Educational Resources

Talking points

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Intro Gallery Talking Points

The Main Gallery is an ideal place for providing your students with an introduction to the Hohokam and the Pueblo Grande archaeological site. The following talking points may assist in guiding your discussion:

**Canal map**

- Archaeologists refer to the prehistoric people who lived in this area around 450 AD to 1450 AD as the Hohokam.

- On this map you can see the Salt River, which flowed year round, when the Hohokam occupied the area. Along the Salt River you will notice red spots that represent archaeological sites like the one you are currently visiting. Why do you think the Hohokam built villages along the river?

- The Hohokam culture created the largest prehistoric irrigation system in North America. Why do you think they did that? The people archaeologists call the Hohokam settled in villages along the river. They dug thousands of miles of canal systems to provide water to produce enough crops to feed a sedentary and growing population. They dug the canals by hand without metal tools or draft animals.

- They grew many different types of crops including corn, beans and squash (the three sisters) for food and cotton for clothes.

- The village of Pueblo Grande was placed at the head gates of the Canal System 2 which controlled water for many of the villages on the north side of the Salt River.
Platform Mound Illustration

- Note the Salt River flowing in the background and the canal systems carrying water to abundant fields. This riparian environment looks quite different from Phoenix today! The construction of the Theodore Roosevelt Dam between 1905 and 1911 means that the river no longer flows like it used to so the environment today looks very different.

- If we look at the sky it looks like a storm, possibly a monsoon is rolling in. In Arizona, monsoon season is typically in July and August so the picture most likely represents a day in summer.

- Platform mounds were one of the major building achievements of the Hohokam. These huge structures that were about the size of a football field and stood approximately 3 stories tall. The one at Pueblo Grande was built out of river cobbles, caliche and chunks of granite and sandstone. The Pueblo Grande platform mound is one of the largest of the 50 known mounds in Arizona. You can also see a model of one in this gallery.

- Interestingly, platform mounds are found about every 3 miles along major prehistoric canal systems. Perhaps they were used as administrative sites that controlled the irrigation systems. Or they could have been sacred monuments or ‘temples’ similar to those found in Mexico that were used for ceremonial purposes.

- In this artist depiction of the platform mound, you may notice that there were rooms used for different types of activities. When you visit the top of our platform mound see if you can identify rooms were archaeologists believed different activities took place.

Timeline

- Hohokam is a word used by archaeologists to describe these people based on their material culture. The Native American tribes who identify the Hohokam as their ancestors refer to them as the Ancestral Sonoran Desert people.

- The Hohokam lived in the Salt River Valley from AD 450 - AD 1450. After this point, they appear to disappear from the archaeological record. One theory is that a massive flood occurred around this time, destroying the canal systems and forcing them to leave the area. The Native American tribes who claim the Hohokam as their ancestors (four southern tribes of Arizona, the Hopi and Zuni of New Mexico) argue that they didn’t disappear, they are still here – the populations spread out into smaller community groupings.

- It is interesting to note that the Hohokam culture as we know it was no longer present at the time that Spanish explored southern Arizona in 1540.
Main Gallery Talking Points

Sonoran Desert / Desert Oasis
- The Hohokam were the first farmers of the desert! They were very resourceful and probably used the desert environment to grow at least two or more seasons of crops. Corn, beans, squash, cotton, amaranth, barley grass, and tobacco were among the plants that they purposefully grew.

- The Hohokam also harvested plants and animals from the Sonoran Desert and the riparian environments found along the Salt River. They would have been able to exploit a variety of animals including deer, bighorn sheep, turtles, squirrels, quail, heron and toads. Some of the wild desert plants they harvested produced seasonal fruits, buds, and pods such as the saguaro, prickle pear, cholla and the mesquite tree.

- They would have also used plants for building materials and weaving. We can often find evidence of the use of these plant materials in the impressions that they leave behind!

Desert Farmers

Illustration by Michael Hampshire

- Keep in mind that these tools had to be handmade! The Hohokam didn’t work metal so they relied heavily on stone. Stone could be worked using a ground stone method like the axes or it could be flaked like the projectile points.
- By looking into the display case can you tell me what animals were important to the Hohokam? Birds, reptiles, fish, and mammals. They made pottery and even some stone items shaped like the animals (baby bird, turtle, quail, snake palette, shell frog/toad). They also used the critters around them as inspiration for the decorations on their pottery – flying birds, four legged animals, lizards, fish, and snakes.

- In addition to animals what other part of their environment is represented in this display case? Plants – gourds, devil’s claw, dried saguaro buds, beans and corn.

- The Hohokam grew more than corn, squash and beans. Did you know that the Hohokam cultivated more plant species than any other prehistoric culture in America! 12 different species!

**Canal Builders**

- Canal systems were the key to the Hohokam people’s success! In this display case you will see that a variety of tools were used. An axe may have been used to dig out dirt, a torus may have been used as a weight for a digging stick and stone plummets may have been used in levelling.

- Stone ‘paving’ known as rip rap, consisted of cobbles and broken stone which was used to line canal junctions and slow/control water flow and stop erosion.

- Did you know it took more than one type of canal to get the water from the river to the fields? They constructed a main canal with headgates, distribution canals that transported water to fields, and lateral canals which released water directly into the fields.

- Once you have dug your canals your job was over - right? No way! The Hohokam had to constantly keep an eye on them and clean them out from time to time. What might clog up a canal? How about floating debris, rocks, and even fine slit brought along with the water. If you didn’t maintain your canals water would stop flowing to your fields.

**Hohokam Kitchen**

- Who likes to cook? Have you ever cooked over a camp fire outside? Did you have to prepare your food before cooking it (cut it into pieces, peel, or mix it with something else)? We believe the Hohokam prepared and cooked their food in outdoor fires and earthen ovens called hornos.

- One way the Hohokam prepared plant foods was to grind them up to make a flour. In the display case you can see examples of a mano and metate as well as a mortar and pestle. These stone tools were used to grind the plant materials to a crumbly powder. Once ground up they could be formed into a flattened bread similar to a tortilla and cooked on a flattened pottery plate called a comal.
Pottery

- Hohokam pottery can generally be divided into 3 different types: plainware, redware and red-on-buff.

- Plainware pottery was the first type of pottery made by the Hohokam; this type of pottery was continuously made over time. This is considered the ‘everyday’ use stuff and makes up about 90% of pottery recovered.

- As time passes different types of pottery are developed. We start to see reddish brown colored decorations first on grey and brown colored pottery and then on the distinctive red-on-buff. When we think of Hohokam pottery, red-on-buff is perhaps the most widely recognized.

- Redware, the second most common pottery type, gained in popularity and dominated later time periods of the Hohokam. Polychrome pottery containing black, white and red elements of decoration also appear in the later time periods. This change in style may represent trade with other groups.

- Hohokam pottery comes in all different shapes and sizes! They could be tiny pinch pots or huge ollas to store water (point out examples). The Hohokam didn’t just make plates, bowls, jars etc. They made effigies, figurines, censors and spindle whorls too!

- In archaeology pottery=people. Since different cultural groups all make/ decorate pottery differently this can be very useful to archaeologists. Style/designs also change over time which can be helpful for archaeologists in developing a temporal chronology (how cultures change over time)
**Home Builders**

- Pithouses were the earliest style of house built by the Hohokam and were built continuously throughout the Hohokam occupation. A pithouse is composed of a circular or semi-rectangular pit dug about one and half feet into the ground. On top of the pit a superstructure of woody plant material is constructed; the plant material is then covered by adobe.

- Pithouses tended to be constructed in groupings; the structures or houses in a grouping facing inward toward a common area.

- Later, about the time the Hohokam started constructing platform mounds, a new building style was adopted called coursed-adobe compounds. These rectangular structures were above ground and surrounded by a wall. They more closely resemble apartment complexes that we see today.

- This change in construction may represent influences from other groups, cultural shift or perhaps a scarcity of plant resources such as wood as they had to adopt a more coursed-adobe based style of construction.

- The artifacts in this display case are examples of everyday items you might find in and around a Hohokam house. What information could an archaeologist piece together about your life from the items in your house? Would they be able to piece together the same type of story about you from the items in your kitchen or your bedroom?

**Arts and Artisans**

- The Hohokam were master craftsmen and experts at working many different types of materials including – clay, stone, bone, shell, and plant materials. They crafted items that were functional and artistic - pottery, censors, jewelry, and baskets to name a few.

- The Hohokam liked their bling! They were experts at creating stone, shell, and ceramics jewelry! Look at all the jewelry – do you see anything you might have in your jewelry box at home? Rings, ear rings, beads, pendants, necklaces, nose plugs and lip plugs.

- Can you imagine how long it would take to make a shell bracelet? How would they do you think they would make it? They would take large *Glycymeris* shells, turn it over and wear down the center portion of the shell by abrading it against stone to produce a bracelet or ring from the left over band.

- They also created beautiful designs by acid etching the shell. To make acid etched shell you would cover the desired portion with pitch and then submerge the shell in acidic fruit juice, such as fermented saguaro juice. Over time the exposed areas of shell would be eaten away by the acid.

- Can you imagine not only making all of your own clothes, but having to spin your own yarn to make the cloth? What items to you recognize in these two display
cases that might be used for making fabric? Back strap loom, spindle whorls, and raw cotton. Once the cotton was picked it had to be turned into a thread using special spindle whorls made of pottery and stone. Once the thread was formed this could be woven into fabric using a loom like the replica you see here.

**Petroglyphs**
- The Hohokam made two different types of rock art – petroglyphs and pictographs. Petroglyphs, like the one you see here, are made by chipping away at the rock with a stone to produce a picture. Pictographs are images painted on the stone using pigments; unfortunately, the sun and rain washes them away so they are very rare!

- Rock art designs or symbols consist of representations of animals, people and patterns. No one really knows what they mean. They could be decorations, they could be mnemonic devices, astronomical observations, ceremonial etc.

- Rock art can be found on many trails in the area, like at South Mountain. It is very important that we don’t touch them if we see them as we have oils in our fingers that can damage them. Try the activity! Also, vandalism of rock art is a crime!

- Be sure to visit the rock art boulders we have on our back patio. Unfortunately these pieces were collected by private individuals that were unaware of the importance of leaving artifacts and rock art in place where they found them.

**Trade Networks**

- We know that shell, turquoise, obsidian, and minerals were all incredibly important to the Hohokam; however, these materials are readily available in this area. How do you think they obtained materials? They probably traveled long distances or traded to obtain these items.
- For shell they would have to walk hundreds of miles to the Gulf of Mexico or Pacific Ocean. Turquoise sources would have been from northern and western Arizona as well as California. We believe obsidian sources would have come from western and northern Arizona.

- Archaeologists believe the cotton and corn grown by the Hohokam were important trade items.

**City Architecture/Ballcourts**

- The Hohokam constructed structures used by the community; these structures were created for specialized uses and are commonly referred to as public architecture. The platform mound and ball court are two such structures found at Pueblo Grande.

- Platform mounds were one of the major building achievements of the Hohokam. Archaeologists believe there were over 50 platform mounds in the Salt River Valley alone. Unfortunately only a few of these mounds remain today.

- Hohokam platform mounds are believed to originally have been constructed of low circular mounds that evolved over time into the massive rectangular mounds similar to what we have preserved at Pueblo Grande.

- Hohokam ballcourts are oval, bowl-shaped depressions that vary in size. They were constructed and used from about AD 750 until AD1200 and may have served to promote market activities or exchanges. The rules or purpose of the game played is unknown.

- At the site of Pueblo Grande two and possibly three ballcourts were believed to have been constructed. The idea of ballcourts as well as trade items (macaws, pottery, copper bells) may indicate connections and sharing of ideas with cultures from Mexico.
The Hohokam people were the first farmers of the desert! Using a complex system of canals to irrigate their agricultural fields, they grew more species of crop than any other prehistoric group in the Americas!

The primary crops they grew for food included corn, beans, squash (also known as the three sisters). Other crops included amaranth (a bitter green leafy plant) and barley grass.

They also harvested plants from the desert! This included agave (the hearts were roasted in specialized ovens called hornos), prickly pear (both the pads and fruit) and saguaro fruit which could be turned into a jelly or syrup to provide vitamin C.

Mesquite and Palo Verde seed pods were collected and ground into a flour using stone tools called manos and metates, which was then used to create a flat bread like the tortillas of today.

They also grew crops for non-edible purposes. Cotton was a prized trade item and was used to produce fiber that could be woven on a loom to create textiles. Gourds (a type of squash) were dried out and likely turned into household items such as bowls, cups, canteens, storage vessels and musical instruments.

Desert plants also served a variety of utilitarian purposes. Saguaro ribs (the ‘skeleton’ of the cactus) were used as building material, while yucca leaves could be dried out to provide fiber and even be used to make sandals!

Agave leaves could also be dried out to produce fiber for making rope (cordage), for basket making, producing fishing nets and even provided a built-in needle (spine at the end of the plant) for sewing!

Another source of food that may have been attracted to the agricultural fields were rabbits which would have also provided fur and bone. Other sources of protein include squirrels, white tailed deer, fish, beaver and big horn sheep.
• Ballcourts are oval, bowl-shaped depressions in the ground which are found at most Hohokam settlements. They typically are around 80 to 100 feet in length and 50 feet wide.
• From A.D. 750 to 1200, the Hohokam built over 200 ballcourts. More than 200 have been found in Arizona, including three (3) at Pueblo Grande!
• Ballcourts may have been the product of cultural exchange with Mesoamerica. They have what appear to be goal posts at each end, so it is suggested that stone and rubber balls may have been used in some sort of game.
• The game may have been like ‘hip ball’, a game in which players could only hit the ball with their hips. Or they may have played a game in which they hit the ball with their chests, shoulders or forearms. Ceramic figurines found in Hohokam sites depict ballplayers wearing protective pads.
• The exact purpose of the game remains unknown, although it may have served ceremonial or perhaps social purposes.
• Around A.D.1200, the Hohokam stopped using their ballcourts and platform mounds become a central focus of village life.
• The exact reason for their discontinued use is unclear. Perhaps the ceremonies that were once performed in them stopped. This suggests a change in the way the Hohokam viewed the world around them.
Pithouses

• Pithouses tend to occur in clusters with doorways that open into a central courtyard. This implies a shared community space where daily activities like grinding and cooking probably took place. In contrast, later adobe homes, had more ‘private’ spaces with a surrounding compound wall.

• Ramadas were likely built to provide a shaded working space (note the manos and metates beneath it) in these courtyards during the hotter summer months. Just like the ramadas of today found in places like parks and bus stops, they provide shade and allow air to circulate and cool those sheltering beneath it.

• Pithouses were constructed by digging a roughly circular pit into the ground. The pit was then plastered with caliche and then a wooden framework was constructed and covered by adobe.

• It is believed that digging these pits into the ground would provide insulation against the cold. The hearth found in the floor was likely used to provide warmth and light rather than a cooking fire because there was no hole in the roof for the smoke to escape.

• The pithouse you are standing in is a replica, something that was constructed to show what these houses would have looked like long ago. When archaeologists excavate these houses, they just find the foundations of the house.

• The replicas we have made are larger than those the Hohokam would have built. This is because we are a City of facility and must adhere to building codes. You will also notice that one of the walls has been cut away, this is an ADA accessible entrance. The Hohokam would have entered their houses by crawling through the low entrance.

• There is also an assortment of replica artifacts in the house, particularly pottery and tools that would have been used to produce it. This is meant to depict a potter’s house. There are also a variety of other props including gourds, reed mats and a saguaro boot. What would be the function of these different items?
• Just like the pithouse cluster, the adobe compound at Pueblo Grande is also a replica.
• Adobe compound architecture was a later style of architecture that became common among the Hohokam during the Classic period (A.D. 1150-1450).
• Adobe compound houses differ from pithouses in the following ways:
  o They are built above ground.
  o They tend to be square instead of round or oval.
  o Coursed adobe (mud stacked in layers with stone) was used to construct them instead of mud and wood.
  o The room structures are surrounded by a compound wall instead of the open arrangement seen in the earlier pithouses.
• In the adobe compounds, the walls defined the outdoor space more precisely than seen with the pithouses. Where the pithouses had open, communal courtyards the later adobe compounds exhibit more ‘privatized’ space. This change in architecture may reflect changes in social organization.
• What were these rooms used for? They may have been places where people slept and kept their possessions; some may have served solely as storage areas for surplus goods.
• Here are some cool facts about the adobe compounds that have been discovered at Pueblo Grande Museum and Archaeological Park:
  o Pueblo Grande compounds contained up to 17 rooms each
  o These “apartments” may have been home to as many as 35 people
  o Most of the compounds are located north and east of the platform mound
  o More than 20 compounds have been found, and several more probably existed
The Hohokam began experimenting with canals as early as 600 AD which they constructed using wooden and stone tools. These canals were likely improved over several centuries, with additional constructions to allow better water management. Some of these constructions included complex **weirs**, **headgates**, **distribution canals**, and **junction pools**.

Over time, they created the largest prehistoric irrigation system in North America! They used these canals to irrigate large agricultural fields and produced more species of crops than any other prehistoric group in the Americas! Most notably these crops included corn, beans, squash (the three sisters) and cotton.

The Hohokam constructed most of their canals near Pueblo Grande from 750 to 900 AD.

The topography of Pueblo Grande made it a very prominent village site. It is located on bedrock which played an important role in establishing the head gates for the largest canals.

The largest canal extended for 20 miles from Pueblo Grande to modern day Glendale!

As time passed canals were abandoned and rebuilt showing the complexity of Hohokam society. Mounds were built over time at strategic junctions in the Salt River, controlling the flow of water to outlying villages. Complex cultural organization would have been needed to maintain these canal systems and allow the people of valley to flourish.

Many of the canal systems used in modern day Phoenix follow the same course as the prehistoric Hohokam canals!
The mound was tied to the organization and operation of the canal system. Mounds are located at heads of major canal systems about every three miles along the Salt River.

Some archaeologists believe that the elites of Hohokam society may have lived on top of platform mounds. This suggests that the mound may have been more religious than secular in its orientation and function. The rooms on the platform mound tended to be isolated or separated from each other indicating a desire for secrecy are often found in religious architecture.

The mound that stands before you today, at its peak was the size of a football field and about three stories tall.

The early mound originated as two smaller mounds that became a single mound as each was expanded in size. In the Sedentary period 900-1150 AD a small circular platform mound may have been built at the site and later, during the Classic Period (1150-1450 AD), the large platform mound was constructed and expanded on several occasions.

The mound was built within a larger compound (a large rectangular area with high enclosed walls).

The mound contained a public plaza on the eastern section of the mound and a series of rooms located to the west of the mound.

Long passageways were often constructed to provide access from the public plaza to the rooms.

Pueblo Grande Museum is named after the mound feature.