PORTER MCDONALD

art + education

520.201.6760
portermcdonald.com
porter.mcdonald@gmail.com
@porter.mcdonald

Sonoran Shell Project

Orrell Award Report 2020

The goals of the Sonoran Shell Project

The purpose of this project was to create a 7th grade curriculum that introduces students to the shells of the Gulf of California and how they have been used by indigenous peoples from prehistory to present day. The project can be easily broken down into three clear phases:

Research **Educate** **Exhibit**

Washing olive shells!

Sonoran Shell Project

Orrell Award Report 2020

Research

Research Questions

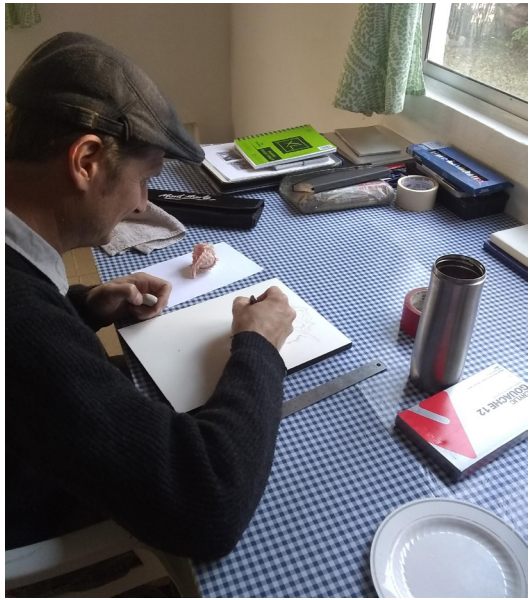
What shells were/are commonly used by indigenous cultures of the Southwest?

How were these shells collected, used, and by what methods were shell objects created?

Methodology

Experiential archaeology: actually making objects using authentic tools and methods.

Arts-based research: creation of visual art such as observational drawing, landscape painting, photography, and printmaking.



Drawing a pink-mouthed murex in Bahia Kino

Sonoran Shell Project

Orrell Award Report 2020

Research- Shell Jewelry class with Allen Denoyer

In November, prior to my trip to Mexico, I had the opportunity to take a class on carving shell jewelry in the style of the Ancestral O'Odham (Hohokham) with Allen Denoyer.

Allen is a preservation archaeologist for Archaeology Southwest. One of his specialties is recreating ancient artifacts using only stone tools. We had a great conversation about what shells I should look out for while beach-combing.

Research- Shell Jewelry class with Allen Denoyer

Examples of Allen's work,

Research- Shell Jewelry class with Allen Denoyer

I decided to try to create an iconic bracelet from a giant bittersweet clam shell (glycimeris).

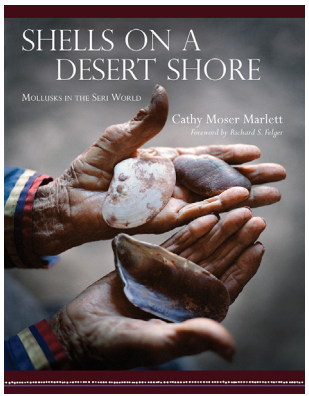
After almost three hours of grinding, scoring and scraping , I finally broke through the thick shell. This method of cutting out the center of the shell is called the Las Playas method and is named after the bracelets found at the Las Playas archaeological site.

Sonoran Shell Project

Orrell Award Report 2020

Research- Meetings with Dr. Arthur Vokes and Cathy Moser Marlett

Dr. Vokes is the manager of the Archaeological Repository Collections a the Arizona State Museum as well as an expert on shells and how they have been used by ancient cultures in the Sonoran Desert. He was kind enough to meet with me and we talked for an hour about the common uses for shells by the Ancestral O'Odham.



Cathy Moser Marlett's book, Shells on a Desert Shore was the inspiration for this whole project. Having grown up with the Comcàac, she was instrumental in helping plan my trip to Bahia de Kino including finding lodging as well as putting me in touch with botanist Ben Wilder who has led many research trips in the area.

Research- Bahia Kino and Gulf of California

In order to truly understand the uses of shells in the Sonoran Desert, I needed to visit the homeland of the Comcàac (Seri) people. A trip to Bahia Kino and surrounding Comcàac towns would be an essential way to not only collect knowledge. But also shells that I would later use in the classroom.

Sonoran Shell Project

Orrell Award Report 2020

Research- Bahia Kino and Gulf of California

Initially, much of my time here was spent finding and identifying shells that washed up on the beaches.

Once I felt comfortable with the types of shells that were/are used for jewelry, I began to build a collection to use in the classroom.

Sonoran Shell Project

Orrell Award Report 2020

Research- Bahia Kino and Gulf of California

I quickly realized that my sharp-eyed children could collect shells at a much faster pace than I could!

Faye shows off her favorite shell: Gulf Cockles

Research- Bahia Kino and Gulf of California

AND COLLECT WE DID!

Sonoran Shell Project

Orrell Award Report 2020

Research- Bahia Kino and Gulf of California

Easily found and commonly used shells

Olive Shells (Olividae)
beads and pendants

Cone Snail Shells (Conidae)
beads and pendants

Yellow Cockle Shells (Cardiidae)
pendants

Sonoran Shell Project

Orrell Award Report 2020

Research- Bahia Kino and Gulf of California

Harder to find and commonly used shells

Olivella or Dwarf Olive Shells (Olivellidae) beads
NOTE: these proved just difficult to collect because of their tiny size

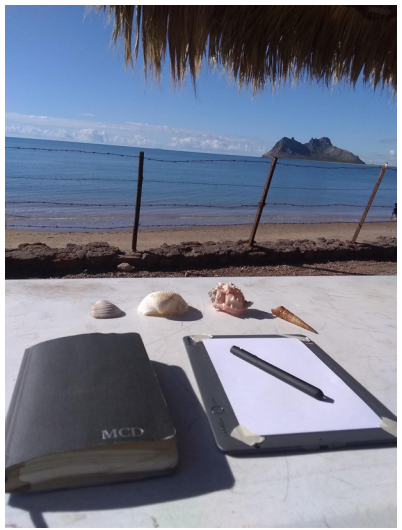
Spiny Oyster Shells (Spondylus) beads and pendants

Bittersweet Clam Shells (glycimeris) bracelets
NOTE: We found many small glycimeris, but very few intact shells large enough for bracelets

Research- Bahia Kino and Gulf of California

In addition to collecting, I spent a lot of time working on shell jewelry.

An office with a view.



Back to work on the glycimeris bracelet and after another 3-4 hours of exhausting grinding...

SUCCESS!

Sonoran Shell Project

Orrell Award Report 2020

DISASTER!

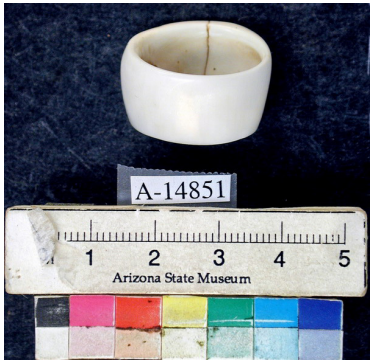
While removing excess shell around the umbo (beak) of the shell, I tried to speed up the process by knocking off flakes with a small hammer stone.
Lesson learned?
PATIENCE.

Also, working on the beach allowed for a quick re-up of supplies and materials

Teachable?

This project is very difficult, and I would not recommend it for individual students unless they show a particular passion for subject.

That said, it could be done as a group project in which students take turns with the grinding.



Conus Rings and "Tinklers"

For the next project, I decided to try making a ring and "tinkler" bell out of a cone snail shell. The above images are rings found at Ancestral O'Odham sites (photos courtesy of Dr. Vokes and the Arizona State Museum).

"Tinklers" made from the bottom of a conus shell were probably used as rattles. The above image is a recreation by Allen Denoyer

Conus Rings and "Tinklers"





Scoring and breaking off the crown of the shell took about 3 hours

Conus Rings and "Tinklers"

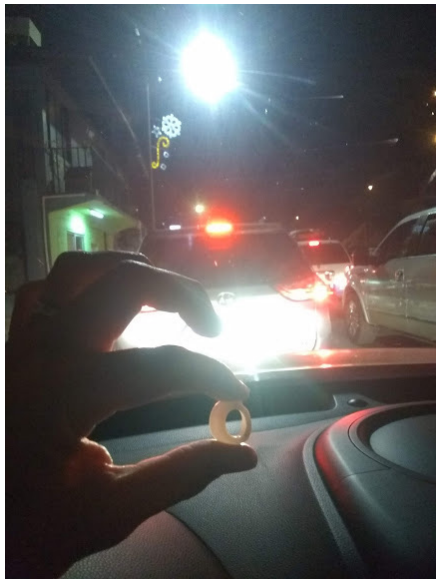



Sonoran Shell Project

Orrell Award Report 2020

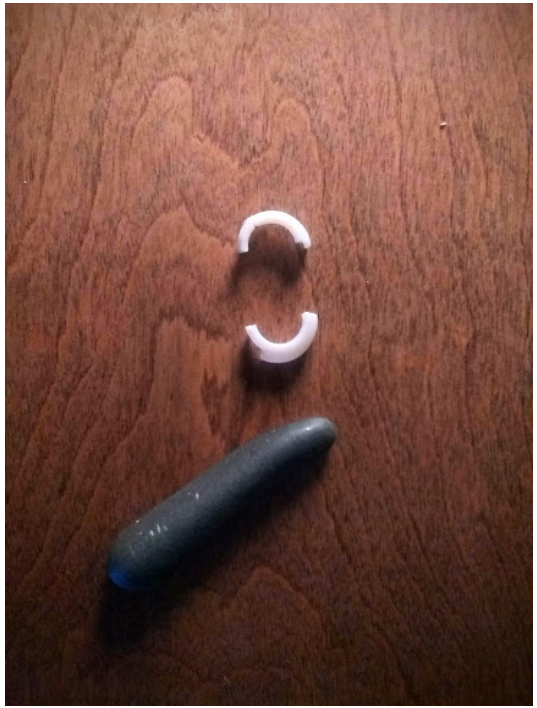
Conus Rings and "Tinklers"

The next step was to widen the opening inside the ring. Much of this work was done during the hours stuck in traffic at the border.



Conus Rings and "Tinklers"

OH NO!
The rings get very fragile toward the end. The finger-like grinding stone seen here applied a bit too much pressure causing the break.



Teachable?

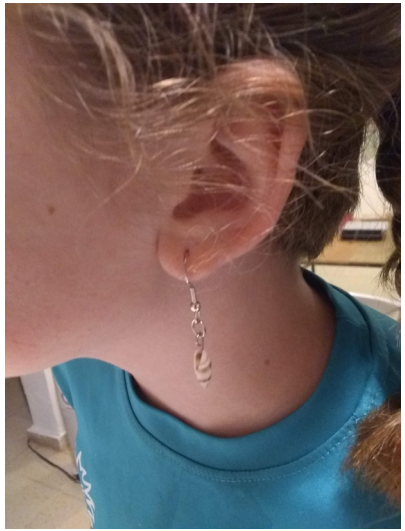
This is definitely a teachable project! Because the shells are thinner and smaller, there is less heavy grinding. The results are noticeable and therefor satisfy that craving for instant gratification that many teens (and adults!) have.

That said, the shells are much more fragile than glycimeris. Breakage is definitely a reality. Make sure to have extra shells at the ready.

Olivella Beads and Pendents

While in Bahia de Kino, I was able to test out an art project on my 9-year old daughter. Here, we see Adair and my wife, Leigh, stringing olivella beads for ear-rings. This activity was a lot of fun and a great way to connect my kids to the material and the culture of the Comcàac.

Olivella Beads and Pendents



Sonoran Shell Project

Orrell Award Report 2020

Olivella Beads and Pendents

Examples of Comcàac shell jewelry.
Note the white olivella shells (right). This can be accomplished by baking the brown shells in sand over a fire or stove-top.
The smaller bones you see are fish vertebrae.

Olivella Beads and Pendents

Teachable?

This is definitely a teachable and fun lesson!
For educators, information on jewelry-making is very accessible. For students, the earrings and necklaces created are more familiar and modern leading to an authentic learning experience. This lesson could be a great entry point into further lesson on material culture, archaeology, and history.

NOTE: Collecting enough small shells (i.e. olivellas) and fish vertebrae can be a challenge. Either take a class directly to the beach, or plan to spent a few years building up your supply.

Research- Isla Tiburón

An important goal of this trip was to visit Isla Tiburón, ancestral home and birthplace of the Comcàac.

Here, I would be able to explore ancient camps and shell middens as well as learn more about Comcàac culture from our guide.

Our panga in Punta Chueca moments before embarking.

Research- Isla Tiburón

Our guide, **Ernesto Molina** was incredibly knowledgeable in not only Comcàac history, but also in the biology and geology of the area.

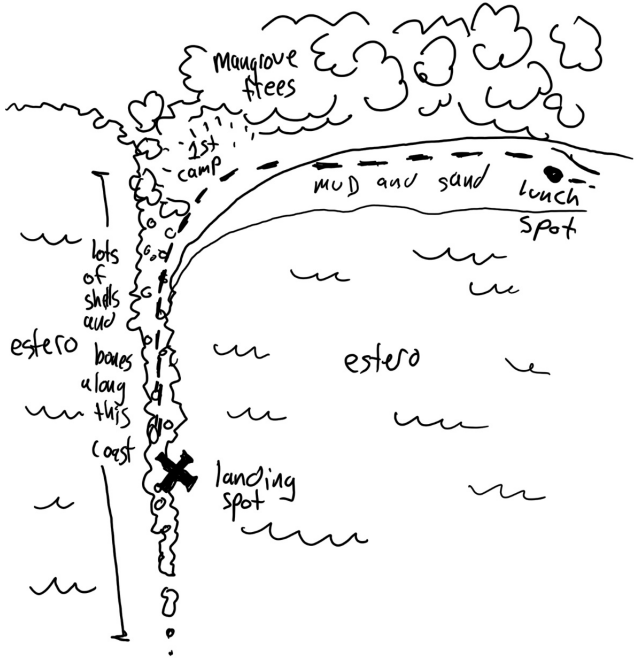
I can't recommend Ernesto enough for anyone interested in touring the area! I look forward to returning and working with him, perhaps next time with high school students.

We even had a good laugh when we figured out that we share common friends in the wilderness education community. It truly is a small world!

Research- Isla Tiburón

On the way to the island, we saw rays, dolphins, and even a sea turtle, all animals featured prominently in Comcàac artwork and mythology.

We landed on a long spit of land that stretched between two large estuaries. The shells on the shore heavily worked over by the elements, but we did discover hundreds of bones and skulls which I collected for still life drawings in class.



Map of our morning hike from my sketchbook.

Sonoran Shell Project

Orrell Award Report 2020

Research- Isla Tiburón

Adair with a turtle carapace.

Sonoran Shell Project

Orrell Award Report 2020

Research- Isla Tiburón

At the point where the peninsula met the mainland of the island, tucked in amongst the scrub, was our first ancient Comcàac site.

The ground was covered with pottery sherds!

Research- Isla Tiburón

The Comcàac were known for their "eggshell thin" pottery. I had read about this in books, but holding the sherds between my fingers, led to a deeper knowledge that I will definitely bring to my pottery lessons.

Research- Isla Tiburón

Embedded in the sand, crumbling down onto the beach was an ancient shell midden. The dolphin and turtle bones were so old that they crumbled into dust when you touched them.

Research- Isla Tiburón

My wife, Leigh found a projectile point mixed into the seaweed at the high tide line. Archaeologist, Allen Denoyer estimated it be a Cortero point around 4,000 years old!

Of note, the point was made from the same rock that littered the shore. I collected a few chunks of unprocessed stone to use for tools in the classroom.

Educate- Fieldtrip to Arizona State Museum

Back in Tucson, I worked to turn my research into a lesson for my 7th grade art class. The first step was to get them out of the school and into the wider community.

Our first fieldtrip was to the Arizona State Museum for an introduction to Gulf of California shells by Dr. Vokes followed by a tour of the Paths of Life exhibit. We even got a behind-the-scenes peek of how exhibits are created. A HUGE thanks to Ruben Moreno, senior exhibit preparator for his fun and informative presentation

Exhibit- script and labels

Ruben Moreno was kind enough to connect us to the work of museum writer Judy Rand who believes that "less is more" when it comes to labels. My students began to write the beginning of our exhibit script introducing the indigenous cultures of the Sonoran Desert.

It was then that I realized that my students were stuck in the all-to-common misconception of Native Americans as existing only in history books or as a vanishing people instead of a vibrant community here in the southwest. Even after the Paths of Life exhibit, their writing suggested that their knowledge of indigenous, specifically O'Odham culture and history, was severely limited.

An exhibit from the Paths of Life exhibit at the Arizona State Museum

Educate- Fieldtrip to Himdag Ki

Now aware of the gaps in my students knowledge, we ventured forth to educate ourselves on Tohono O'Odham culture.

We hopped in the school van took a road trip out to Sells, AZ and Himdag Ki, the Tohono O'Odham Cultural Center and Museum. Our goals were to learn about O'Odham culture and history and hopefully, to include indigenous voices into our exhibit.

Educate- Fieldtrip to Himdag Ki

The trip was a huge success! My students toured the cultural center, listened to lecture about the history of the O'Odham people, and we all sat down and talked with elders from the Tohono O'Odham Community College.

Educate- Shell Identification

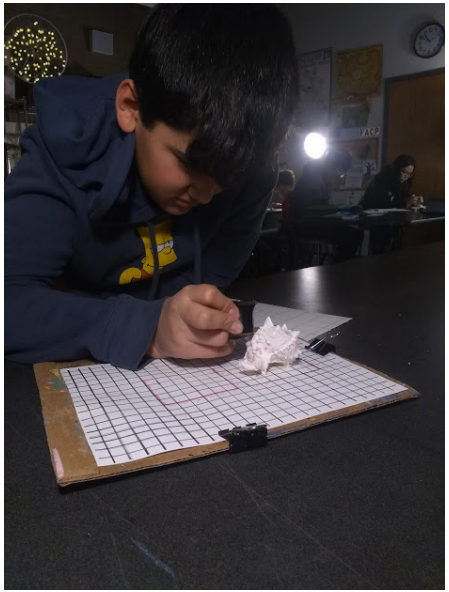
Back in the classroom, students washed and sorted the shell collection.

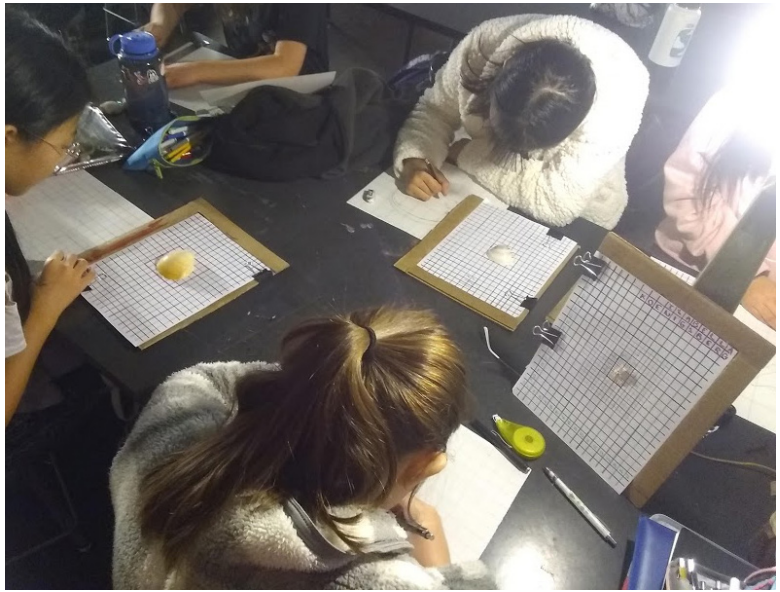
Educate- Shell Identification

Some became acquainted with the unique aroma of Ziploc bag-aged turret snails!

Educate- Shell Identification

From there, students made careful observational illustrations of their favorite shell.
The pieces had to include:
- scientific name
- common name
- Comcàac name (with translation)
- uses by the Comcàac people
- 5 labeled anatomical features

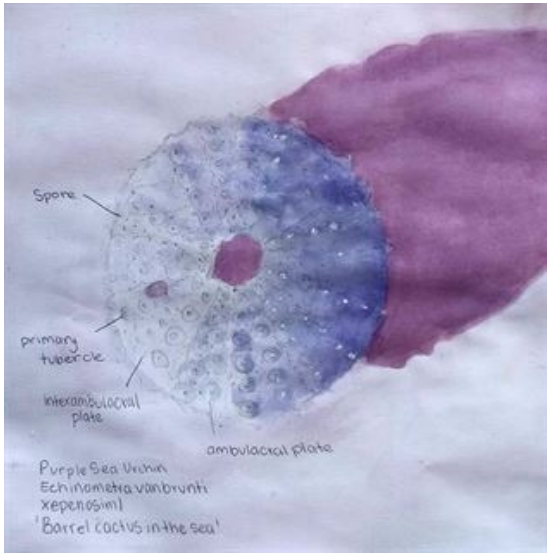


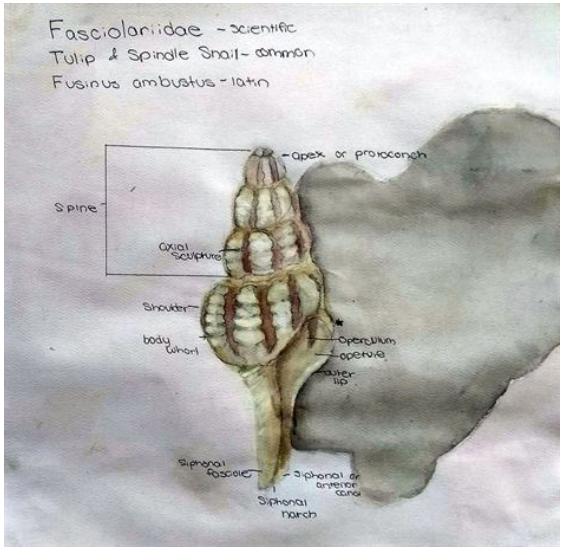


Sonoran Shell Project
Orrell Award Report 2020

Educate- Shell Identification

Examples of student work.



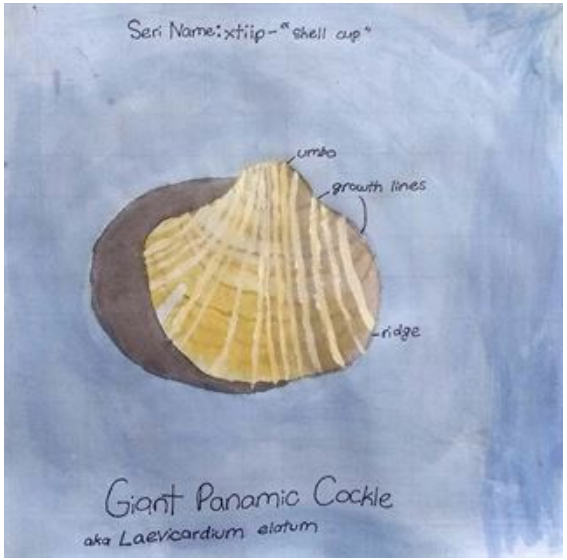


Sonoran Shell Project

Orrell Award Report 2020

Educate- Shell Identification

Examples of student work.



Sonoran Shell Project

Orrell Award Report 2020

Educate- Shell Identification

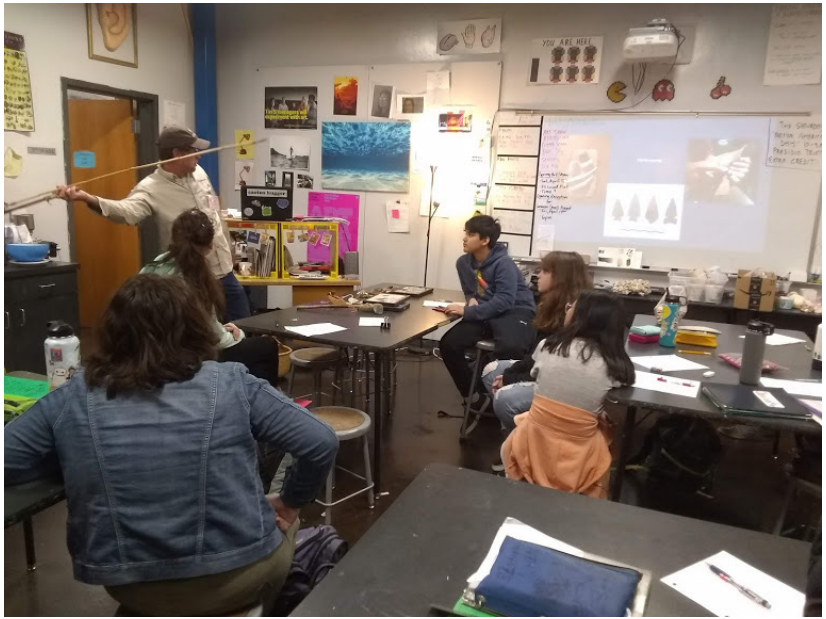
Afterward, we laid almost the entire collection onto a photosensitive, cyanotype-soaked canvas.

We were hoping this would be the first thing visitors saw in our exhibit.

Educate- Experimental Archaeology

Having completed our scientific illustrations, we were ready to begin creating shell jewelry.

Allen Donoyer visited our classroom to teach us about experimental archaeology.



Educate- Experimental Archaeology

Because the students did not have any experience creating shell jewelry using the methods of Ancestral Hohokham, Allen suggested we use the term **experiential** instead of **experimental** archaeology. Our focus was to reflect on what it was like to create shell art using these techniques. How did it feel physically and emotionally? We recorded this qualitative data as well as quantitative data (weight, size, time spent, etc.) in a Shell Project Log.

We had just gotten started on this project when...

COVID-19

Sonoran Shell Project

Orrell Award Report 2020

COVID-19

With our school shut down, we really couldn't continue the hands-on project of creating shell jewelry.

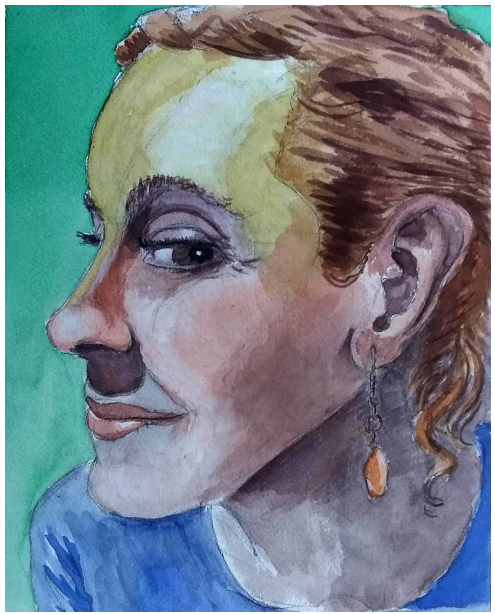
With museums closed, we had no way to exhibit our work.

Suddenly my online class was down to 5-10 students at most.

The Future of the Sonoran Shell Project

As soon as I'm able to be get back in the classroom with students, I'd like to teach this unit again. While I was pretty disappointed to not be able to complete the jewelry-making project, or install the museum exhibit, I do think there were some pretty incredible outcomes. We discovered a whole new sense of place, of history, and the greater community. I had an absolute blast working on this and I know the kids did too. This was truly an unforgettable experience!

A few of my personal art pieces created during this project



Sonoran Shell Project

Orrell Award Report 2020

A few of my personal art pieces created during this project

Sonoran Shell Project

Orrell Award Report 2020

A HUGE thank you!

I just wanted to take a moment to thank the Arizona Archaeological and Historical Society for providing me with the means to make this project a reality. It was truly a life-changing experience.

While the global pandemic greatly restricted what I could do this year, I'm looking forward to building upon and teaching this lesson in the years to come. Please don't hesitate to contact me with any questions regarding teaching this unit. I'm more than happy to help!

Best,
Porter

PORTER MCDONALD

art + education

520.201.6760
portermcdonald.com
porter.mcdonald@gmail.com
@porter.mcdonald

Sonoran Shell Project

Orrell Award Report 2020