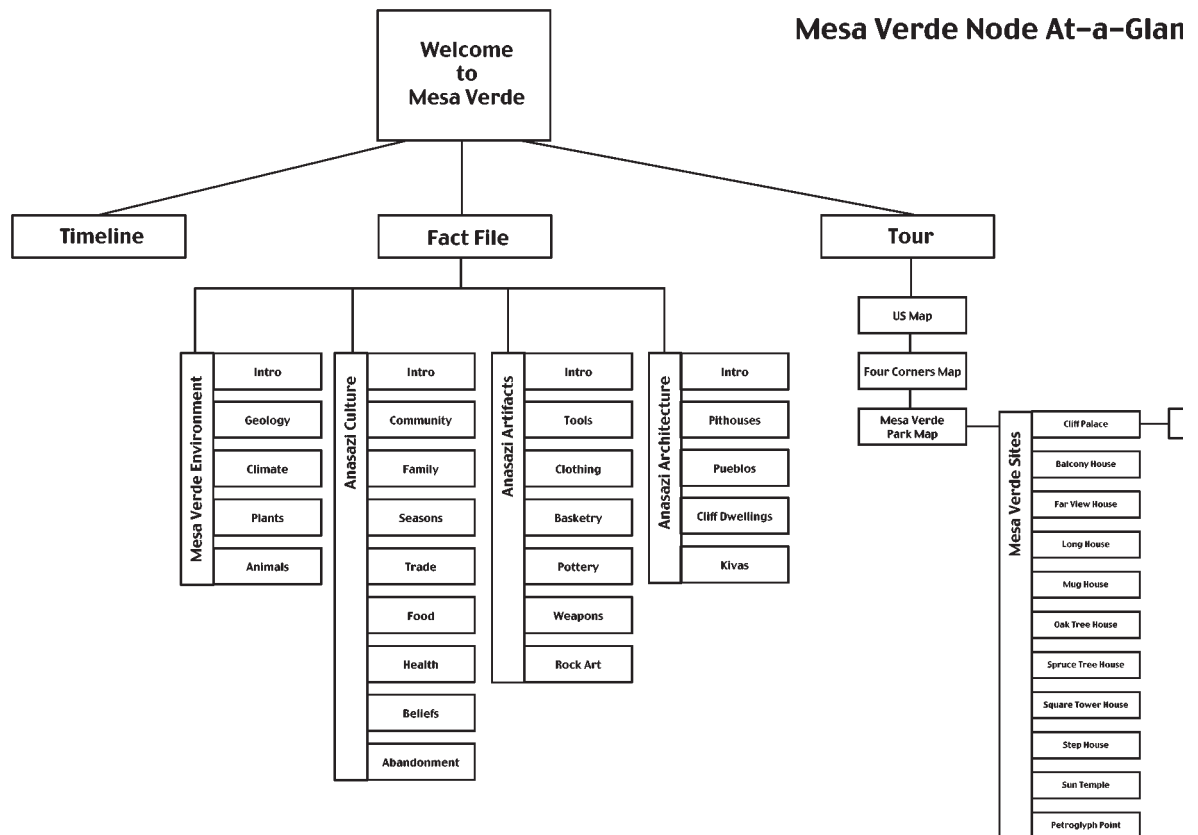


Learning Node Contents

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 Mesa Verde 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 Mesa Verde Node At-A-Glance shows the organizational layout of the software.



Timeline

The Timeline enables students to access information about the history of Mesa Verde and the Anasazi in a visual format. Information about Anasazi culture, artifacts and architecture is outlined across four time periods, allowing students to see how each changed over time. Clicking on a graphic takes learners to information about the selected topic.

Fact File

The Fact File section is like an electronic encyclopedia with visual access to four main topics: the Mesa Verde environment, Anasazi culture, Anasazi artifacts and Anasazi architecture. Each subtopic provides a wealth of information for the learner. The following pages provide the contents of the Fact File for easy reference.

Tour

The Tour section of the software takes the learner on a virtual fieldtrip of the many sites within Mesa Verde. First, a map of the United States helps the user see the general geographic area of Mesa Verde. Then, a Four Corners map brings them closer to the region. Finally, users can navigate the Mesa Verde Park map to see the various attractions. Text-based information is provided for eleven significant ruins in the park with images and floorplans for most of the ruins. The text for each of the ruins is included in the following section of this Instructor Guide.

From the Cliff Palace information, students are directed to put on the head mounted display and take an immersive tour of one of the ruins, Cliff Palace. This tour uses 360 panoramic images to guide students through the ruins, as though they were actually there. From within each of the panoramas, students can click on hotspots and link to additional learning content.

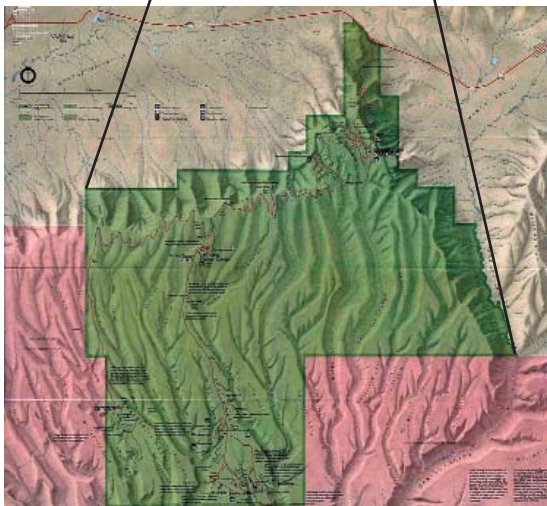
Where is Mesa Verde?



Mesa Verde is located in the Four Corners region of the United States. This is the area where four states Colorado, New Mexico, Arizona and Utah all meet.



The Mesa Verde National Park is located in southwest Colorado.



The Mesa Verde National park includes over 52,000 acres of Federal land. There are over 4,000 known archeological sites in the park including cliff dwellings, mesa-top pueblo villages and pithouses.

Mesa Verde Timeline

Basketmakers

A.D. 1 A.D. 550

Culture

Prior to A.D. 1, the ancestors of the Anasazi occupied the southwest for thousands of years, living nomadic lives and depending on hunting and gathering as their primary food source. During the Basketmaker period the Anasazi began to live in small family settlements that were still fairly temporary. They also began farming small patches of corn and squash and continued hunting and gathering during the summer growing season. The Anasazi had not yet moved into Mesa Verde at this time.

Artifacts

Basketry

The Anasazi made baskets from yucca fibers, grasses, bark and branches during this period. The baskets were used for storing and carrying things, for cooking and eating and for holding water. The Anasazi had not yet learned to make pottery.

Tools & Weapons

The main weapon used for hunting during this period was the spear and atlatl - a short stick used to throw the spear with greater force. During this period the Anasazi used tools such as stone or bone scrapers and knives. The Anasazi did not use metal of any kind for weapons or tools.

Rock Art

The Anasazi painted and carved designs on rock surfaces. Many examples of this rock art have survived, but since the Anasazi did not have a formal written language, archeologists must guess at the meaning behind these images. There is more rock art found from the Basketmaker period than from the following periods because rock art served as the primary form of expression before the Anasazi began to make pottery.

Architecture

During the Basketmaker period, the Anasazi made their homes in caves and rock shelters. They began to dig storage pits to keep the food they collected for later use. Structures from this period are not found at Mesa Verde, but have been found in the surrounding areas of Utah, Colorado, Arizona and New Mexico.

Modified Basketmakers A.D. 550 A.D. 750

Culture

During the Modified Basketmaker Period the Anasazi began to rely more upon farming as their main food source. Because of this change in lifestyle, they started to build more permanent homes located near arable lands. This is when the Anasazi first moved into Mesa Verde and began to farm the mesa tops

Artifacts

Basketry & Pottery

During the Modified Basketmaker period the Anasazi began to make pottery. This was an important new invention that allowed them to cook food more thoroughly so they could add new foods to their diet. Pottery was also used to store food and gradually replaced baskets for many uses. The first pottery shapes were quite simple and were probably copied from the shapes of gourds that grew in the gardens. The pottery from this period was mostly plain gray with little ornamentation.

Tools & Weapons

The most common everyday tool used by the Anasazi was the stone metate and mano. The metate is a large stone with a flat surface and the mano is a smaller hand-held stone. These stones were used to grind nuts, berries, corn and other food to make meal and flour for cooking. Archeologists have also found many digging sticks throughout the ruins at Mesa Verde. These tools were probably used in farming to help loosen the ground when planting crops. Many stone axes have also been found throughout the ruins. These axes were made by tying a grooved stone to a wooden handle. During this period the bow and arrow replaced the atlatl and spear as the primary hunting weapon. The bow and arrow is much more accurate than the spear and made the hunter more successful.

Crops

Beans were introduced into Anasazi agriculture during this period and were planted along with corn and squash. At this time, seeds were planted in small irregular plots using basic farming techniques.

Architecture

During the Modified Basketmaker period, the Anasazi moved in to Mesa Verde and began to build structures called pithouses. These structures were partially underground and were clustered into small villages. Pithouses were usually built on the mesa tops and occasionally in the cliff recesses.

Pithouses included a main living area and a smaller side chamber. The living area was usually squarish in shape and sunken a few feet into the ground. Sometimes a small storage area was attached to the main room. A central fire pit located in the main room was used for both cooking and heat.

Four main timbers at the corners of each room supported the roof. The wooden timber framework was covered with smaller logs, sticks, juniper bark and mud to make the structure weatherproof. The Anasazi entered the structure by ladder through a hole in the roof.

The Modified Basketmaker pithouse eventually evolved into two different structures. The above-ground portion developed into the pueblo house and the under-ground pit evolved into the kiva.

Developmental Pueblo A.D. 750 A.D. 1100

Culture

During the Developmental Pueblo Period the number of people living together in Anasazi villages began to increase. The farming techniques and architecture evolved to reflect these changes and to support these larger communities. The Anasazi began to build more permanent, village-like structures to accommodate more complex social groups

Artifacts

Pottery

During the Developmental Pueblo period pottery techniques began to evolve. This is because the Anasazi had developed a more reliable method of growing food, so they had more time to devote to improving their pottery. During this time, many new shapes and decorations were being used including the first black on white designs. One common pottery technique used by the Anasazi was to coil bands or ropes of clay to form the pot then pinch the coils together rather than smoothing them out. This gave the vessel a corrugated surface. These corrugated pots were used mainly for cooking and storage and continued to be used for centuries.

Weaving

Cotton plants were introduced into Anasazi agriculture during this time through trading with people from Mexico. Cotton fibers were spun and woven into textiles on looms. Many kivas have holes in the floors where weaving looms were attached.

Architecture

Around A.D. 750 the Anasazi began building pueblo dwellings. These structures evolved from the above-ground portion of the pithouse. They had vertical walls, flat roofs and were joined together in long rows. The pole and adobe construction was eventually replaced with skillful stone masonry.

The word pueblo is Spanish for city and the architecture of this period shows us that the Anasazi were beginning to live in larger groups. Eventually the pueblo structures reached two or three stories high and were joined together into units of 50 rooms or more. This indicates that more formalized family, social and religious patterns were beginning to emerge.

Kivas are underground chambers that served as places for religious rituals and social gatherings and sometimes for weaving. Kivas evolved from the underground-portion of the pithouse. Kivas were found in both pueblo villages as well as in the cliff dwellings. Modern Pueblo Indians still use kivas today. The name kiva comes from the Hopi word for ceremonial room.

A roof of beams and mud covered each kiva, supported by stone pilasters built into the side walls. The Anasazi entered the kiva by a ladder leading down from a hole in the roof. The top of the kiva was at the same level as the courtyard above.

Fresh air enters the kiva through the ventilator shaft. The interior walls are lined with a bench that may have been used for ceremonial objects or for seating. An air deflector prevented the draft from the ventilator from blowing on the fire pit located in the center of the floor. Smoke from the fire went out through the entrance in the roof. Stone pilasters on the bench supported the beams that held up the roof. The small hole in the floor is called a sipapu. It is a symbolic entrance to the underworld.

Great Pueblo

A.D. 1100 A.D. 1300

Culture

The Great Pueblo Period was a time of population expansion and growth for the Anasazi. Farming became a full-time occupation and living settlements were larger, more well planned and housed many people in multi-story dwellings. This expansion lasted for approximately 200 years before the Anasazi suddenly abandoned Mesa Verde, moving into other parts of the Southwestern United States.

Artifacts

Pottery

Pottery of the Classic Pueblo period is known for its clear, geometric black designs on a grayish-white background. The Anasazi painted the designs with remarkable skill and an artistic eye. Some designs included animals, birds and human forms. The pottery shapes became more refined during this period, showing the improved craftsmanship of the Anasazi potters.

Trade

During this period, many items were traded between neighbors and communities. Seashells from the coast, turquoise, pottery, and cotton from the south were some of the items that found their way to Mesa Verde, passed along from village to village or carried by traders on foot over a long network of trails.

Architecture

Beginning around A.D. 1100 the Anasazi started building the cliff dwellings, the architecture this period is best known for. Most of the cliff dwellings were built from the late 1190s to the late 1270s. They range in size from one-room houses to villages of more than 200 rooms.

We do not know exactly why the Anasazi chose to build their homes in the high cliff alcoves. Perhaps it was for defense or because the alcoves provided better protection from the elements. Moving to the cliff alcoves also freed up valuable flat ground on the mesa tops that could be used for farming. As populations increased, the Anasazi needed to grow as many crops as possible.

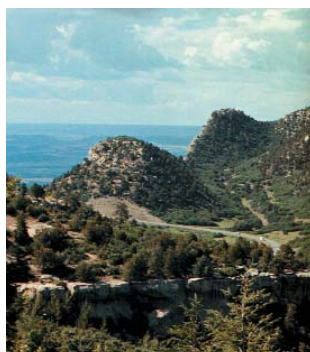
The Anasazi used ladders made from logs and ropes woven from yucca fibers to climb to the top stories of the cliff dwellings. If they were attacked, they could simply pull up the ladders and ropes so the enemy could not reach them.

Hand and toe hold trails were also used to access the high cliff alcoves. These types of trails are found throughout Mesa Verde. Some of them are not only very steep and difficult to climb, but they are coded, meaning you must start climbing with a specific foot toward the top in order to avoid crossing your feet halfway up and risking a fall.

Most floors between upper and lower rooms in the cliff dwellings were made of stringers of juniper, covered with mud, juniper bark and more mud. These floors supported considerable weight, and allowed the Anasazi to build fires in upper floors.



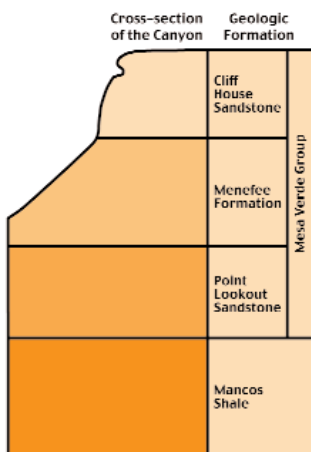
Mesa Verde Environment



Introduction

The name Mesa Verde is Spanish for green table and was given to this area by the Spanish explorers. The favorable topography and climate as well as the plants and wildlife that exist at Mesa Verde helped the Anasazi to survive here for over seven centuries.

Mesa Verde is part of the Colorado Plateau which encompasses an area of approximately 140,000 square miles in the four corners region of Utah, Colorado, Arizona and New Mexico. This area of the United States contains some spectacular scenery and many National Parks. Mesa Verde is just one of many sites on the Colorado Plateau where the prehistoric Indians lived.



Geology

Mancos Shale

Formation of the Mesa Verde environment began 65 million years ago during the Cretaceous Period of the Mesozoic Era. At this time, the four corners region of the United States, where Mesa Verde is located, was periodically covered by seawater. This activity deposited the materials that eventually formed the oldest visible rock layer in the park, the Mancos shale. This gray bedrock is thousands of feet thick.

Point Lookout Sandstone

As the sea withdrew to the northeast, between 80 and 125 feet of sand was deposited above the shale. This layer formed the Point Lookout Sandstone, the second oldest rock formation at Mesa Verde and the first of the top three layers that are called the Mesa Verde Group of formations.

Menefee Formation

As the shoreline continued to move toward the northeast, a large flood plain existed in the Mesa Verde region, creating some swamp-like areas. During this time, over 300 feet of sediment was deposited creating the rock layer which is now called the Menefee formation. This layer contains deposits of coal that can be seen throughout the park.

Cliff House Sandstone

Again, the shoreline moved south toward the Mesa Verde region depositing large amounts of fine-grained sand in the area. This sand formed the top layer called Cliff House sandstone. This soft sandstone layer, which varies from between 100 to 300 feet, later eroded away forming large alcoves. In these alcoves, the Anasazi eventually built the many cliff dwellings that we see throughout Mesa Verde.

Following the formation of the geologic layers, the Mesa Verde region underwent a great deal of uplift and erosion creating the present topography. The park sits on a high, bowl-shaped plateau that slopes gently from 8,572 feet above sea level at the north end to 6,000 feet above sea level at the south end. Many streams have carved deep canyons through the plateau and the mesa tops are covered with wind-blown deposits of reddish soil called loess, which is a very fertile soil where many plants can grow.



Climate

The climate at Mesa Verde is classified as semi-arid, meaning it is very dry and has a limited natural water supply. Annual precipitation at Mesa Verde varies from 14 to 18 inches with most of it coming as snow between January and March. The rivers and streams that carved the many canyons in the Mesa Verde plateau have long since dried up and only contain water after heavy summer thunderstorms or during spring snow melt. The Anasazi took their drinking water from numerous small springs or seeps located throughout the area.

Despite the shortage of water, there were many positive elements that made Mesa Verde a good place to live:

- A long, frost-free growing season (161-171 days)
- Summer temperatures warm enough for good crop growth
- Dependable summer rains from mid-July through August
- Mild winters with warm daily temperatures and few severe cold periods
- Sufficient winter precipitation to help vegetation grow and to supply ground water
- Soils suitable for growing crops
- Natural springs to provide drinking water

On average, the area receives between 80 and 100 inches of snow a year, but some winters can be very dry with little snowfall. Archeologists believe that the climate has not changed very much since prehistoric times, so the weather at Mesa Verde today gives us an idea of what it was like for the Anasazi.

Plants

Pinon Pine



Pinon Pine grows abundantly throughout Mesa Verde. If there is enough moisture, the pinon pine will produce a crop of nuts every several years. The Anasazi collected the nuts and ate them as a good source of protein. Pinon pine was also used by the Anasazi for house construction, tools and firewood.

Utah Juniper



Very common throughout Mesa Verde, Utah juniper had many uses for the Anasazi. Since it is a hard wood, it made excellent tools and it was also used as firewood. Although Utah juniper does not usually grow taller than 30 feet, it was used frequently in house construction. The blue-green berries were used as food supplements, as flavorings and in medicine.

Yucca



Of all the native plants growing at Mesa Verde, the Yucca was the most important to the Anasazi. This drought-resistant plant was used to make clothing, sandals, blankets, snares, baskets and rope. Parts of the plant could also be used for food and as soap. The Anasazi used the sharp barbs on the leaves as needles and as paintbrushes for painting pottery.



Animals

Rocky Mountain Mule Deer

The Rocky Mountain Mule Deer, very common at Mesa Verde, can be seen most often in the early morning or evening hours. The Anasazi hunted these animals eating their meat as food and using their skins for clothing and bones for tools.



Wild Turkey

The Anasazi raised turkeys, using their feathers for blankets and clothing and eating their meat for food. Hollow turkey bones were sometimes used to make necklaces and small tools such as bone awls. When the Mesa Verde park was first established, the wild turkeys had almost vanished but the National Park Service has reintroduced the native turkey back into the area.



Collared Lizard

Many lizards, including the colorful Collared Lizard, live in Mesa Verde. These lizards probably scurried through the cliff dwellings during the time of the Anasazi, eating insects and smaller lizards, just as they do today.



Anasazi Artifacts



Introduction

Archeologists can learn a great deal about ancient people by studying the objects they left behind. Artifacts such as tools and clothing tell us about how people lived. Remnants of baskets and pottery can be studied to see how craftsmanship evolved over time. Weapons indicate how the people hunted and what they ate.

The Anasazi left behind many artifacts when they abandoned Mesa Verde. They also tossed their trash into heaps near where they lived. These trash heaps have helped us to learn about the lives of the Anasazi.



Tools

Wooden Digging Sticks

The earliest tools were made from sticks and stones. Archeologists have found many digging sticks throughout the ruins at Mesa Verde. These tools were probably used in farming to help loosen the ground when planting crops.

Stone Tools

The Anasazi did not use metal of any kind, so many of their tools were made from stone. The sandstone of Mesa Verde is too soft to make tools for cutting, so the Anasazi had to travel down to the riverbed or to other mountain areas to gather harder rocks for making tools. Stone tools included axes, hammers, knives, drills and scrapers.



Stone Axe

The Anasazi made axes by tying grooved stones to stick handles. They were used to cut timber needed in construction. Archeologists have found many different types of axes that probably served specific needs.

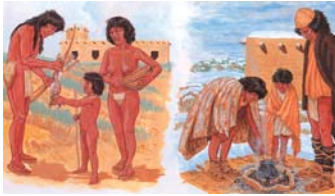
Metate and Mano

The most common everyday tool used by the Anasazi was the stone metate and mano. The metate is a large stone with a flat surface and the mano (the Spanish word for hand) is a smaller hand-held stone. These stones were used to grind nuts, berries, corn and other food to make meal and flour for cooking.



Bone Tools

Animal bones were commonly used to make small tools such as needles and awls for sewing. Bone scrapers were used to remove meat from the hides of animals. The bones were ground on rocks to make sharp points. The hollow bones of birds were made into whistles and tube-shaped beads for necklaces.



Clothing

Archeologists have found very few pieces of clothing among the thousands of artifacts discovered in the Anasazi ruins, so we can only speculate as to what these ancient people wore. The lack of clothing artifacts is probably due to the fact that the Anasazi most likely wore clothing until it was no longer wearable and had to be thrown away. Also, clothing was probably made from plant material, which decays after it has been discarded. Men and women probably wore small cotton aprons for body coverings in the warmer weather.

The Anasazi lived outdoors all of their lives, so they could tolerate lower temperatures than we could. They most likely did not wear very much clothing, but probably wore rabbit-fur or turkey-feather blankets and robes during the colder weather. Archeologists have also found tanned animal hides and cotton cloth that could have been used as cold-weather clothing.



Sandals

The most important article of clothing for the Anasazi was probably the sandal. Feet needed to be protected from the rocky terrain as well as from cactus and insects. The Anasazi made sandals from yucca fibers and leaves. Many sandals and fragments have been found in archeological sites. Sandal styles changed over the years as the design was improved upon.



Basketry

The finest baskets produced by the Mesa Verde people were made before they learned how to make pottery. Using the spiral twilled technique, they wove handsomely decorated baskets of many sizes and shapes and used them for carrying water, storing grain, and even cooking. They waterproofed their baskets by lining them with pitch and cooked in them by dropping heated stones into the water. The most common material used to make baskets was split willow, but sometimes rabbitbrush or skunkbrush was used. After the introduction of pottery about A.D. 550, basketry declined.

The Anasazi who lived during the Basketmaker period from A.D. 1 to about A.D. 550, made many small woven bags to carry and store things. These twined, woven bags were often pointed or round on the bottom. They were soft and often had designs painted on them rather than woven into the bag.



Pottery



During the Modified Basketmaker period starting around A.D. 550, the Anasazi began to make pottery. This was an important new invention that allowed them to cook food more thoroughly in pottery vessels than in baskets so they could add new foods to their diet. Pottery was also used to store food and gradually replaced baskets for many uses. The first pottery shapes were quite simple and were probably copied from the shapes of the gourds that grew in the gardens. The pottery from the Modified Basketmaker period was mostly plain gray with little ornamentation.

During the Developmental Pueblo period from A.D. 750 to A.D. 1100, pottery techniques began to evolve. This is because the Anasazi had developed a more reliable method of growing food, so they had more time to devote to improving their pottery. During this time, many new shapes and decorations were being used including the first black on white designs.



One common pottery technique used by the Anasazi was to coil bands or ropes of clay to form the pot then pinch the coils together rather than smoothing them out. This gave the vessel a corrugated surface. These corrugated pots were used mainly for cooking and storage and continued to be used for centuries.

Pottery of the Classic Pueblo period from A.D. 1100 to A.D. 1300 is known for its clear, geometric black designs on a grayish-white background. The Anasazi painted the designs with remarkable skill and an artistic eye. Some designs included animals, birds and human forms. The pottery shapes became more refined, showing the improved craftsmanship of the Anasazi potters.

Weapons

Spears

The very earliest weapons used by the Anasazi for hunting were stones and sticks. At first, sticks were sharpened on one end so they would pierce the animal's flesh when thrown as a spear. Later, prehistoric hunters attached sharp points made of stone to the stick, making the spears more effective.

Atlatl (Spear Thrower)

About 8,000 B.C. the atlatl was being used for hunting in the southwest. The atlatl is a short rigid stick with a groove on one end that holds the shaft of the spear. This increases the length of the hunter's throwing arm so the spear can be thrown with greater force. This was a very difficult weapon to use and required a great deal of practice to achieve accuracy. Spear throwing was replaced by the bow and arrow by about A.D. 500.

Bow and Arrow

Around A.D. 500 the bow and arrow replaced the atlatl and spear as the primary hunting weapon. The bow and arrow is much more accurate than the spear, increasing the hunter's success.





Rock Art

The Anasazi had no written language but they did leave behind some information in the form of rock art. Petroglyphs are figures that have been carved into the rock surface and pictographs are painted on the rock surface. There are more petroglyphs found at Mesa Verde than pictographs since most of the paint has eroded away over the years. Those that remain are in weather-sheltered areas. The largest display of petroglyphs found at Mesa Verde is at Petroglyph Point.

Pictographs

Pictographs are usually found on light colored rock surfaces in protected areas. The color of the paint used depends on the materials available such as plants and minerals. The most common colors used were red, black, white and orange. The rock surface was usually smoothed down before painting. Paint was applied with the hands or with brushes made from leaves.

Petroglyphs

Petroglyphs were created by pecking, drilling, scratching and grooving the rock surface. These techniques created a permanent indentation in the rock that can last for thousands of years.

Interpretation

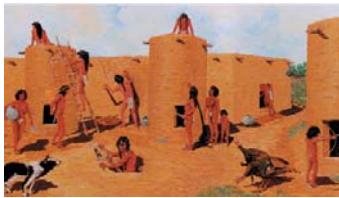
It is difficult for archeologists to interpret the meaning of Anasazi rock art. Geometric designs, human figures, plants and some animal figures are found, but the relationship of these images is unclear. Rock art was a way for the Anasazi to express themselves. They may have used it as a communication tool or to record events. Some images have been interpreted as representing water sources, trail markers and sacred places.

Periods

Rock art from each period of Anasazi culture has definite characteristics. Images from the Basketmaker period include broad-shouldered, narrow-waisted human forms while art from the Puebloan period includes lizard-like figures. There is more rock art found from the early Basketmaker time period because this was the primary way these people expressed themselves. In later periods, pottery became another form of artistic expression.



Anasazi Culture



Introduction

Archeology has yielded some information about the ancient people of Mesa Verde, but without a written record there is no way to be sure about their social, political or religious ideas. We must rely for insights on comparisons with the modern Pueblo people of New Mexico and Arizona.

Community

The Anasazi were an egalitarian culture, meaning that everyone in the tribe had equal status and equal rights. Fields for farming were allocated to each clan, or family group, who then separated this into plots for each household. Sections of the cliff dwelling were also segregated according to these clans. Although each clan had a separate section of the dwelling, villagers shared many features of the cliff dwelling, including the open courtyards, roads, refuse heaps and ceremonial kivas.



Family & Marriage

In Classic times at Mesa Verde, several generations probably lived together as a household. Each family occupied several rooms and built additional ones as it grew. Several related families made up a clan, which was probably matrilineal in organization, meaning descent was through the female line. Each clan may have had its own kiva and rights to its own agricultural plots.

Marriage within a clan (or kin group) was strictly taboo and any marriage had to be approved by the elders of each clan. To begin the negotiations of a marriage, the boy's family had to take a gift to the desired matches family. If the marriage was agreed upon by each clan, the following morning the girl had to undertake a series of tests.

For four continuous days, the girl must grind corn in front of the boy's mother, in order to prove that she could complete this important task. If the amount of cornmeal produced in those four days was sufficient, then the marriage could proceed. Otherwise, the arrangement was called off.

If successful, the girl's family was then required to build a house (simply an extension from her family's room) in which the new couple could live. During this time, the boy would usually leave on a trading mission to secure some gifts for his future wife.

After the wedding, the boy became a member of his wife's clan and took instruction from his father-in-law or one of his uncles, rather than members of his family clan.



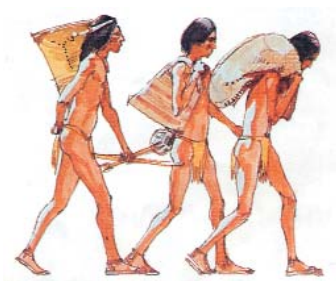
Seasons

Each season had a particular meaning and specific duties that had to be carried out. Spring was the season of new life and the major work carried out during this time was the repair and redecoration of the houses. This was usually carried out by the women, who would supervise all of the tasks.

Summer was the season of growth and development. This was an easy time for the Anasazi, with little season specific work to be carried out. The main concern of the summer was the water supply, with the community having to conserve water in case a drought followed. Therefore, pottery was seldom made at this time, because the water for this task cannot be spared. The men had to continually watch the crops, to save them from being scavenged by wild animals. Usually in mid-summer the seasonal rains fell. The crops also had to be tended carefully at this time to minimize the damage done by the downfall.

Autumn, the season of ripening and harvest was a busy time for the Anasazi, with the crops being harvested and spread on the roofs of the dwellings for drying. Most of the food was stored in the storage rooms, located in the back of the dwelling. These stores were carefully conserved, and were usually plentiful enough for the village to survive for three years should there be a drought and failing crops. Wild grasses and plants were also collected and stored this way. After the harvest, the men would go out in hunting parties for wild game. These were then skinned, the meat stored away for winter and the skin and fur used for clothing. Feather blankets were also woven in preparation for winter.

Winter brought with it sorrow and death for the Anasazi. There was much less activity in this season, although hunting continued. Many died during this time from the weather. The men would spend most of their time in the Kivas, which were decidedly warmer than the living space.



Trade

Mesa Verde's economy was more complex than it might appear to be at first glance. Even within a small agricultural community, some people were probably more skilled than others at weaving or leather-working or making pottery, baskets, jewelry or other specialized articles. Since the Anasazi were quite efficient at making these items, they had extras available for trading with neighbors.

Items were traded between neighbors and between communities, too. Seashells from the coast, turquoise, pottery, and cotton from the south were some of the items that found their way to Mesa Verde, passed along from village to village or carried by traders on foot over a far-flung network of trails.



Food & Agriculture

The three main staples of the Anasazi diet were corn, beans and squash, which they farmed on the mesa tops. They also hunted small game animals such as chipmunks, squirrels, rats, deer and mountain sheep, using traps, snares and bow and arrow. Turkeys became domesticated for their feathers, thus turkey meat was also commonplace.



The men did most of the hunting and farming, while the women collected wild plants and berries and prepared the meals. The Anasazi had two basic meals a day (similar to a late breakfast and an early dinner) and this generally consisted of cornbread and a stew. Before eating a meal, a selection of food was thrown into the fire (by the man of the household) as an offering to the gods.

Corn was an important crop for the Anasazi and had to be planted promptly in the spring after the winter food supplies were depleted. Corn was planted five or six inches deep. Modern Hopi Indians form a small depression where the corn is planted with a circle of dirt piled around it so it can collect and hold any rain that might fall. It is possible that the same technique was used in ancient times, too. After harvest, ears of corn have to be saved as seed for the next season. Sometimes corn was tied together and hung on rungs in the wall or stacked in storage areas for more immediate use. Some storage rooms were sealed to keep rodents from eating or damaging the corn.



Appearance & Health

From burials, anthropologists have been able to determine what the Anasazi might have looked like. Men averaged about 5 feet 4 inches tall and women were slightly shorter, about 5 feet. Most had dark hair and brown eyes with light to dark brown skin coloring. Very few people lived beyond 40 years and fifty percent of children died before the age of three.

Skeletal remains of the Anasazi show that many individuals over 29 years of age had degenerative arthritis, especially along the spinal column. Abnormalities were also quite common. Some bone fractures have been noted, but fewer than one might expect in such a rugged environment.

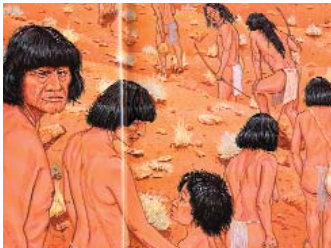
While there were many dental problems, the Anasazi people had fewer cavities than most Americans. There was a noticeable wearing down of the teeth caused by the grit in corn meal ground on the stone metates. Tatar has also been found on teeth and gum disease was common.

One interesting feature is the different shaped skulls found on the bodies. Those bodies, dated pre A.D. 750 had normal shaped skulls, however, those after this date were found to have flattened skulls at the back of their head. This feature has been attributed to the use of flat cradle boards on which the babies slept and were transported. Previously, soft cradles with head cushions were used. It should be noted that these flat skulls did not produce any form of brain damage.



Beliefs & Rituals

In Anasazi times, as now, the conduct of rituals, together with the power of custom, governed the lives of the Indians. There were no chiefs or nobles and no ruling class. Ancient rituals were probably passed down for centuries, eventually to the modern pueblo Indians. The Anasazi may have believed in the same origin myths that the modern Pueblo Indians follow. They believe that spirits come from the underworld to teach people. They hold ceremonies throughout the year to honor these spirits. The Anasazi may have conducted similar ceremonies. Because we have no written record of their beliefs, we can only base our ideas of the Anasazi on what we can learn from their modern descendants.



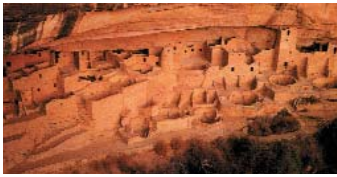
Abandonment

By about 1300 Mesa Verde was deserted. There are several theories about the reasons for the migration away from Mesa Verde. We know that the last quarter of the century was a time of drought and crop failures, but these people had survived earlier droughts. Maybe after hundreds of years of intensive use the land and its resources—the soil, the forests, and the animals—were depleted. Perhaps there were social and political problems, and the people looked for new opportunities elsewhere.

When the people of Mesa Verde left, they traveled into New Mexico and Arizona, settling among their kin already there. Whatever happened, some of today's Pueblo people, and perhaps other tribes, are descendants of the cliff dwellers of Mesa Verde.

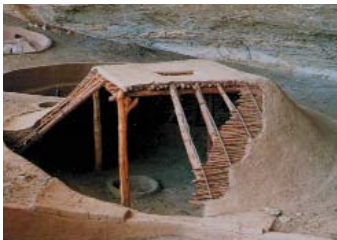


Anasazi Architecture



Introduction

The Anasazi first moved into Mesa Verde about A.D. 550. At this time they were beginning to lead a more settled way of life as farming replaced hunting and gathering. They began to build permanent structures for shelter near their farmlands. Over the years, building techniques and designs reflected changes taking place in the culture. Mesa Verde contains many examples of different Anasazi architecture.



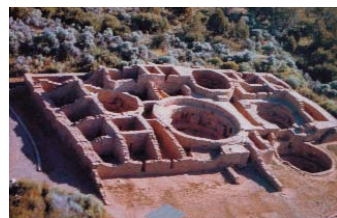
Pithouses

The first structures built during the Modified Basketmaker period from about A.D. 550 to A.D. 750, were called pithouses. These structures were partially underground and were clustered into small villages. Pithouses were usually built on the mesa tops and occasionally in the cliff recesses.

Pithouses included a main living area and a smaller side chamber. The living area was usually squarish in shape and sunken a few feet into the ground. Sometimes a small storage area was attached to the main room. A central fire pit located in the main room was used for both cooking and heat. Usually a low bench surrounded the floor area.

Four main timbers at the corners of each room supported the roof. The wooden timber framework was covered with smaller logs, sticks, juniper bark and mud to make the structure weatherproof. The Anasazi entered the structure by ladder through a hole in the roof.

The Modified Basketmaker pithouse eventually evolved in two directions. The above-ground structure developed into the pueblo house and the under-ground pit evolved into the kiva.



Pueblos

Around A.D. 750 the Anasazi entered the Developmental Pueblo phase. Houses were now being built above ground, having evolved from the above-ground portion of the pithouse. They began to have vertical walls, flat roofs and were joined together in long rows. The pole and adobe construction was replaced with skillful stone masonry.

The word pueblo is Spanish for city and the architecture of this period shows us that the Anasazi were beginning to live in larger groups. Eventually the pueblo structures reached two or three stories high and were joined together into units of 50 rooms or more. This indicates that more formalized family, social and religious patterns were beginning to emerge.



Kivas

Kivas are underground chambers that served as places for religious rituals and social gatherings and sometimes for weaving. Kivas evolved from the underground-portion of the pithouse. Kivas were found in both pueblo villages as well as in the cliff dwellings. Modern Pueblo Indians still use kivas today. The name kiva comes from the Hopi word for ceremonial room.

A roof of beams and mud covered each kiva, supported by stone pilasters built into the side walls. The Anasazi entered the kiva by a ladder leading down from a hole in the roof. The top of the kiva was at the same level as the courtyard above.

Parts of a Kiva

Fresh air enters the kiva through the ventilator shaft. The interior walls are lined with a bench that may have been used for ceremonial objects or for seating. An air deflector prevented the draft from the ventilator from blowing on the fire pit located in the center of the floor. Smoke from the fire went out through the entrance in the roof. Stone pilasters on the bench supported the beams that held up the roof. The small hole in the floor is called a sipapu. It is a symbolic entrance to the underworld.



Cliff Dwellings

Beginning around A.D. 1100 the Anasazi entered the Great Pueblo period. This period is best known for its architecture, especially the cliff dwellings. Most of the cliff dwellings were built from the late 1190s to the late 1270s. They range in size from one-room houses to villages of more than 200 rooms.

We do not know exactly why the Anasazi chose to build their homes in the high cliff alcoves. Perhaps it was for defense or because the alcoves provided better protection from the elements. Moving to the cliff alcoves also freed up valuable flat ground on the mesa tops that could be used for farming. As populations increased, the Anasazi needed to grow as many crops as possible.

By building in the alcoves, the Anasazi took advantage of natural heating and cooling systems. Cliff dwellings usually face south so they can catch more of the winter sun. During the summer when the sun is almost directly overhead, the sun's rays strike only the front walls, while back rooms remain very comfortable. In winter the sun is low in the sky and warms the stone masonry walls of the cliff dwellings. Heat is passed to other rooms and even to the cliff walls, making the cliff dwellings easier to heat with small fires.

The Anasazi used ladders made from logs and possibly ropes woven from yucca fibers to climb to the top stories of the cliff dwellings. If they were attacked, they could simply pull up the ladders and ropes so the enemy could not reach them.

Hand and toe hold trails were used to access the high cliff alcoves. These types of trails are found throughout Mesa Verde. Some of them are not only very steep and difficult to climb, but they are coded, meaning you must start climbing with a specific foot toward the top in order to avoid crossing your feet halfway up and risking a fall.

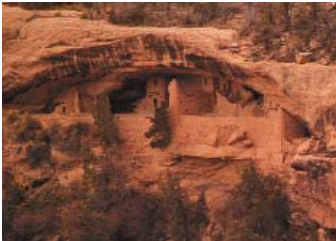
Most floors between upper and lower rooms in the cliff dwellings were made of stringers of juniper, covered with mud, juniper bark and more mud. These supported considerable weight, and fires could be built on them in upper floors.

Mesa Verde Sites



Cliff Palace

Cliff Palace is not only the largest cliff dwelling at Mesa Verde, but it is also the largest in North America. This structure contained 217 rooms and 23 kivas and housed between 200 and 250 people. Tree Ring dates of wooden beams from Cliff Palace date its construction between A.D. 1209 and 1270. Cliff Palace had four levels of rooms, with the upper level being used for storage.

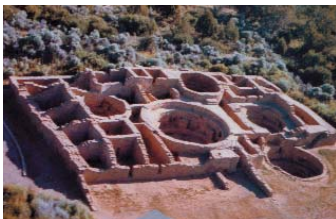


Balcony House

Balcony house, with its 45 rooms and 2 kivas, was built on a high, easily defended ledge and had only one entry/exit way. It had been carefully fortified so everyone entering or leaving could be controlled by a guard. A great deal of stone fill material had to be carried into the alcove to level it for house construction.

At the north end of the village, a three foot high wall was built along the front to keep small youngsters from toppling over the cliff.

Balcony House faces to the east. In winter it only had a few hours of sunshine before it was in shadow the rest of the day. Balcony House would have been a very cold place to live. Smoke-covered walls at the rear of the cave suggest fires were probably maintained to keep the people warm. Gathering wood each fall was probably more vital here than in most of the other cliff houses at Mesa Verde.

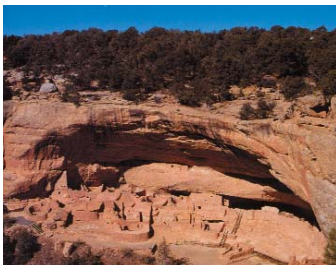


Far View House

Far View House commands a stunning view of the countryside and the Four Corners region. It was built and occupied between A.D. 1100 and 1300. There are 40 rooms on the ground floor and an unknown number of rooms in the second story. Some rooms and doorways are larger than those in the cliff dwellings.

Although a few people probably lived at Far View House, its location and unusually large size suggest it may have served as a public building, where leaders addressed the needs of the larger Far View community.

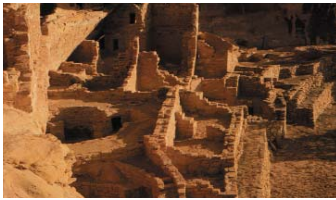
Four circular kivas, or ceremonial structures, are enclosed within the walls of Far View House, and a fifth is outside the walls. The pueblo's central kiva is especially large and might have been a place where several clans assembled.



Long House

The second largest ruin at Mesa Verde is Long House, located on Wetherill Mesa. As the name implies, it does not have clustered rooms like Cliff Palace does. There seems to be less refinement of building stones, as if the builders did not take as much time to shape the stones as they did in some of the other cliff dwellings.

Dependable springs near Long house were the main source of water. A number of small seeps existed in the back of Long House. Snow, of course, could be melted in winter. Long House, like so many ruins, faces into the winter sunshine, and it was probably a good place to have lived.



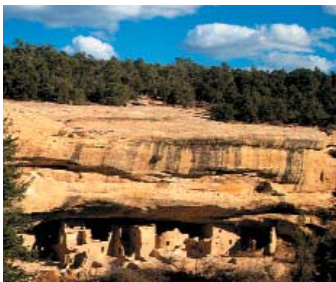
Mug House

One of the ruins found with to contain the most artifacts was Mug House. In 1890 when Charles Mason and the Wetherill brothers explored the ruin, they found four or five pottery mugs tied together with string, so they called the site Mug House. The inhabitants apparently specialized in making pottery mugs, as a fairly large number were found here.



Oak Tree House

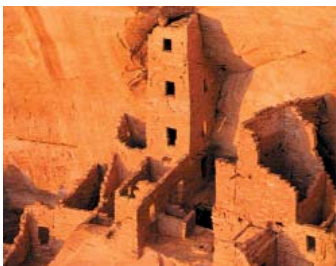
Oak Tree House is located in Fewkes Canyon and has 6 kivas and 52-54 rooms. Most of the rooms on the upper ledge were used for storage, and were entered via ladders from the bottom level. The refuse dump was situated in front of the dwelling, into the slopes of the mesa.



Spruce Tree House

Spruce Tree House is the third largest cliff dwelling in the park (Cliff Palace and Long House are larger) and is one of the best preserved because of the low profile of the alcove. It was constructed between A.D. 1200 and 1276 and contains about 114 rooms and 8 kivas. The Spruce Tree alcove measures 216 feet wide by 89 feet deep. This dwelling is thought to have been home for about 100 people.

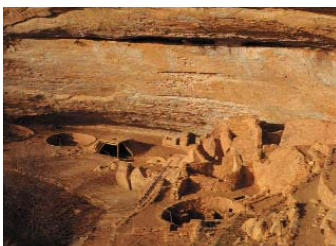
When Spruce Tree House was occupied, the courtyard was filled with activity. Here women ground corn into flour, made pottery, wove baskets and prepared food. Men made stone tools, turkey feather or cotton blankets or prepared for summer planting. Older people sat in the sun and talked, while children, domesticated turkeys and barking dogs scurried about the plaza.



Square Tower House

Square Tower House was named by the Wetherill brothers, and describes the tall, four-story structure that dominates the site. This structure is built in a shallow alcove in the west wall of Chapin Mesa, in Navajo Canyon. Access to the village was via two trails, one of them a toe hold trail that led down the sandstone cliff from the mesa top.

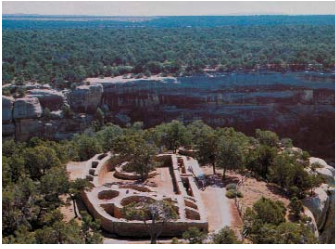
Square Tower House was quite a large settlement, containing approximately 70 domestic rooms and 7 kivas. The tower is the tallest structure in the park, measuring 86 feet high.



Step House

Step House received its name from the stone steps that were built on the southern slope in prehistoric times as a way to the rim. About thirty or forty Pueblo people lived in Step House.

The Step House site is unique because it contains clear evidence of two separate occupations in the same site. The Step House alcove contains both pueblo houses of the Classic period, about A.D. 1226, as well as Modified Basketmaker pithouses from approximately A.D. 626.



Sun Temple

According to modern Pueblo Indians, Sun Temple's features classify it as a ceremonial structure. The symmetrically planned D-shaped building was never completed, yet its size alone points to the amount of labor that went into its construction. Based upon the amount of fallen stone removed during excavation, the walls probably were between 11 and 14 feet high. Work on the structure apparently stopped when the Anasazi people began moving out of Mesa Verde around A.D. 1276.



Petroglyph Point

The largest display of petroglyphs in Mesa Verde is found at Petroglyph Point. The rock art carvings were created over a period of several hundred years in the 1100s and 1200s. Members of the Hopi tribe have suggested that the line winding through the panel represents the Anasazi migration route from the Grand Canyon to Mesa Verde. Anasazi petroglyphs found throughout Mesa Verde depict mountain sheep, turkeys and other animals, humanlike figures, handprints and more abstract designs, such as spirals and wavy zigzag lines.

Cliff Palace Tour



Welcome to Cliff Palace. The ruins you see were first discovered in 1888 by two cowboys, Richard Wetherill and Charlie Mason. These men, and many other explorers and tourists, visited the ruins in the following years, often times taking artifacts and sometimes harming the ancient structures.

Congress established Mesa Verde National Park in 1906 in order to protect the ruins from vandalism and theft. Since then, the park service has worked to preserve the ruins so visitors can come to Mesa Verde and learn about the people who once lived here.



How Big is the Cliff Palace Alcove?

Notice the size of the cliffpalace alcove. These alcoves were created when pieces of the sandstone layer eroded away. Many of the alcoves are quite small, not nearly as large as this one. The Cliff Palace alcove measures 324 feet wide by 89 feet deep and 59 feet high.



The people who once inhabited Mesa Verde are known as the Anasazi. This is a Navajo Indian word meaning ancient ones. The Anasazi lived in the Mesa Verde region from about A.D. 550 to A.D. 1300. They started building the elaborate cliff dwellings like Cliff Palace around A.D. 1200, only 100 years before they abandoned the area. As you tour Cliff Palace, keep in mind that although archaeologists have studied these ruins for many years trying to learn about the Anasazi, there are many secrets left untold about who these people were, how they lived and why they left Mesa Verde.

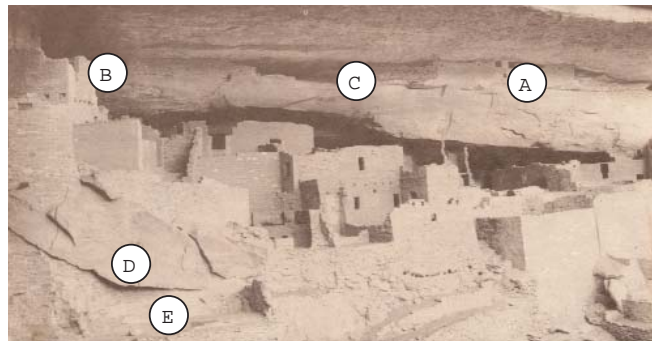


The main construction materials used to build Cliff Palace and the other structures at Mesa Verde were sandstone and mud mortar.

The Ancestral Puebloan people chipped and pecked the soft sandstone with harder, riverbed stones which they used as hammer stones. The mortar between the blocks is a local soil, water and ash mixture. Fitted in the mortar are tiny pieces of stone called chinking. Chinking stones fill in the gaps and add structural stability to the walls.

Over the surface of many walls, the Anasazi placed a thin coating of plaster which was the first thing that eroded away as time passed.

We can only see the ruins of Cliff Palace today, but imagine what the buildings must have looked like when they were first constructed



A) This upper ledge contains remnants of 14 storage rooms ranging between 39 and 42 inches in height. These storage rooms may seem relatively inconvenient, yet they were really quite practical because they were cool, dry, and out of the way of children and domesticated dogs and turkeys.

B) The Anasazi gained access to these storage rooms by using a short ladder to the small doorway on the left. You can see two notches below the doorway where the top of a ladder rested.

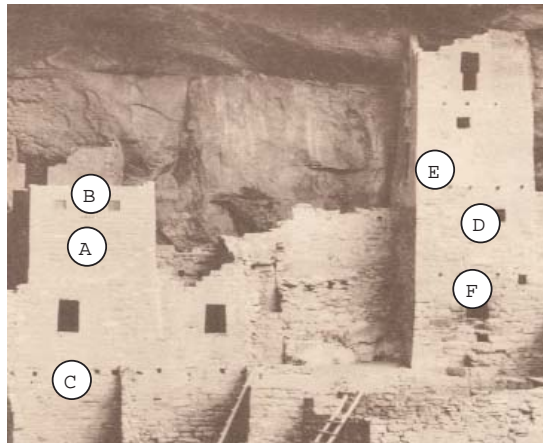
C) Notice that this wall section was made using only stacked rocks without mortar. Can you think of a reason why the Anasazi didn't use mortar on this section of wall? Perhaps the Anasazi built it during a time when water was scarce, preventing the use of mortar, or it may have been built as an emergency repair.

D) In 1934 the National Park Service stabilized the area around this large boulder which contains several vertical cracks. This section has been reinforced with over 70 tons of steel and concrete, hidden by the wall beneath the boulder.

E) Prehistoric masonry was found beneath the boulder during stabilization. Obviously, the Anasazi were also concerned with keeping this rock in place.



Dates for Cliff Palace extend from 1209 through the early 1270 s showing that some building was in progress throughout the time that people lived here. As a family increased in size, the Anasazi must have added on additional rooms to accommodate the larger group. You can see evidence of constant remodeling in doorways that have been made smaller or blocked up, walls that have been added or removed, and tracings on the cave ceiling where rooms at one time existed.



A) Notice the extremely fine masonry of the original wall next to this kiva. The Anasazi must have taken great pains to construct such walls so straight and square off the corners so well.

B) Two small openings near the top of this wall were used for ventilation of the rooms that were behind it. Many Anasazi living rooms were not well ventilated, and smoke-blackening of the walls and roof were common

C) The holes below the rectangular doorway in this wall were sockets for beams that supported the roofs of the ground floor rooms. Over the tops of the large beams the Anasazi placed smaller poles, a layer of juniper bark, and a layer of mud 5 to 6 inches thick. As a result, the roofs were not only thick and sturdy, they also allowed fires to be built in upper story rooms.

D) This tower-like structure behind the kiva to the south is one of the tallest sections of Cliff Palace. It would have appeared more as an apartment house complex in the 1200 s with other walls surrounding the ones you now see. It has been restored more than any other area in Cliff Palace.

E) When the early cowboys discovered Cliff Palace, this corner of the tower had collapsed, leaving a gaping hole all along this side. Archeologists reconstructed the corner to support the remaining walls and preserve the wall paintings on the inside.

F) Most living rooms average 6 feet by 8 feet and are about 5 1/2 feet high. Rectangular or T-shaped doorways led into these living rooms. Wall paintings such as the one inside the tower were not uncommon for the Anasazi. They decorated their houses much as we do today, but not much original plaster remains because it was the first thing that eroded away as time passed after these people left Cliff Palace. Colors were usually earth tones with off-white and reddish-brown, the most common in Mesa Verde.

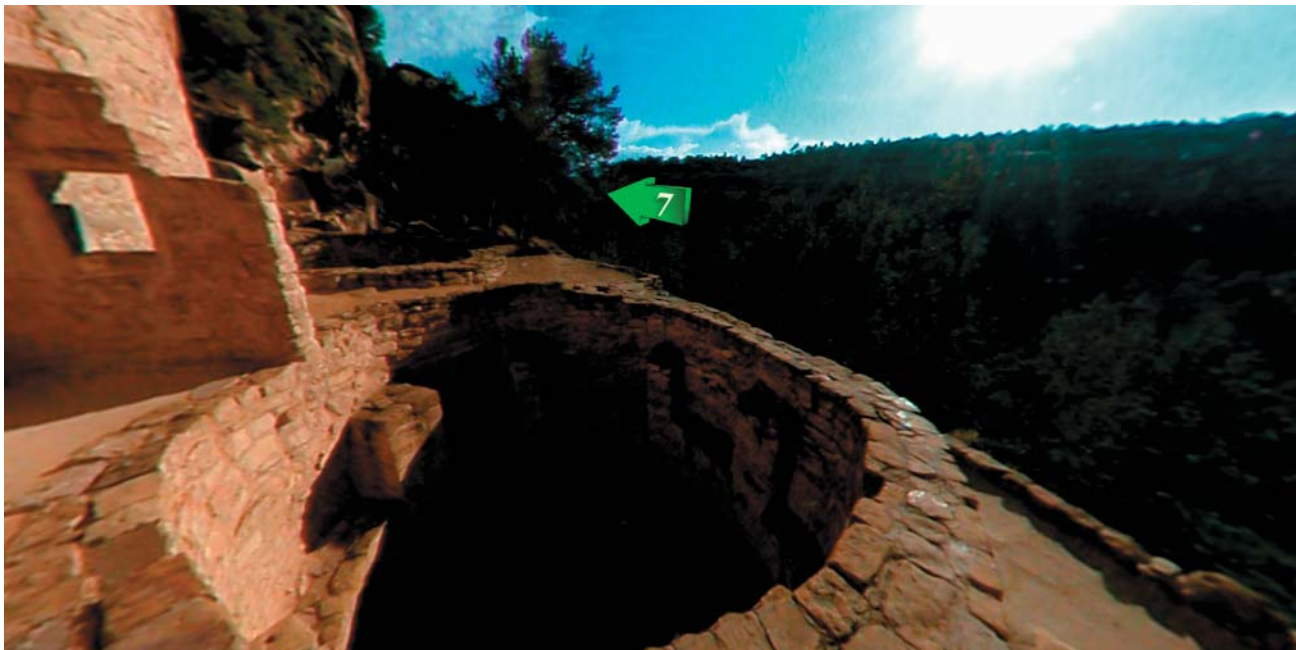


Doorways in the cliff dwellings were probably built deliberately small to keep out the cold air and draft of the winter months.

At such times, the people who lived there covered the doorways with rectangular sandstone slabs about an inch thick. During the summer months, they probably placed willow mats, skins or hides over the doorways just for privacy. Often visitors to the park look at the size of these doorways and wonder about the size of the people who once lived here. An average man was about 5 feet 4 inches tall, while an average woman was about 5 feet tall.



This large, circular room is called a kiva. Kiva is a Hopi Indian word which means ceremonial room. The Hopi are Pueblo people who live in mesa top villages in northern Arizona. Based upon what we can infer from modern Pueblo practice, the Anasazi used these kivas for ceremonies as well as for workrooms and social gathering places.



The entire slope in front of Cliff Palace, including what is now the trail, served as a refuse or trash heap. Materials such as broken pottery, bone or stone tools, discarded yucca fiber sandals, worn out clothing, cold ashes from fires, human wastes and a variety of corn cobs, squash and other food were all thrown in this area.

Archeological excavators sift through these trash heaps in an attempt to locate materials for reconstructing information about the daily practices of the Anasazi. These trash slopes enable them to answer many questions that would otherwise remain a mystery.



The wooden beams protruding from the base of this wall are original timbers, some of the few remaining in Cliff Palace. The white corks extending into these beams plug the holes where archeologists took core samples for dating when Cliff Palace was built. Because Douglas fir, ponderosa pine and piñon trees form individual growth rings each year, tree ring dating provides very accurate records of construction for cliff dwellings at Mesa Verde.



By A.D. 1300 Mesa Verde had been completely abandoned, as was the entire Four Corners region. Probably a number of factors caused the Anasazi to leave the area. Although there was a severe drought from A.D. 1276 to 1299, these people had survived earlier droughts which were much more severe. A lack of water could not have been the only problem that forced all of the Anasazi to move. After several hundred years of intensive use, soil, timber and wildlife resources must have been depleted by the late 1200 s, causing scarcity and possible internal strife. There is even some recent research concerning a general cooling off period at around that time which may have shortened the growing season enough that the Anasazi were no longer successful in their farming efforts. A combination of such difficulties all happening at the same time may have had a devastating influence on the entire population, forcing them to leave their cherished homes.



On the face of the cliff in front of Cliff Palace, you might notice shallow niches carved into the sandstone by the Anasazi. This is a typical hand and toe hold trail which these people used for access to Cliff Palace. Each notch would accommodate no more than the tips of the fingers or ends of the toes, and weathering

over the centuries has worn them down considerably. Imagine the Anasazi carrying burdens on their backs or vessels on their heads while ascending or descending these trails. You have to marvel at their adeptness and agility in scaling these cliffs on a daily basis. Hand and toe hold trails like these are found throughout the Mesa Verde area. Some of them are not only precarious, they are even coded. You had to start climbing with a specific foot toward the top. Otherwise, halfway up a cliff face you would have to cross feet and regain your balance. One mistake could be your last!