the land from erosion and landslides common to the area the Inca constructed terraces. Agricultural terracing comprise 12 acres of the construction site of Machu Picchu. These terraces were built to provide good subsurface drainage. The terraces were formed by building stone retaining walls and placing four layers inside the walls to enhance water drainage. The bottom layer of the terrace was made using loosely packed large rocks. This layer enabled the water to flow smoothly. The next layers were made of gravel, sand, and topsoil, consecutively. This system of filtering the rainfall through the topsoil to the subsoil is so effective that today there has been little damage done to the site of Machu Picchu due to erosion or movement from water drainage.

# Road Systems



## Introduction

The Inca Empire was comparable in size to the Roman Empire. It spanned over 3,600 miles from Quito, Ecuador to southern Chili. To the west of the empire was the Pacific Ocean, to the east lay the Amazon rainforest, this empire included desert coastlands, mountain ranges, open grasslands and jungle regions. This empire was the most geographically diverse. The Inca connected this vast and diverse empire with a system of roadways. The road system of the Inca spanned at least 15,000 miles and reached from Chili to Ecuador.

The Inca named their empire Tawatinsuyu meaning the land of Four Corners. The city of Cusco in Peru was the heart of this empire. Cusco is where all the roads led; it is in Cusco that the four main highways converged. At this crossroads, at the main square, is where the four quarters or corners of the Inca Empire were divided.

When the ninth Inca ruler, Pachacuti, came to power he initiated many building projects. He rebuilt Cusco and created a vast network of roadways connecting the entire empire to Cusco. During Pachacuti's reign he expanded his empire by conquering the surrounding people. To integrate these people into his empire it was necessary to keep open communication. Pachacuti could now travel the length of his dominion and always be on a maintained road. This royal highway provided a way for the Inca army to be moved quickly, opened communication between the other regions of the empire, and made it easier to trade goods throughout the empire. These roads were the lifelines of the Inca civilization.

## Road and Bridge Construction

The roadways the Inca built varied from wide avenues to small footpaths. On the plains and coastal regions the highways could be 20 feet wide and in the rugged mountains the roadway could be less than 3 feet wide. Along the coastal roadway stone pillars marked the way and walls of stone or adobe were built to keep out sand and to keep the army on the roadway. On the main routes large stones were used as markers for distance. Levees were built across swamps; bridges spanned the rivers, stairways were cut into the mountainsides and tunnels were made through living rocks. The Inca engineers seemed to build this highway through obstacles rather than go around them.

The surfaces of the road system varied according to regions. In the coastal regions and grasslands the surface of the road was made of a hard-packed mixture of clay, small stones, and maize leaves. In the mountain regions the roadway was carefully lined with stones. These roads were laid amazingly straight over difficult terrain. Since the Inca did not use the wheel and people and llamas were the means of transporting goods, the Inca engineers could build the highways on steep gradients, making stone staircases up steep mountainsides or in places cut tunnels through living rock. There are many sections of this road system that inspire awe as the traveler ascends into the highlands today.

Throughout the empire the Inca engineers had to cross numerous waterways when building the road system. Across slow moving rivers the engineers built pontoon bridges made by tying together boats and covering them with a wood walkway. Across swift currents at ground level the engineers built bridges of wood or stone. Some of the most impressive bridges were the ones that spanned deep river gorges. These were built by twisting rope cables as thick as





person's body and using baskets to carry the passengers across the cables attached by a large wooden hook. These rope cables were made of hand woven ichu grass. Some other approaches to spanning river gorges included making suspension bridges of this same rope anchored on either side by stone pylons or, if the gorge was small enough, the Inca engineers made draw bridges of wood reinforced by stone abutments. To ensure safety the Inca would appoint villagers to maintain these bridges by replacing the cables and wood.

## Roadside Tambos and Shrines

The Inca built rest stops or way stations called *tambos* at regular intervals, every 15 to 30 miles for their army to use. These *tambos* provided shelter for the night, held supplies of food, drink, weapons, and clothing for the army and Inca ruler to use. Shrines were also built along the roadsides. The shrines were used to offer gifts and prayers in honor of the gods. One of the most common gifts the passing traveler would offer on the altar was a stone to represent leaving their weariness behind.



## Chasqui Postal System

An effective postal system was set up along the highway by using relay runners called *chasqui*. These messengers lived in small huts along the roadside. When a *chasqui* came with a message the next messenger would run along side until the information was relayed. Then the new messenger would run to the next hut, repeating this process until the message had reached its destination. The *chasqui* ran at a pace of about 6-mph. News could travel by this method at the rate of up to 250 miles per day. Sometimes messengers delivered fresh fish from the Pacific coast to be eaten by the Inca Emperor for dinner.



## The Inca Trail

One of the most famous sections of the Inca road system is what we know today as The Inca Trail. Hiram Bingham discovered this route during his explorations in 1915. Although this path is only around 31 miles long, it is one of the most spectacular and popular treks today for hikers worldwide. The Inca Trail is well known for the extraordinary beauty and variety of the environment as it begins in an arid valley and ends at a high elevation on the edge of a rainforest. This trail was built for the Emperor Pachacuti as a royal highway to his estate in Machu Picchu. This road passes through several well-preserved Inca ruins and makes its finale with a descent through the Sun Gate, Intipunku into Machu Picchu.



## Milestone of Human Achievement

This is how a Spanish soldier who traveled on the Inca road system in 1547 described this marvel of Inca engineering: The Incas constructed the grandest road that there is in the world as well as the longest. I believe that since the history of man there has been no other account of such grandeur as is to be seen on this road that passes over deep valleys and lofty mountains, by snowy heights, over falls of water, through the living rock, and along the edges of tortuous torrents. This road system that the Inca engineers built was rivaled only by that of the Roman Empire in the pre-industrialized world.



# Agriculture



## Introduction

One of the most important segments of Inca life was their reliance on agriculture. The life of the common Inca revolved around the fields, harvest time, food preparation, and the exchange of crops throughout the regions. The Andes have a wide variety of food plants from the differing climate and altitude zones. Potatoes and quinoa, a grain, were grown in the higher elevations. The primary crops grown in the valley regions were corn, squash, beans, peppers, tomatoes, gourds, and avocados. Since a huge variety of crops could be grown in a relatively short distance from each other they were frequently traded. The diversification of crops helped to ensure that there would always be at least one crop that would grow well during the season. Rotating crops also helped to replenish nutrients in the soil.

As the Inca Empire expanded, each of the new regions conquered posed specific agricultural difficulties. Farming methods varied according to climate and altitude. The Inca would incorporate the local techniques to enhance the crop yield. In the desert areas the Inca expanded the existing canals. In a high plateau in the Andes called the Altiplano the Inca followed the natives example of raising a large area of topsoil above the basin of Lake Titicaca to create channels around the fields. This farming technique allowed warm air to force cold air into the channels. The channels would then insulate the crops extending the growing season and decreasing the chance of frost.



## Terraces

Agricultural terracing was another common farming technique. This method was used in the Cusco region and in many other locations throughout the empire. Over 2.5 million acres were farmed in this way. In the mountainous regions, with steep slopes, the flat surface of the terrace provided the necessary area for farming and also helped to protect the soil from erosion and landslides.

After the Inca chose a location for terrace farming they would build a series of stone walls. The Inca workers would then place a layer of rubble—usually found at the construction site—consisting of stone chips left from the worked stone. This layer was primarily for drainage. Finally, earth would be transported in baskets and used for topsoil. This top layer was between 1.5 to 3 feet thick. Some of the terraces were fertilized using guano.



## Milestone of Human Achievement

The Inca were some of the best agronomists in the world. The fundamental diet of the Inca was vegetables and therefore, they placed great importance on plant domestication. The Inca created hundreds of varieties of corn and potatoes and Peru is renowned for its crop diversity today. The advanced techniques the Inca used indicate the knowledge and effort the Inca took in agriculture. The Inca redirected the course of the Urubamba River in the Sacred Valley to provide more arable land by straightening the banks and lining them in stone. Today about 1.8 miles of this work has survived. It is the largest pre-Columbian canal in the Americas. Garcilaso, a Spanish chronicler, when considering the canals, noted that, "One can compare them with the greatest works on earth and give them first place." Many of the same agricultural terraces and farming methods are still used today and remain an important part of life in these regions.

# Building Construction



## Introduction

One of the most impressive aspects of the Inca engineers abilities was how they could master stone to create lasting buildings. Throughout the vast empire of the Inca are many stone cities, administrative buildings, storehouses, and royal estates. When the Spanish arrived they marveled at the craftsmanship and skillfulness of the Inca buildings. One Spanish priest wrote of their amazement of the Inca building skills and said: What amazes us the most when we look at these buildings is to wonder with what tools and apparatus could they take these stones out of the rocks in the quarries, work them, and put them where they are without implements made of iron, nor machines with wheels, nor using either the ruler, the square, or the plumb bob, nor any of the other kinds of equipment and implements that our artisans use. Structures usually had a single story and were made of cut stone perfectly jointed together, although adobe bricks and plaster were used in the coastal regions. Many of these buildings, made centuries ago by the Inca, can still be seen today dotting the landscape throughout the Inca Empire.



When the ninth Inca ruler, Pachacuti came to power he conquered many different empires. As he conquered these cultures he would assimilate their accomplishments and duplicate them to suit the needs of the Inca Empire. The Inca learned about building techniques from the Huari and Tiwanaku Empires and their predecessors near Cusco. The Inca engineers used this collective knowledge of construction to achieve durable structures with solid foundations, good hydrology infrastructure, and good agricultural soil management.



## Inca Architecture

Inca architecture is known as being solid, simple, and symmetrical and yet, there is beauty and coherence in their craftsmanship. The Inca architects knew how to incorporate the solid foundational longevity of their buildings with art and nature. Machu Picchu exemplifies this concept. Stone was not only abundant and sturdy but, according to the Inca it had spiritual significance. Since it was held in esteem the Inca would incorporate living rock together with fitted stones to create masterpieces of construction like the Temple of the Condor in Machu Picchu.

Trapezoidal designs and the tight fitting stone working typify the Inca masonry. The polygonal construction of the Inca creates such a tight fit between stones that a knife cannot fit between stones. The stone masons fitted randomly shaped blocks together like pieces of a puzzle. Some cut stones have many angles, like the one in the sacristy at Machu Picchu. The Inca doorways and niches are trapezoidal in shape and joints are usually beveled for functional as well as aesthetic reasons.





## Rock Quarry

After the designs and plans for the construction site were finished the colossal job of collecting and working the stones had to be tackled. At the quarries, stone masons would pry the rocks loose from the bedrock by finding the natural fault lines and driving bronze crowbars or wedges of wood into the fissure. After the wood was placed into the fault line the Inca workers would soak the wood with water until it would expand and create a larger fracture enabling the stone masons to break the rock free. Then stone cutters would cut the stone to the general size that was needed. The Inca used other harder stones to cut the rocks down to the shape and size they needed. Finally, the stones were ready to be moved to the construction site.

The principal rock quarry used to build Machu Picchu is located south of the Sacred Plaza and contains blocks of granite from ancient landslides. This quarry is known today as Caos Granitico and this local granite is made up of quartz, feldspar, and mica. The Inca builders also used imported pink granite from 30 miles away and a green talc stone found at the Machu Picchu fault. The Inca used these two stones sparingly in several locations throughout Machu Picchu.



## Moving the Stones

The Inca engineers did not use the wheel or iron and did not have work animals to pull the rocks and yet somehow they maneuvered boulders over steep banks and across surging currents to create their buildings. Many of these boulders weighed 15 tons and in some structures near Cusco they weigh up to 126 tons. Brute force could drag stones over long distances but, to move them up steep slopes the Inca built ramps. The rocks would be moved along these ramps and can still be seen today. It has been estimated that as many as 2,400 Inca workers were used to move some of the larger boulders to the construction sites.



## Thatched Roofs

The stone gables of the Inca buildings once supported thatched roofs. These roofs allowed rainwater to runoff. How the Inca engineers designed the roofs is still a mystery today, although many clues exist in the design of the buildings such as, pegs, notches, and stone supports. In Machu Picchu thatched roofs have been built over some of the buildings to show what the buildings would have originally looked like.



## Kallankas

Kallankas, or great halls, are commonly found at Inca royal or administrative sites. Kallankas were one of the largest structures built in the settlement and were usually located centrally near the town plaza. Inca tradition dictated that the commoners from the surrounding region would celebrate festivals and eat and drink together in these great halls. Archeologists have found many pieces of Inca pottery at these sites reinforcing the importance of these buildings for the Inca as meeting houses and feasting halls.



#### Wayronas

Rectangular, three-walled structures built by the Inca are known as wayronas. These buildings had open fronts and thatched roofs. Wayronas were used as way stations, resting places, and as places to socialize.



#### Double-Jamb Doorways

To signify a place of importance, Inca architects would place an extra layer of stone in a doorway creating what is termed a double-jamb doorway. The doorways are typically trapezoidal and the double-jamb feature can be seen as one approaches the door. This distinct characteristic alerted the passerby to the nature of the rooms within. Only those of high standing in Inca society, the nobility or religious leaders, would enter the double-jamb doorways. These doorways typically lead to the residences of nobility or religious leaders, or to important religious buildings.

# Inca Society

## Introduction

As the Inca Empire expanded it was necessary for the emperor Pachacuti to reorganize many institutions such as government and religion. During Pachacuti's and his son, Topa's reign around one-third of South America and approximately twelve million people were under the rule of the Inca. For an empire this immense it was a monumental task to organize a method of communication, unify the religion, create a working economy, and develop an administration. All of these facets, along with arts and recreation worked together to create the society of the Inca.

## Governance

According to Inca history, the ninth emperor Pachacuti reorganized the structure of the government in Inca society. At a time in Inca history when the empire was quickly expanding it was necessary to create a highly organized state. Pachacuti created a pyramidal system with the emperor at the apex. He also instituted many rules and regulations for his citizens to follow.

Inca society was broken down into four levels of governance. The Sapa Inca was the emperor and he had supreme authority over the realm. Directly under, and appointed by the emperor were the apas, or prefects. They were in charge of the four quarters which the Tawantinsuyu or empire was divided. Governors resided over administrative towns; they were nobles selected by the Emperor and reported to the prefects. Finally, curacas were appointed to oversee the smaller villages. The curacas were the mediators between the ruling Inca class and the smaller communities and often were local rulers who had been adopted into the Inca society because of their loyalty.

At the head of the Inca society was the Sapa Inca or Emperor. He was considered the son of the sun, the sun god, Inti was the Inca's most important deity. The Sapa Inca was bestowed the status of a living god. The Emperor could have many wives but his sister known as Coya, was his principal wife, and their offspring would be the next ruler of the Inca.

This divine status of the emperor demanded that certain rituals and restrictions were followed. Every article of clothing the Sapa Inca wore had to be ceremonially burnt after one use, along with his nail

clippings, any hair that was cut, and food that had been left uneaten. This was done to prevent any sorcery from being committed against the emperor. Chosen women called acllas specially prepared all of the Sapa Inca's clothing, food, and drink.

Access to the Emperor was restricted to only those of great importance and even then a strict set of rules had to be followed. Each visitor had to take off their shoes and carry a symbolic burden and usually never saw the emperor face to face, as a screen was placed between the two.

Not only was the Sapa Inca the divine authority but also the owner of the land and resources in the empire. Each region of Tawantinsuyu had to pay taxes in the form of goods and labor. Every adult male in the empire was required to perform payment in labor called mit'a. The goods were collected from the regions and held in local storage facilities or sent to administrative centers or to Cusco.

After the Sapa Inca died his spirit was believed to live on, therefore his royal mummy had to be treated with respect and was waited on by servants just as when he was alive. His mummy was even carried on a litter and taken on trips to visit living relatives or other mummies of the deceased emperors.

Just beneath the Sapa Inca was the nobility class. Those considered part of the noble class were Inca by blood or by privilege. The Inca by blood could follow their lineage from emperors and wore large ear spools made of gold, silver, and wood. The Spaniards called this class the orejones or big ears because of these spools. This class lived with the high priests in the Cusco region and sent their sons to a special school. The orejones did not pay taxes, were allowed to wear pretentious clothing, and spoke a distinct dialect of Quechua.

Another segment of the Inca nobility were considered Inca by privilege. These were the appointed as the empire expanded. They were not descendants of the emperors but because of their loyalty to the Inca were given positions of authority and acted as nobles.

Curacas had less authority than those considered Inca by privilege and often times were from the area they presided over. They managed the resources, acted as judges over disputes, and were overseers for activities in the small communities known as ayllus. The most important function of the curacas

was to collect the mit'a, a tax paid by labor for the state. In return the ayllus took care of the needs of the curacas by tending his herds, weaving his clothing, and working his fields.

The hatun runa, or commoners made up the military, provided for the agricultural needs of the empire, and were the artisans. The artisans such as metal workers and textile workers were freed from agricultural responsibilities and moved to the Cusco region to create luxury items for the Inca nobility. The majority of the people were commoners and provided the physical labor necessary to tend fields, harvest crops, and serve in the military. They lived in communities called ayllus. Ayllus were the foundation of society for the Inca. Today in the Andes the ayllus still remain an important part of society. Each ayllu is made up of a group of family members that share water rights, land, herds, and labor. Every adult male in an ayllu paid the mit'a tax by working for the state and was given land when he married.

Regulations were pervasive in the Inca culture. Perhaps the most important rule was that everyone was to work, although this law was adjusted to consider the capabilities of the individual. For instance, the elderly and the disabled were not considered a fully able bodied worker and therefore did not have to perform the mit'a labor or pay taxes.

The Inca instituted a method of dividing all subjects into categories according to age and sex. Within those categories every citizen had certain jobs they were expected to perform. Girls between the ages of five and nine years old were to tend the smaller children and run errands such as getting water and food. The boy's responsibilities at the age of five to nine were to help care for the herds and keep birds away from the crops. Between the ages of nine and twelve the boys began to hunt for fowls and the girls learned the art weaving and dyeing cloth, from this age group the most beautiful girls were chosen for human sacrifice and to be the acllas or chosen women for the emperor. In adolescence the some girls would work caring for the herds but most would weave, prepare food, tend fields, and do household chores, while the boys would guard the flocks, help in the fields, and some became imperial messengers called chasqui. This work ethic carried on throughout life, as the commoner would usually work as a farmer or herder, weaver or mother until they reached old age at around fifty years old.

Disobedience to the Inca law was severe and included hanging, stoning, and being forced off cliffs for the crimes considered most offensive. These crimes included murder, destroying government property, treason, and adultery. There were no jails and punishment was meted out swiftly. Few subjects broke the law and the Spaniards remarked on how orderly and compliant the Inca were. The three golden rules that governed the life of the Inca were; do not steal, do not lie, and do not be lazy.

## Economy

The political economic system of the Inca was based on the principal of reciprocal exchange. They did not have a monetary system or markets but, would exchange goods and perform a set amount of labor for the government. The commoners or hatun runa paid taxes in the form of service called mit'a to the emperor and in turn goods and food were collected and stored for later use and redistribution. Religious ceremonies, national emergencies, and the orphans, widows, and elderly were to benefit from the stored goods. In this way the government was responsible to care for the citizen while the citizen was responsible to fulfill work requirements. This was the theory behind the economic system for the Inca.

In reality the mit'a or labor tax provided the labor that kept the state alive as well as supported the emperor and noble class. The road system, agricultural terraces, administrative centers, storage facilities, and military were made and manned through the mit'a tax. Surplus food was produced and stored, clothes were weaved, artisans provided the decorative items for the religious community and the nobles through the mit'a tax. And all these goods were carefully kept track of by the Inca accountants called quipocamayos. Much of the surplus items supported the lavish lifestyles of the nobility and the emperor. They were the only ones in the empire allowed to wear sumptuous clothing, wear jewelry, and allowed to use furniture or eat indoors. The emperor and nobility were also exempt from paying taxes and in many cases did not have the same restrictions or requirements as the hatun runa.

Life for the commoner was one of hard physical labor. They were the herders, farmers, weavers, and artisans. The hata runa's life revolved around the Inca calendar handed down from the emperor and religious authorities. The calendar marked days for religious festivals, planting, harvesting and many



activities of daily life. The commoners wore simple tunics or dresses and were not allowed to wear jewelry. Men wore their hair short while women wore long hair parted in the middle and they would often braid it. The commoner had one wife whereas the nobility was allowed many wives.

The fundamental diet of the Inca was vegetables. They ate two meals a day, in the morning and in the evening. In the Andes a vast variety of fruits and vegetables grow within a relatively short distance of each other due to the difference in climate and altitude. Therefore the Inca developed a system of trading their produce to enrich their options for consumption between communities. The commoner was required to eat their meals outdoors by the Emperor Pachacuti and spent very little time inside their huts. To supplement their diets the *hatun runa* raised guinea pigs, hunted fowl, deer and wild camels called guanaco or ate llamas.

## Religion

Religion played an important part in the life of the Inca and helped to solidify the government in Inca society. The headquarters for both the government and religion were located in Cusco. Every month of the Inca calendar had at least three days devoted to religious observances and it was not uncommon for the ceremonies to last for a week at a time. Over 120 days a year was given to religious observances such as festivals and feasts. All of these were instituted ultimately by the emperor, as he was the one who appointed the high priests. These ceremonies and festivals helped to legitimize the emperor's political power and control thus creating ties between the emperor and the commoners. Each region that was added into the Inca Empire was allowed to keep their belief systems and deities but were required to incorporate the Inca beliefs as well.

The feasts and festivities usually began with an elaborate set of public rites and rituals and would include animal sacrifice of llamas or guinea pigs. Occasionally a human was sacrificed if the occasion demanded. Offerings would be made of the produce, small figurines, shells and coca leaves. Most observances included eating and drinking *chicha* an alcoholic beverage, music and dancing. The emperor provided the food and drink for these occasions from the storage facilities located throughout the empire.

There were feasts and ceremonies to celebrate marriages, remember the dead, mark stages in the agricultural year, and honor those who were entering the age of maturity. The major deities honored in many of these observances were Inti, the Inca sun god, Viracocha the creator, Pachamama the earth goddess, Illapa the god of thunder, and his sister the moon goddess, Mama quilla. Another important belief held by the Inca was the idea of sacred places called huacas. Huacas could be mountains, caves, rivers, rocks, tombs, lakes or springs. These places became the focus of much of the religious activities. The huacas were believed to hold special powers or spirits and therefore offerings were left to honor them.

Machu Picchu is one of the best-preserved Inca sites that remain today. The true significance of its location may be intertwined with the Inca belief in huacas. Machu Picchu is surrounded on three sides by the Urubamba River, which is a major huaca. Sacred mountains that are considered to be huacas surround it on all sides. Within the site there are sacred stone outcroppings and many are built into the structures around them. The spring and water system draining into the Urubamba River reiterates the sacred water cycle and many of the buildings are in alignment with astronomical observances.

## Communication

The official language of the Inca Empire was Quechua. The local lords that were chosen to be curacas and oversee the administration of the small communities called *ayllus* for the Inca were expected to learn Quechua. As there was no written language the Inca used other ingenious methods of communication.

Pachacuti created a vast network of roadways connecting the entire empire to Cusco. The road system of the Inca spanned at least 15,000 miles and reached from Chili to Ecuador.

During Pachacuti's reign he expanded his empire by conquering the surrounding people and to integrate these people into his empire it was necessary to keep open communication. Pachacuti could now travel the length of his dominion and always be on a maintained road. This royal highway provided a way for the Inca army to be moved quickly, opened communication between the other regions of the empire, and made it easier to trade goods.



throughout the empire. These roads were the lifelines of the Inca civilization.

It was necessary for the survival of the empire that records be kept of everything from the movement of the military to the resources in the state. The device the Inca used in the absence of written language was a quipu, this was a set of strings that were knotted and colored in particular ways to represent the information. Archeologists remain unsure of how the Inca tallied the resources but it is thought that the knots represented units in a base of ten counting system. These quipus kept track of the amount of llamas, cloth, tax paying citizens, and any other needed information. They were made, read, and understood by the Inca accountants called quipocamayos.

Another useful method of communication was the Inca postal system. This was accomplished by the use of chasqui or messengers. These messengers lived in small huts along the roadside. When a chasqui came with a message the next messenger would run along side until the information was relayed. Then the new messenger would run to the next hut, repeating this process until the message had reached its destination. News could travel by this method at the rate of up to 250 miles per day.

## Arts & Recreation

Arts and recreation played a significant role in Inca society. The Inca enjoyed music, dancing, and beautiful works of art as expressed in the tapestries, figurines, and pottery. A main feature of the numerous festivals and observances was music, dancing and poetry recitation. The poems centered on an oral remembrance of the nation's past and glorious deeds of the emperors or of religious appreciation of nature and the deities. Today in the Andes epics still are passed down in this manner.

Musical instruments were plentiful in Inca Society. They had a variety of many kinds of instruments such as, trumpets, flutes, and many other wind and percussion instruments. Flutes abounded and were made of clay, bones, reeds, and wood. The pan flute is perhaps the most renowned instrument of the Andes. The Inca also had trumpets made of gourd, shell or wood and many kinds of percussion instruments.

Music and dancing went hand in hand and every region of the empire had its own repertoire of traditional dances. At the festivals many kinds of dances would be performed, some were methodical and others could be erratic with leaping and running. Men and women would dance together and often times use props such as masks, animal skins, or even farming implements.

Weaving was considered the greatest art form in Inca society. To the Inca weaving was prized above the gold that the Spaniards treasured. Weaving was time consuming and could be very detailed to create beautiful tapestries and cloth. The Inca had grades or categories of cloth. The finest grade was called cumbi and could only be worn by the emperor and his family. Different patterns on clothing had meaning and could indicate the rank of the individual in the military or which region the citizen was from. Each region had its own pattern and insignia that had to be worn on the garments of its citizens and it was forbidden for the commoner wear the pattern of another region.

Metallurgy and pottery is another example of Inca art. The metal workers and potters created beautiful works of art for the religious and noble segments of society. Cups, figurines, jewelry, and many other trinkets for decoration were made of silver, gold, or clay. These artisans were freed from agricultural responsibilities and moved to the Cusco region to create luxury items for the Inca nobility and religious leaders.

# Buildings & Landmarks



## Guardhouse

A lone wayrona style or three-sided building called The Guardhouse stands overlooking Machu Picchu from the south. This structure is the first building the travelers come upon when descending from the Inca Trail. The Guardhouse is thought to have served as a sentry station monitoring those entering the sacred site of Machu Picchu. It is thought that only the elite and their retinue were allowed into the main gate of Machu Picchu.



## Ceremonial Rock

A few feet from The Guardhouse is a large carved rock known as the Ceremonial Rock. Many river rocks surround this ceremonial rock and may have been left as an offering from travelers thankful for their passage as they came into Machu Picchu.



## Kallanka

On a terrace just west of the Guardhouse are the ruins of what used to be the largest structure located in Machu Picchu. The kallanka, or meeting hall, was used for festivities and to entertain the commoners of Machu Picchu. Since the city of Machu Picchu was designed for royalty and religious purposes this kallanka was constructed on the outskirts of the city instead of on the main plaza that was customary in Inca times.



## Most Beautiful Wall

Hiram Bingham named the long straight wall on the west side of the Sun Temple, America's most beautiful wall when he rediscovered Machu Picchu. Each stone of this wall built by the Inca is evenly shaped and fitted to create the lasting wall that we can appreciate today.



## Temple of the Sun

The temple of the Sun is at the southeastern end of Machu Picchu and is unique in form from the other structures in Machu Picchu as it was made in a semicircular shape with multi levels and has stone protrusions around the window. The fine stonework and careful construction of this temple indicate that it was of great importance. It was constructed around a huge piece of living rock and the altar was carved from the top section of this rock.

The Temple of the Sun in Machu Picchu was given this title because of the similar design of the Sun Temple in Cusco called Coricancha. The purpose of this temple is widely accepted by archeologists as being a solar observatory used for religious ceremonies. The Inca used this solar observatory to mark the Sun Festival on June 21st, the winter solstice in Peru. On June 21st at sunrise the first sunbeams shine accurately through the center of the eastern trapezoidal shaped window onto the altar.



### Royal Mausoleum

Below the Temple of the Sun is a cave known as the royal Mausoleum. This cave could have been a tomb for royalty, however, no human remains were found in the cave. In the interior of the cave are stone wall-pegs and trapezoidal niches where sacred objects or mummies could have been placed.

The Inca engineers fitted cut stone to the living rock in this cave exquisitely. The hourglass-shaped stonework at the entrance to the cave is an excellent example of this fine craftsmanship.



### Royal Residences

Located in the western sector of Machu Picchu is a set of rooms intended to house one family. This residence is just north of the Sun Temple and in the proximity of the Sacred Plaza and Intiwatana. These rooms are generally thought to have been the residence of the Inca Emperor, Pachacuti, when he came to visit Machu Picchu. The huge rocks, some weighing up to three tons, the spaciousness of the rooms, and the care that the stone masons took in creating a pillow-like look indicate this housing was certainly intended for a person of great significance. Another important feature of the Royal Residence is that it is located next to the first fountain, so that the emperor would have access to the purest water.

The entrance to these rooms has a narrow hallway with a foyer area; this leads to a wayrona style building and a living or patio area. In the foyer area there is a stone ring that is thought to have held a torch, a similar ring can be seen at the end of a stairway leading to Intiwatana. The Inca did not use furniture per se, but used niches, pegs, rings, and stone benches and slabs to store their goods, sleep and sit on.

Inside the patio or living area there are several doorways that lead to rooms for the royalty. These rooms were bedrooms with stone slabs for their beds, storage rooms, a kitchen, and a room that could have possibly served as a bathroom. The entrance to the Emperor's bedroom has a large stone lintel over the threshold and the stone slab the Inca Emperor would have used for a bed would have been well padded with alpaca skins and blankets. Pottery was found in the room speculated to have been the kitchen. Each of these rooms shows beautiful stone masonry and workmanship.



### Sacred Plaza

The religious center of Machu Picchu is known today as The Sacred Plaza. In this plaza there are three major structures. Two of these buildings are temples, one is known as the Main or Principal Temple and the other as the Temple of Three Windows, a view of the Urubamba River lies to the west. All of the buildings have three walls and are built in the style of wayronas. The stonework for the temples is some of the most remarkable in Machu Picchu.

The large building on the south side of the Sacred Plaza is a structure thought to have been used by the Inca for utilitarian purposes. Similar to the other two structures in this plaza it is also built in a wayrona style. This building is made of less ornate stones and its construction is inferior to that of the other structures in this complex. The stones are smaller and not as well fitted, although pegs made of pink granite imported from the Cusco region were used in the construction of the walls.



### Principal Temple

The Principal Temple lies on the north side of the plaza and has three large stone altars in its interior. Along each of the three walls are trapezoidal niches placed at different levels. These niches probably held ceremonial objects. Near the western wall of this temple is a polished triangular shaped stone. This stone is thought to be a representation of the Southern Cross Constellation. What the Inca used this temple for is not known but that it was of importance is certainly delineated by the large and beautiful stones used in its construction.



### Temple of Three Windows

To the east lies the Temple of Three Windows known as such due to the three large windows along the wall overlooking the main plaza in Machu Picchu. It was built in the wayrona style, having three walls with a roof and leaving one side open. The granite foundation stones used in this temple are huge polygonal shaped boulders and weigh several tons. The use of this temple remains a mystery. Shards of pottery found inside the temple indicate that priests could have used the temple to make offerings to the gods by placing the offerings in pots and breaking the pots in the temple.



### Sacristy

Behind the Main Temple to the north is a room called the Sacristy. This room is thought to have been where the priests would prepare for religious ceremonies. Along the back wall is a stone bench and above the bench is a row of niches. These niches probably once held religious objects in the time of the Inca. One of the stones comprising this room is one of the most spectacular in Machu Picchu. This stone makes up the entire western wall and has 32 angles three dimensionally. The workmanship of this wall exemplifies the abilities of the Inca stone masons and engineers.



### Intiwatana

Marking the highest point inside Machu Picchu is a natural rock formation, a pyramid, known as Intiwatana. The famous Intiwatana Stone is at the peak of this pyramid. Intiwatana means hitching post to the sun, or place where the sun is tied in Quechua. The platform where this stone is located affords an excellent view of Huayna Picchu Mountain to the north, the Urubamba valley to the west, and the city of Machu Picchu to the south and east.



There are many theories surrounding the use of the Intiwatana Stone. The shape of the top of the stone may indicate a compass, as the cardinal directions coincide with the four carved corners. It could have been used as a sundial to indicate significant days of the year on the Inca calendar or perhaps even hours as the Inca would mark time according to how shadows fall across the mountains. Another use of this important stone could have been an abstract representation or image stone of the mountain to the north, Huayna Picchu. Whatever the case, it is certain that this point and the Intiwatana Stone were significant to the Inca in their worship.





### The Sacred Rock

To the north of Machu Picchu is a gigantic boulder with a stone wall around its base. This rock shows how the Inca would carve stone to replicate reality in honor of the sacred mountains. This image rock, called, The Sacred Rock, was carved in the shape of the mountain behind it, the Yanantin Mountain. This is one of the largest image rocks in Machu Picchu.

There are two-wayrona style or three walled structures next to the Sacred Rock. These structures and the Sacred Rock are located at the entrance to the trail leading to Huayna Picchu and the Moon Temple. It is thought that the wayronas were used by the Inca to monitor those entering the trail.



### Moon Temple

On the north face of Huayna Picchu, approximately halfway between the summit and Urubamba River, is the Temple of the Moon. The Moon Temple is an assortment of buildings and caves. Archeologists have debated about the purpose surrounding this group of structures, some believe it may have an association to the worship of the moon while others believe it was used to venerate mummies or the mountain gods. Whatever the case, this complex was certainly an important religious site for the Inca as signified by the double jam doorways, niches and the fine stone work.

The site of the moon temple has two separate collections of buildings that are similar in design. The main set of buildings is what is usually thought of as the Moon Temple. Inside this cave is a large altar stone and it contains incredible stone masonry, including double jam niches that are found nowhere else in the Machu Picchu area. The building above this cave has large stone rooms.

The Inca believed that caves were the entrances to the mountains where the gods reside and where offerings could be left. Thus this complex, situated on the sacred mountain of Huayna Picchu may have been used to venerate the mountain gods. The Andean people today still revere the mountains surrounding Machu Picchu as sacred.

Just beyond this set of buildings is a huge double jam doorway and the second group of structures. The doorway is the largest double jam doorway found in the vicinity of Machu Picchu. The buildings and cave are similar in design to the first set although these are more roughly hewn and the cave is less expansive.



### Sun Gate

Southeast of Machu Picchu lies a set of ruins known as Intipunku or The Sun Gate. At this site the Inca travelers could offer thanks as they made their last descent on the Inca Trail into Machu Picchu. This complex is comprised of several buildings, a shrine, and a wide granite staircase. The view of Machu Picchu from Intipunku is spectacular.





#### Artisan's Wall

The Artisan's Wall is a beautiful wall along the east section of Machu Picchu. This wall along with the staircase and terrace walls have lasted the test of time. On this wall each stone has a different shape and was cut and fit to create a mosaic of shape and color.



#### Mortars

Circular carved rocks are found on the floor in several locations throughout the ruins of Machu Picchu. These artifacts have been called mortars, or grinding stones. Some archeologists say the mortars were used by the Inca for medicinal purposes to mill herbs. Other archeologists claim they were astronomical mirrors to reflect sun or moon projections when filled with water, and still other authorities say the mortars are the base where columns once stood to aid in astronomical observations.



#### Intimachay

In the southeastern section of Machu Picchu, a staircase and pathway lead down to a small cave where the Inca built a window and walls to enclose the natural opening. This Cave of the Sun, also called Intimachay, is thought to have been a solar observatory. It is believed by archeologists that this window was built to allow light from the rising sun to shine into the window for a few moments each year during the Summer December Solstice. The rays of the sun shine directly through the window and illuminate the back wall of this cave.



#### Slide Rock

North of the Temple of the Condor is a large altar and image stone known as Slide Rock. This natural rock is flat and slanted and resembles a slide from which it gets its name. The Inca created many image stones throughout Machu Picchu and this large rock has an altar near the top and on the crest is carved the shape of the mountains to the east.



#### Temple of the Condor

Perhaps the most extraordinary structure in Machu Picchu lies in the eastern sector. The Temple of the Condor is set apart not only in location but also in the creative and intricate style that this building exhibits. One theory about why this temple is in the eastern sector and separate from the other temples is that it was used for animal sacrifice. It is located at the end of the water fountain series to ensure that the water would not be contaminated from the clean up of the animals. Given the messy nature of animal sacrifice, this explains why the Inca engineers chose to locate this temple away from the other structures.

This structure is known as the Temple of the Condor because of the stylized stone Condor that is depicted in this building. The Condor is the largest bird in South America and its wingspan can be up to eight feet long. This large bird of prey has a collar of white plumage around its neck and this feature is clearly



depicted in the sculpture of the Condors head, which is on the ground in the Temple of the Condor. The Condor was an important deity to the Inca as these birds were thought to have been in charge of transporting offerings and spirits to heaven.

The Temple of the Condor is the only tri-level structure in Machu Picchu. The top section has a large altar stone with two large niches that have smaller niches set inside them. There has been much debate about the use of the niches, but the most common belief is that they held sacred objects and perhaps mummies. The altar was thought to have been where the sacrifices would be placed as an offering to the Condor to be transported to heaven.



The middle section of Temple of the Condor is magnificent. At this level, on the ground, is a flat stone sculpture of the head of a condor. This head lies between two natural rock walls that represent the widespread giant wings. The striations and shape of the wing rocks are unmistakable; they are part of the wall and perfectly matched with cut stone. This is an excellent example of how the Inca used natural stone in harmony with cut stone. This room is where animal sacrifice was thought to have taken place. It is believed that llamas were offered on the stone head in sacrifice to the condor god.

The lowest level of the temple is a cave. In the cave many bones of llamas and guinea pigs were found. Perhaps after sacrifice their bones were placed here to rest and enter the underworld. The cave is connected to a room below the temple that has ancient guinea pig hutches. Guinea pigs were considered a delicacy for the Inca and are still eaten in Peru today.



#### Urubamba River

The Inca studied the stars and heavenly bodies. They had names for the principal constellations and the bright path of the stars that we know as the Milky Way was known to the Inca as Mayu, or river of the sky. The earthly counterpart for the Mayu was the Urubamba River. According to the Inca there were two great rivers of the universe, the Milky Way and the Urubamba River. The two rivers joined at the edge of the universe in a cosmic sea circling the earth. This cosmic sea was the source of the Milky Way, or Mayu, and as it spread through the sky it dropped life in the form of rain, replenishing the Urubamba River.

This cycle of water and its importance as a life giving substance was of central importance to the Inca. The Urubamba River runs through the heart of the Inca Empire known as Tawatinsuyu. The Inca called the Urubamba River W illcamayu, and its partner in the heavens was Mayu. Along the Urubamba River lie many ceremonial sites and villages of the Inca.

The Urubamba River Valley runs through what is known as the Sacred Valley. This valley is at a lower altitude than Cusco and therefore is warmer and more agreeable for agriculture. The Urubamba River Valley region was important for the Inca as a buffer zone, protecting Cusco in its formative period, and later as a main supply of produce for the Inca. Today it still produces some of the best varieties of corn and potatoes found in the world.

# Machu Picchu Tour



## Guardhouse

We are standing in front of the Guardhouse at the Terrace of the Ceremonial Rock in the upper agricultural sector of Machu Picchu. To the left of the Guardhouse you can see the ruins of the urban sector below. Be sure to learn more about the Guardhouse and the large Ceremonial Rock in the center of the open area. From this location, you can follow the Inca Trail to the Sun Gate on the outskirts of Machu Picchu or you can investigate the kallanka, or great hall, located behind the Ceremonial Rock. You may also head toward the main gate and into the urban sector to continue your explorations.

### Guardhouse

You are now standing inside the guardhouse. This is a wayrona style, or three-sided, building. This structure is the first building travelers come upon when descending from the Inca Trail. The Guardhouse is thought to have served as a sentry station monitoring those entering the sacred site of Machu Picchu. It is thought that only the privileged elite were allowed into the main gate of Machu Picchu.

### Ceremonial Rock

This large carved stone is known as the Ceremonial Rock. It was brought to this site and carefully shaped using only hammerstones, bronze tools and sand. The slanted surface, steps and stone ring cut on one side are thought to have had ceremonial significance, but their exact uses are unknown. Many river rocks surround this Ceremonial Rock and may have been left as an offering from travelers thankful for their passage as they came into Machu Picchu.

### Sun Gate

Southeast of Machu Picchu lies a set of ruins known as Intipunku or the Sun Gate. At this site the Inca travelers could offer thanks as they made their last descent on the Inca Trail into Machu Picchu. This complex is comprised of several buildings, a shrine, and a wide granite staircase. The view of Machu Picchu from the Sun Gate is spectacular.



## Kallanka

We are inside the ruins of the largest structure in Machu Picchu. This type of building is called a kallanka, or meeting hall. These structures were used for festivities and for entertaining the commoners. Kallankas were usually built on the main plaza of an Inca city, but since the city of Machu Picchu was designed for royalty only this kallanka was constructed outside the Main Gate instead of on the main plaza. From here you can head down the Inca Trail to see the Inca drawbridge.



## Inca Trail

This portion of the Inca Trail leads to the Inca Drawbridge, about a twenty minute walk down the trail.

Notice how the trail is carefully lined with stones. Imagine the work it took to create this trail over such difficult terrain.

### Inca Drawbridge

The Inca Drawbridge spans a gap in a rock wall that is built along the face of a 1,000 foot cliff. Timbers stretch across the gap, allowing travelers to carefully pass across the bridge. Inca security guards simply removed the timbers to prevent intruders from crossing.





## Outside Main Gate

Ahead of you is the Main Gate leading to the urban area of Machu Picchu. The Inca ruler, along with his family, priests and other dignitaries would have entered the city through this gate after having been carried by porters along the Inca Trail from Cuzco. From here, you can either go through the Main Gate, head down the stairs along the Dry Moat or go up the stairs to the Guardhouse.



## Inside Main Gate

We are now inside the Main Gate. Here you can learn more about the details of the main gate. We are inside an area called Conjunto 1. A Conjunto refers to a group of buildings, kind of like a neighborhood. Machu Picchu is divided into 18 conjuntos all connected by stairs or pathways. Conjunto 1 has five different levels with storehouses, residences and what were probably workshops. As you look around this area, imagine what it would have been like to stay here as a member of the Inca royalty.

### Details of Main Gate

The main gate is an impressive example of Inca building construction. Notice the huge lintel, or stone beam, across the top of the doorway. This feature is found in doorways throughout Machu Picchu. On the inside of the gate, a stone ring over the door and two barholds on both sides were probably used to close and secure the door. Archeologists can only guess at exactly how this mechanism would have worked. As you enter the Main Gate, Huayna Picchu mountain is perfectly framed in the distance. This is another building technique used frequently by the Inca. Many of their buildings frame and incorporate the natural beauty of their surroundings.





### Conjunto 1 (near stairs)

We are now heading through Conjunto 1. Notice the stonework that still remains, hundreds of years after Machu Picchu was abandoned. The granite used in these buildings, now weathered and gray, was once a glittering white and the buildings were covered with thatched roofs. Just imagine what it would have looked like.



### Conjunto 1 (near building 3)

Standing here at the edge of Conjunto 1, you can either head down the longest stairway in Machu Picchu, the stairway of the Fountains, or you can go over to investigate the rock quarry and learn about the granite used in building construction.



## Rock Quarry

This is the principal rock quarry located south of the Sacred Plaza. Notice the large pieces of broken granite all around. This quarry provided most of the stones used to build the structures of Machu Picchu. Take the tour of the rock quarry to learn more about how these stones were used. From here you can go to Conjunto 1 or to the Sacred Plaza.

### Tour of the Rock Quarry

The many pieces of broken granite found in this quarry and throughout Machu Picchu were created by seismic forces acting along geologic faults. This abundance of excellent building material probably helped the Inca choose this site to build on. Small circular foundations found in the rock quarry were probably huts used by stoneworkers. These workers used hammerstones along with some bronze and silver tools to cut and shape the rock. The stoneworkers took advantage of the natural fractures in the rock to help them break it apart. They wedged bronze crowbars or pieces of wood into the fractures and pried pieces of rock loose. After the rocks were cut down to the general size needed, the Inca used harder stones to precisely shape them.



## Sacred Plaza

This large central plaza is called the Sacred Plaza. It is the most significant ceremonial area at Machu Picchu. It has major buildings on three sides and is open on the fourth side overlooking the Urubamba River. There are several stones in the plaza that would have had some ceremonial significance, but their meaning is unknown to us today.

### Room 1

This first building on the Sacred Plaza is of ordinary construction and was probably not used for religious ceremonies. Even though it was most likely used for utilitarian purposes, the walls would have been plastered and painted to give it a finished look. Imagine how it would have looked with a fresh coat of plaster and a thatched roof overhead.

### Temple of the Three Windows

Three large windows overlooking the main plaza give this structure its name, the Temple of the Three Windows. The walls of this temple are made of giant, many-sided, beautifully fitted stones. Pottery shards were found in this temple, indicating possible ritualistic breaking of ceremonial pots and drinking cups. The upright stone in the front of the temple would have held up a wooden beam to support the roof. The small stepped stone next to the upright stone is carved in the shape of a mountain, another example of the symbolism in Inca architecture.

### Principal Temple

The Principal Temple lies on the north side of the Sacred Plaza. The use of this temple is unknown. Along each of the three walls are trapezoidal niches. Because these niches are placed at such a high level, they may have been designed to hold fragile or ceremonial objects. Three large stone altars line the back wall of the temple. Archeologists believe that royal mummies may have been worshipped on these altars. The foundation under this temple settled after construction began, causing the east wall to shift and tilt. Surprisingly, the wall did not crumble and the arrangement of stones was undisturbed.

### Polished Triangular Stone

The triangular stone near the western wall of the Principal Temple has been highly polished and carved into with sharp angles. Markings scratched into the side of the stone by guides indicate that the stone seems to point to the Southern Cross constellation.

### Stone in Transit

This large oblong stone seems to be in transit as though it was being moved to another place. Notice the smaller stones underneath. These stones would have served as rollers over which to move the large rock.



## Sacristy

We are just north of the Sacred Plaza at the entrance to a small room called the Sacristy. Step inside the Sacristy and learn more about this structure. From here you can head to the Sacred Plaza or up to the Intiwatana.

### Inside Sacristy

This small but exquisite room is called the Sacristy. Notice the perfectly uniform niches in the walls and the stone couch along the back wall. This room is thought to have been where the priests would prepare for religious ceremonies. Look closely at the section of the western wall to the right of the doorway. It is made up of a remarkable stone that contains 32 angles. This stone shows the unlimited capabilities of the Inca stonemasons.



## Intiwatana

We are now standing at the highest point in Machu Picchu, on top of a natural rock formation in the shape of a pyramid, known as Intiwatana. The famous Intiwatana Stone is at the peak of this pyramid. Intiwatana means place where the sun is tied in Quechua. From here you have an excellent view of Huayna Picchu Mountain to the north and the city of Machu Picchu to the east. From this point you can head to the Main Plaza, down the stairs to the Sacristy or over to see the Sacred Rock.

### Intiwatana Stone

The elegant, multi-faceted Intiwatana Stone was sculpted from the rock that formed the peak of the Intiwatana pyramid. There are many theories surrounding the use of the Intiwatana Stone. The shape of the top of the stone may indicate a compass, as the cardinal directions coincide with the four carved corners. It could have been used as a sundial to indicate significant days of the year on the Inca calendar. Another use of this important stone could have been an abstract representation or image stone of the mountain to the north, Huayna Picchu. Whatever the case, it is certain that this point and the Intiwatana Stone were significant to the Inca in their worship.





## Sacred Rock

We are standing in front of the Sacred Rock, flanked on both sides by buildings called wayronas. You can learn more about both of these features and then head over to the main plaza or up to the Intiwatana.



## Main Plaza

This is the Main Plaza of Machu Picchu. It divides the city into two areas, the hanan or higher area and the hurin or lower area. This division is a tradition in Inca city planning. The plaza was also used for gatherings and ceremonies. The flat terraces around the plaza may have been used as viewing platforms. From here you have an excellent view of the Artisans Wall and can learn more about this fine example of Inca stonework. From this central location you can go to the Sacred Plaza, the Intiwatana, the Sacred Rock or into Conjunto 16.

### Artisans Wall

The Artisans Wall has some of the finest stonework in Machu Picchu. Each stone in the wall has a different shape and has been cut and fitted with care and intricacy to form a mosaic pattern. The stones used in this wall are a warm, salmon color instead of the gray used throughout the rest of the city. A drainage hole built into the wall indicates the floor level of the conjunto on the other side of the wall. This would have required a great deal of pre-planning by the Inca engineers during construction of the wall. There are 130 drainage holes like this one in Machu Picchu that control the rainwater and prevent the buildings from eroding away.



## Conjunto 16

We are standing in one of the rooms of Conjunto 16. This area is known as the Group of the Mortars because of the two stone mortars you see on the floor of this room. These stone features are found in several places throughout Machu Picchu. Here you can learn more about what archeologists believe they were used for.

### Mortars

Circular carved rocks are found on the floor in several locations throughout the ruins of Machu Picchu. These artifacts have been called mortars, or grinding stones. Some archeologists say the mortars were used by the Inca to mill herbs for medicinal purposes. Other archeologists claim they were astronomical mirrors to reflect sun or moon projections when filled with water, and still other authorities say the mortars are the base where columns once stood to aid in astronomical observations.



## Conjunto 12 (near shrine)

This is the upper level of Conjunto 12, the smallest and most intricate conjunto at Machu Picchu. From here you can see the Urubamba River far below in the valley. The dominant feature of this conjunto is the beautifully carved natural rock shrine you see. Take a look around and then go down to the lower level of Conjunto 12 or over to Conjunto 16.

### Urubamba River

The cycle of water and its importance as a life giving substance was of central importance to the Inca. The Urubamba River runs through the heart of the Inca Empire through what is known as the Sacred Valley. Along the River lie many ceremonial sites and villages of the Inca. Agriculture in the river valley produces many varieties of corn and potatoes.

### Carved natural rock shrine

This finely crafted shrine was carved from natural rock. Its features include a seat and three small protrusions that seem to represent mountains and valleys in miniature, again showing how the Inca incorporated their natural surroundings into their buildings and stonework.



## Conjunto 12 (near cave)

This is the lower level of Conjunto 12. Notice the entrance to a cave that may have been used for rituals. There are many caves incorporated into the architecture throughout Machu Picchu. From here you can go to the upper level of Conjunto 12 or over to see another cave, known as Intimachay.



## Intimachay

We are now on the eastern edge of Machu Picchu in front of a cave called Intimachay, or Cave of the Sun. Here you can learn more about the details of this cave. Look out over the valley where you can see a portion of the Inca Trail leading down to the Urubamba River. Click to learn more about the Inca Trail. When you are through, head over to Slide Rock or to the cave of Conjunto 12.

### Intimachay Cave

Intimachay, or Cave of the Sun, is a small cave that is thought to have been a solar observatory. The cave was created by enclosing a natural opening with a stone wall. A unique tunnel-shaped window was partially cut into the natural rock at the front of the cave. Only around the time of the December solstice, the rays of the sun shine directly through the window and illuminate the back wall of this cave.

### Inca Trail

One of the most famous sections of the Inca road system is known today as The Inca Trail. Hiram Bingham discovered this route during his explorations in 1915. Although this path is only around 31 miles long, it is one of the most spectacular and popular treks for hikers today. This trail was built for the Emperor as a royal highway to his estate in Machu Picchu. The main portion of this trail passes through several well-preserved Inca ruins and makes its finale with a descent through the Sun Gate into Machu Picchu. The Inca rulers and their families would have been carried along the trail by porters, instead of having to walk the difficult trail themselves.



## Slide Rock

We are standing at the foot of a large altar and image stone known as Slide Rock. This natural rock is flat and slanted and resembles a slide from which it gets its name. This large rock has an altar near the top with the shape of the mountains to the east carved on its crest. From here you can go to the Temple of the Condor or to the Cave of the Sun, Intimachay.



## Temple of the Condor (lower)

This is the lower portion of the Temple of the Condor, perhaps the most extraordinary structure in Machu Picchu. The Temple of the Condor is located in the Eastern sector, set apart from the rest of the city. One theory about why this temple is separate from the other temples is that it may have been used for animal sacrifices. It is located at the end of the water fountain series to ensure that the water would not be contaminated from the clean up of the animals. Notice the large stone in the center of the temple, shaped like a giant condor. The shape of this stone gave this temple its name. Behind the stone are subterranean caves, some tall enough to stand in. From here, you can go to the upper level of the temple or over to Slide Rock.





## Temple of the Condor (upper)

We are now in the upper portion of the Temple of the Condor in front of the altar. It is believed that sacrifices would have been placed on the altar as an offering to the Condor God. Continue on from here to investigate the fountain system or go down to the lower portion of the temple.



## Fountain 5

Just below you, notice one of the 16 fountains in the elaborate system that runs through the city. Click to learn more about the fountains. From here you can either head up the stairs to Conjunto 2 and the Royal Residence, go over to see the Dry Moat or head down the stairs to the Temple of the Condor.

### Fountains

The series of fountains in Machu Picchu are centrally located, running on a linear path from east to west along the main staircase. Water descends approximately 85 feet from the first fountain to the last. Sixteen fountains make up the system. The fountains were designed to provide domestic water, to enhance the environment, and to be used for religious purposes.



## Gate to Conjunto 2 & Entrance to Royal Residence

We are now in the middle of the Stairway of the Fountains with doorways on either side of us. From here you can take a subtour of Conjunto 2 through the door on the south side or of the Royal Residence on the north side. Just up the stairs you can see the doorway to the Sentinel House. Take a quick look in there as well. When you are done here, you can go down the stairs to Fountain 5 or up to Conjunto 1.

### Sentinel House

This small building just up the stairs from the entrance to the Royal Residence, probably served as a sentry station. A guard would have been posted here to protect the Emperor and the royal family during their stay at Machu Picchu.



## Dry Moat

This is one of many long staircases in Machu Picchu. It runs along side of a wide ditch called the Dry Moat, which serves as a drainage canal. This canal also separates the urban sector on the north side from the agricultural sector on the south side. From here you have an excellent view of some of the agricultural terraces built by the Inca farmers. Click to learn more about the terraces and why they are so important to the preservation of Machu Picchu. When you are through, head up the stairs to the Main Gate or down the stairs to Fountain 5.

### Agricultural Terraces

Agricultural terracing was a common Inca farming technique. In the mountainous regions, with steep slopes, the flat surface of the terrace provided the necessary area for farming and also helped to protect the soil from erosion and landslides. There are hundreds of agricultural terraces at Machu Picchu, not only in the agricultural sectors but also in the urban sector, surrounding the Intiwatana pyramid and along the banks leading down to the Urubamba River. Without these terraces, the ruins of Machu Picchu might not be standing today.



## Conjunto 2: Inside Gate

We are now inside Conjunto 2. This is the most holy and private of the conjuntos at Machu Picchu. There are many things to see in here including fountains, excellent Incan stonework, the Temple of the Sun and the Royal Mausoleum. From here you can go to take a closer look at Fountain 1 or continue your explorations of Conjunto 2.



## Conjunto 2: Fountain 1

The first fountains flowing into Machu Picchu are located at the most sacred areas containing the main temples and residence for royalty. Fountain 1, constructed here near the doorway of the Royal Residence, contained the purest water, enabling the Emperor to have the best water available when he was visiting Machu Picchu.



## Conjunto 2: Fountain 2

Here is an excellent view of Fountain 2. Click to learn more about the design of the fountains.

### Fountain 2

All of the fountains in Machu Picchu have the same basic design, but each has their own unique character. The fountains are rectangular in shape and made out of carved, fitted stone. Water flows into the fountain through an inlet channel creating a jet of water that falls into a stone basin. The Inca filled their pottery water bottles by placing them under the stream of flowing water. At the bottom of the fountain, a 1 to 2 inch outlet drains the water down into the canal and on to the next fountain. These fountains are still running today.



## Conjunto 2: Most Beautiful Wall & Double-jamb Doorway

We are now standing at the end of what Hiram Bingham called The Most Beautiful Wall In America. Each stone of this wall is evenly shaped and fitted to create the lasting wall that we can appreciate today. You are directly in front of a perfect double-jamb doorway. Learn more about the significance of this feature. When you are through, you can continue your tour of Conjunto 2.

### Double-jamb doorway

To signify a place of importance, Inca architects would place an extra layer of stone in a doorway creating what is termed a double-jamb doorway. The doorways are typically trapezoidal and the double-jamb feature can be seen as one approaches the door. This distinct characteristic alerted the passerby to the nature of the rooms within. Only those of high standing in Inca society, the nobility or religious leaders, would enter the double-jamb doorways. These doorways typically lead to the residences of nobility or religious leaders, or to important religious buildings.





## Conjunto 2: Hallway

From here inside the double-jamb doorway, notice the stone ring above the door and barholds on either side, similar to the Main Gate. This indicates that this door would have had some sort of closure mechanism. You may go through the door, or around the corner toward the Temple of the Sun.



## Conjunto 2: Hallway

We are below the Priest's house, approaching the Temple of the Sun. You can see the south window of the temple in the curved wall above.



## Conjunto 2: Temple of the Sun & Royal Mausoleum

We are now standing below the Temple of the Sun. Click to learn more about this sacred temple as well as the Royal Mausoleum that lies below the temple. When you are through, make your way back through Conjunto 2 to the main tour.

### Temple of the Sun

The Temple of the Sun is a unique, semicircular building with multi levels. The fine stonework and careful construction of this temple indicate that it was of great importance. It is believed that this temple was used as a solar observatory. At sunrise on June 21st, the winter solstice in Peru, the first sunbeams shine accurately through the center of the eastern trapezoidal shaped window onto the altar. This altar was carefully cut from the living rock.

Below the Temple of the Sun is a cave known as the Royal Mausoleum. This cave could have been a tomb for royalty, however, no human remains were found in the cave. In the interior of the cave are stone wall-pegs, trapezoidal niches where sacred objects or mummies could have been placed and a low carved stone similar in shape to the Intiwatana stone. The Inca engineers fitted cut stone to the living rock in this cave exquisitely. The hourglass-shaped stonework at the entrance to the cave is an excellent example of this fine craftsmanship.



## Royal Residence: Foyer

Notice the unique stonework here in the entrance to the Royal Residence. Each stone is cut with a pillow-like look that sets off the individual stones. Also notice the large, horizontal stone ring cut into the wall. It is believed that this type of ring was used to hold a torch or staff. From here you may go into the main social room or you may exit the Royal Residence.



## Royal Residence: Social Room

This central open courtyard served as the main social room of the Royal Residence. You may click to join Terry for a video tour of the residence or you may investigate each of the rooms on your own.



## Royal Residence: Main Bedroom

This room is believed to have been the main bedroom where the Inca Emperor and his wife would have slept. Notice the large stone lintel over the doorway and the niches in the walls. This room would have been enclosed with a thatched roof. A small adjacent room has its own drainage system and was most likely used as a royal bathroom.



## Royal Residence: Second Bedroom

This room may have served as another bedroom for additional members of the royal family. The walls throughout Machu Picchu, and especially in the Royal Residence, would have been plastered with fine clay, giving them a finished look. The Inca also probably hung fine textile weavings on the walls.



## Royal Residence: Kitchen

Blackened pottery shards were found in this room indicating that it may have been used for cooking.

## Hike to the Temple of the Moon



This portion of the Inca Trail leads to the Temple of the Moon, located 1,280 feet below the summit on the north side of Huayna Picchu mountain. It is about a 1 hour hike from here.



We have not yet reached the Temple of the Moon. This structure is a roadside tambo. The Inca built these rest stops, or way stations, at regular intervals, every 15 to 30 miles, along the Inca Trail. These tambos provided shelter for the night, held supplies of food, drink, weapons, and clothing for the army and Inca ruler to use as they traveled along the Inca Trail.





Take a quick look around inside the tambo before we continue our hike to the Temple of the Moon.



Here we are at the site of the Temple of the Moon. This area contains a few different structures for you to explore. You can head down to see the main cave with the temple or up to the additional structures.



This is the entrance to the cave that houses the Temple of the Moon. The temple is built under the huge overhanging rock. Go ahead and take a look around inside.



Notice the particularly fine and smooth stonework here including the large rock carved into a seat or altar. It is thought that the Inca worshipped mountains and the gods that inhabited them and that caves were thought to be entrances for the gods. This very large cave on the slope of such a holy mountain, Huayna Picchu, served as an excellent location for worshipping the mountain and its gods.



These structures located behind the Temple of the Moon include a small cave below and buildings above. Their exact use is unknown. Take a look around inside before heading back to Machu Picchu.



This cave was created by walling in the area below the natural overhanging rock.



It is not clear how the Temple of the Moon got its name, since it does not seem that any lunar rituals took place here. It is likely that someone simply called it the Temple of the Moon as a counterpart to the Temple of the Sun.

Hope you  
enjoyed your  
visit to  
Machu Picchu!