Exploration of Vakoa

Terrilyn Esplin

Indigenous Early Education Professional Development Fellowship

2025

Author Note:

Terilyn Esplin is a Head Start Teacher at the Early Childhood Education Center on the Salt River Pima Maricopa Indian Community. Correspondence about this curriculum unit can be addressed to Terilyn Esplin, 4815 N. Center St. Scottsdale, AZ 85256.

Email contact: terrilyn.esplin@saltriverschools.org

Context

Sk:eg Tas
Ani an ap cegig Terilyn Esplin. Ani an ap mascamdam for the Tob classroom. I have been teaching at the Salt River Pima Maricopa Indian Community Early Childhood Education Center for the past 15 years. I have been privileged to teach in a Native American Community, even if it's not my own.

The Salt River Pima Maricopa Indian Community is a unique community comprising two separate tribes: the Onk Akimel O'odham (Pima) and the Xalychidom Piipaash (Maricopa). The Community once stretched along the Gila and Salt Rivers but is now located on 52,600 acres of land. Nineteen thousand of those acres are held as a natural preserve. Scottsdale, Fountain Hills, Mesa, and Tempe sit on the boundaries of the Community.

Demographics

I teach for the Salt River Pima Maricopa Indian Community Early Childhood Education Center, also known as ECEC. ECEC offers several programs that serve children from the Community and surrounding areas, including Mesa, Tempe, Phoenix, and Scottsdale. We are an Early Head Start, Head Start, CCDF, and Home-Based School. The Early Head Start provides services to the youngest children from 6 weeks to 3 years old. The Early Head Start offers an appropriate age curriculum that focuses on early childhood development. EHS houses 100 children in 8 classrooms with a total of 24 teachers.

On the opposite side of the building is the Head Start program. The Early Childhood Education Center is tribally and federally funded through Head Start Grants, providing comprehensive education and developmental services to preschool-aged children. The preschool program is designed to prepare children to be lifelong learners and to strengthen families. We utilize the Creative Curriculum, a research-based, comprehensive curriculum. The Head Start encompasses seven classrooms, 30 teachers, and a total of 102 children. These children range in age from 3 to 5 years old. Additional services provided for both HS and EHS include health and nutrition, developmental screenings, and parent training and workshops. Support services are available for the entire family, and parent involvement is strongly encouraged.

During regular Head Start/Early Head Start hours, we operate from 7:00 am to 2:00 pm CCDF is a program that subsidizes after-school care for children of working families or parents who are in school. It is also a childcare subsidy to help eligible families pay childcare costs at a licensed childcare center, certified childcare group home or family childcare home. These services are billed to the Certificate Program. CCDF hours are from 2:00 pm to 5:30 pm. On a regular program day, we operate from 7:00 am to 5:30 pm Head Start operates from August to May, and CCDF takes over during the summer and school breaks. We are a year-round program.

ECEC's Home-Based program connects families with information about child development and parenting while providing support to the family. Home-based participants receive weekly visits from their Parent Educator, during which they work together on activities to promote learning within the comfort of their Home. Home-based families also enjoy family meetings twice a month in the Home-based classroom located at ECEC. During this time, participants enjoy

interacting with other Home-based families while children experience being in a classroom environment.

I am the lead teacher for the Tob (Cottontail) classroom and have held this position for the past 16 years. My classroom accommodates 16 children every year, with the assistance of an aide and an extended aide who arrives at the end of the day. Our classroom is located on the west end of the building, facing north.

"The purpose of Salt River Schools, in partnership with the community, is to provide exemplary education in a safe learning environment immersed in the O'odham and Piipaash Cultures for all students to secure a successful future."

Matt o t've:m ab o ju: (O'odham) | Mat asheevk uuweshuum (Piipaash) | We will do this together (English)

Rationale

Growing up in a home with two different belief systems and backgrounds was something I didn't think much about until I was fully immersed in my own culture and traditions. When I hear stories about my sister and me being able to converse with our grandparents in their native language and speak it fluently, I feel an overwhelming sense of loss. I felt robbed of having a meaningful connection to my maternal grandparents, my culture, and my heritage. That is a part of my past that I can hardly remember.

I do, however, remember that when my sister and I became school-age, we were sent to a Seventh Day Adventist Boarding School, which was specifically for Native American Students. This was a family school, meaning that many of my aunts, uncles, and cousins attended this school. This was the place where my parents met. My parents believed that having a good foundation in English would be beneficial for us, and since my paternal side was Christian, we were sent to this school for two and a half years. A majority of these two years were spent at the school, with occasional weekend visits to our family to obtain necessities. We rarely got to visit family, only on holidays and some breaks like spring and fall break. On campus, we were only exposed to English. We learned church hymns and songs, bible stories, and scriptures. The only musical instruments I was familiar with were the piano and the xylophone, which my 1st-grade teacher played.

It was not until we left the school that we were introduced to more of our cultural traditions, language, and music. My maternal side of the family is very traditional. My Masani and Cheii were well-known healers in their community. Once my mother was married, she left home and lived closer to her in-laws, my Nali's. Instead of participating in ceremonies, she went to church. Instead of singing ceremonial songs, she sang hymns, and instead of hearing stories of healing, she listened to the scripture. We were living parallel lives, but she finally decided that she wanted more for herself and us. She wanted us to know that part of ourselves, and for her to rediscover that missing part of herself. When she found that the Tuba City Boarding School had an Indian Club that introduced the Navajo language through song and dance, she signed us up and became an active parent in helping the club grow and expand. In this club, I learned how to introduce myself in Navajo, how to sing and dance, and how to use instruments such as the cowhide drum and a gourd to sing the corn grinding song. This club would give me a piece of

myself back that I had been missing. The more that my mother and I immersed ourselves in our traditions, the more we would feel whole again. I never had the opportunity to learn many traditional teachings and prayers, but through this club, I felt that it was a way for my grandparents to feel a sense of pride that their grandchild was learning about the culture and traditions. There have been times in my life when I have been feeling troubled, lost, and just empty, and the sounds of gourds shaking in the background, drumstick hitting the hide of the drum and vibrating the rhythm of the music, have helped bring strength back into my soul because I know where I come from and who I am- I am a Dine woman. I am To'dik'ozhi born for the Bit'ahnii.

My purpose in writing this curriculum is to instill in the children a sense of self and understanding in my care. I hope that, unlike me, they will have a connection to their heritage and culture at an early age and be able to embrace it throughout their schooling at Salt River Schools. Hands-on and Sensory experiences, investigations, and natural curiosity will play an essential role in this curriculum.

"The absence of cultural relevance in STEM education presents a significant barrier to Indigenous student participation. Numerous examples in the literature demonstrate that when educators incorporate Indigenous Knowledge into science education, a higher student engagement is observed. By integrating cultural relevance into STEM curricula, educators can foster a deeper connection between students and course material, empowering students to see themselves as active participants in scientific exploration." (Borg, & Kumblathan, 2025) This is true. If I, as a teacher, can form a connection between a topic we are investigating to the lives of the children I serve and ask them to form their own understanding of why this event or concept came to be among their People, the children will have an innate responsibility and empowerment to explore said topic. They will naturally become curious. This problem or question reflects something that is tied to their lives and the lives of the people that they love. They will be able to investigate in many more ways than just theory; they can investigate through inquiry. They will learn through the lived stories of their parents, grandparents and great grandparents. Learning becomes more personal. If the topic is foreign and the children have no relevance to it in their lives, there is no drive to explore the topic because there is no connection to them or their people.

Along with the investigation being tied to their culture or history, I also feel that children should experience learning directly with all their senses. They should be able to investigate their subject/artifact by touching, smelling, hearing, tasting, and seeing. My job as the teacher would be to help facilitate their learning by asking questions and igniting their curiosity about what they are exploring. I would also bring in elders who would have firsthand knowledge of the subject. They would be able to share stories, traditions, and cultural practices, which would not only add substance but "true knowing" of their investigations. "True knowing is based on experiencing nature directly. "Doing" and playing are integral parts of Native learning…Elders provide guidance and facilitate learning, often through stories along with artifacts and manifestations of traditions, but it is an individual's responsibility to learn," (Cajete, 2022, p.66).

"Everything is viewed as having energy and its own unique intelligence and creative process, not only animate entities, such as plants, animals, and microorganisms, but also rocks, mountains, rivers, and places large and small. Everything in nature has something to teach humans… the Indigenous way of knowing the world," (Cajete, 2000, p. 21). Indigenous people have long been keepers of the land they inhabited. They have known the many secrets and abilities that the land

has held. How did this knowledge come to be? How did they learn to use such tools to survive? The region in which I teach has long belonged to the Akimal O'odham and the Xalchidom Piipaash people. They have lived, thrived, and protected these lands for millennia. I hope to ignite my children's curiosity around Gourds and their importance to their ancestors and their community.

For the Salt River Pima Indian Community, gourds have served several purposes. It has been used as a water dipper, a canteen, and for storage. Its most known use has been for ceremonial rattles for singers. There are many varieties of gourds. Each one has different uses due to the shape of the gourd. The Dipper gourd is the most common gourd used for rattle making.

The process of making a rattle is quite intricate.

1. Cut off the neck of the gourd and shake out the seeds. Remove the fibrous membrane by boiling or by scraping the membrane off the walls of the gourd.
2. Set aside the dry gourd that was scraped clean or let the boiled gourd sit until dry.
3. Collect a piece of wood that can be carved and fitted into a gourd. Carve the wood to fit into the gourd hole snugly.
4. Once fitted, seeds or pebbles can be added inside the gourd until the desired sound is produced.
5. Next, glue the wood handle in place with wood glue. In the past, tree sap was used to set the wood handle.
6. Finally, a design can be created on the new gourd if desired.
7.

"The knowledge of gourd rattle making isn't hard to know, but the spirit attached to it is. By that I mean… You can make a gourd rattle and not have any cultural or spiritual knowledge other than that it is used to sing songs with. It, then, is just an object. But to make a gourd rattle and know the spirit that comes with it is a hard thing to do. It has to be part of your heart and desire to create what the spirit of the gourd or the songs instructs your hand and mind to do," (Southwest Folklife Alliance, 2015, n.p.). When interviewing Cultural specialist Ipa Dutchover, he said something similar to me. There is so much more to the Gourd than just the entertainment aspect of it. Yes, most people know that gourds are used to singing songs with, but to the singers and owners of the gourds, it means so much more. The gourds that are gifted or owned by singers are top quality and should be treated as such. To gift anything less would be an insult. When reading and hearing this, I decided that I want to inform my kids about the importance of the gourd, its purpose, and how to respect its spirit. We will not be making our own gourds to respect the spirits of the gourds that are produced. I can fully understand the meaning and purpose behind this teaching since I used to be a singer of traditional songs. I was taught to handle gourds with care and respect because they are used to producing the songs of healing and tradition. We will talk about their connection to the tribe and have an elder share its importance, but we will not be replicating and making an "object" for show.

AZ Learning Standards

Social Emotional Development

- S1.C1.c. Demonstrates knowledge of self-identity/autonomy.
- S1.C1. e. Demonstrates developmentally appropriate cultural curiosity and responsiveness.

- S1.C2. d. Expresses feelings of satisfaction in independent activities
- S2.C2. b. Initiates and sustains positive interactions with adults and other children.
- S2.C3. c. Shows respect for learning materials in the learning environment.

Scientific Inquiry and Application:

- S1.C1.a. Exhibits curiosity about objects, living things, and other natural events in the environment.
- S1.C1.b. Identifies attributes of objects, living things, and natural events in the environment.
- S1.C1.d. Begins to describe the similarities, differences and relationships between objects, living things and natural events.
- S1.C1.e. Asks and responds to questions about relationships of objects, living things, and events in the natural environment.
- S1.C2. a. Uses a variety of tools and materials to investigate.

Approaches to Learning

- S1.C2. a. Shows interest in learning new things and trying new experiences.
- S1.C2. c. Asks questions to get information.
- S2.C1. a. Displays ability to pay attention when engaged in an activity.
- S2.C1.b. Sustains attention when engaged in an appropriate age activity.
- S2.C1.c. Ability to return to activities after distractions and interruptions
- S2.C2. a. Pursues challenges.
- S2.C2.c. Establishes goals, generates plans, and follows through to completion.
- S4.C1. a. Uses imagination to generate innovative ideas.
- S5.C1. a. Gathers and analyzes information to reach a conclusion.
- S5.C1.b. Recognizes relationships between cause and effect.

Language

- S1.C1. b. Engages actively in finger-plays, rhymes, chants and songs, poems, conversations, and stories.

Culturally Responsive Assessment of Indigenous Schooling Tool (CRAIS)

- 4. Traditional and/or cultural knowledge is included.
- Students are encouraged to exercise self-determination and agency.
- 12. Local and Indigenous community is reflected.
- 13. Norms, values, traditions, interests of local/regional Indigenous community are leveraged for learning opportunities.
- 15. Relationships within and among local/regional Indigenous communities are understood and/or reflected.
- 16. Encourages students to build and sustain relationships.
- 17. Relationships within the classroom are strong.
- 21. Local Indigenous language(s) is valued.
- 22. Local Indigenous language is integrated.

Teaching Strategies and Sequence of lesson plans

For this curriculum, we will rely heavily on a lot of investigations. As an introduction to the unit, we will do a KWL chart. The KWL chart is a graphic organizer that will allow us to map out our investigation. We will start with the K- What we Know. This will allow us to chart the children's prior knowledge about Gourds. Next, will be the W- What do you want to Learn? As we

progress through our investigation, we will document what the children learned about the Gourds. The learning objective is that children will chart their prior knowledge about gourds, state learning goals, and be able to reflect on what they learned as we progress through this unit.

Our first activity will be a sensory investigation on gourds. Children learn about their world when they can physically manipulate objects and explore using their five senses, such as seeing, tasting, touching, hearing, and smelling. For the activity, a variety of gourds will be provided, and the children will be able to use their senses to explore the gourds. We will document what the children are observing with their senses. As an addition to this investigation, we will ask open-ended questions to guide their exploration. Open-ended questions will help the children think deeper about what they are observing but also help guide their observations. The learning objective for this activity is that children will use their five senses to explore and investigate gourds.

Next, we will engage in an inquiry-based discussion about gourds as water carriers. Using resources from the community, the children will be shown that Gourds were once used as a canteen or water carrier. Our question to the children will be, "How did our ancestors know to use gourds to carry water?" To gain further understanding, we will use the gourds in water. We will use the gourds to do a sink and float activity. We will also explore volume with the different-sized gourds that we have. Within these activities, inquiry-based instruction will be a key strategy because it ignites the children's natural curiosity and problem-solving skills to work through a problem. The learning objective for this activity is that children will explore and investigate the physical properties of the gourd and determine why their ancestors chose the gourd as a water carrier.

Next, the children will learn about how gourds are used for music. A guest speaker will share their knowledge, stories, and skills with the children. The children will experience how the gourd is used as a musical instrument in the community. We will also share other ways that gourds can be used in art, such as necklaces and gourd dolls. The learning objective for this activity is that children will explore the gourds and how the Community uses them in ceremony, songs, and the arts.

Finally, the children will be able to use what they know to make their own gourd product. The children will choose a gourd and plan for their creation. I will have the children write in their journal what they want their gourd to look like. The journal will allow the children to visualize and begin to plan the products they need by creating a visual to draw back on. The objective of learning for this activity is that children will be able to plan, design, and construct their product through journal writing.

Assessment

Observation notes

We use Teaching Strategies Gold formative assessment at the Salt River Pima Maricopa Indian Community Early Childhood Education Center. It is an observation-based assessment system for children from birth to kindergarten. It is used alongside the Teaching Strategies Gold Curriculum that we use for our center. The tool is used to document children's learning over time. It is aligned with the Arizona Early Learning Standards and can be used to assess 36 of their learning

objectives. “Teaching Strategies Gold® presents progressions of development and learning for objectives in the areas of social–emotional, physical, language, and cognitive development and the content areas of literacy, mathematics, and English-language acquisition. Indicators and examples enable tool administrators to rate children’s knowledge, skills, and behaviors on a 10-point scale of “Not Yet” to level 9.” (The Center for Educational Measurement and Evaluation 2011, p.3). So, in using this tool, I can level my children’s interactions with the activity on a progression scale of Not yet to Level 9.

Rubric

With several of the activities, especially those involving language, rubric will be used to assess the interactions throughout the activity. I will develop a rubric that will allow the teachers to determine the children’s interest in the activity. Are they interested? Will they need additional guidance, or are they understanding and doing the activity independently? This will guide me on how to better facilitate and support my young learners.

Learning Stories and portfolios

“It is a narrative assessment approach that honors what children can do rather than what they cannot do. This approach provides a unique way of assessing learning that recognizes the whole child, including family, culture, language, and identity. Learning Stories present children as competent learners and transform teacher practices and relationships with children, families, and communities. They are observations revised as stories and help teachers understand the path of the child’s learning and the pattern of their learning dispositions,” (Boss, 2024, p. 3). Learning stories can help turn the observation notes, which are objective and dictate only what the teacher sees, into stories that will connect the families and community to the classroom learning environment. It can help to shift the idea of “they are just playing” and help the families understand that there is so much more going on when the children are “playing.” These stories will be documented around the classroom as the children complete the unit. It will then go into their portfolios, which will eventually be given to parents at the end of the assessment cycle. Your lessons are interesting and engaging for the little ones to gain insights into the topic. For each lesson, pick a format to use, as each lesson has the standards and other parts in a different order. Also, you have listed all the standards in the instructional plan, so pick only a few for each lesson that apply to each one. Like the first lesson has enough standards.

Teaching Plan

Topic: Gourds - What do you know about Gourds? What do you want to learn? What did we learn? KWL is a strategy, so use Gourds as your topic.

• Objective(s): Children will chart their prior knowledge about Gourds, learning goals for investigations, and reflect on what they learn through activities.

AZ Early Learning Standards

Scientific Inquiry and Application

- S1.C1.a. Exhibits curiosity about objects, living things, and other natural events in the environment.

- S1.C1.e. Asks and responds to questions about relationships of objects, living things, and events in the natural environment.

Approaches to Learning

- S2.C2.c. Establishes goals, generates plans, and follows through to completion.
- S5.C1. a. Gathers and analyzes information to reach a conclusion.

Culturally Responsive Assessment of Indigenous Schooling Tool (CRAIS)

- Traditional and/or cultural knowledge is included.
- Local and Indigenous community is reflected.
- Norms, values, traditions, and interests of the local/regional Indigenous community are leveraged for learning opportunities.

• Materials: Large Post-It paper, marker, picture of gourds

• Procedure: The Teacher will gather children in a large group. As children gather, the teacher will post pictures so that they can see and start to ask questions or even identify what it is.

o Introduction: The teacher will use an attention grabber to get the children's attention. When the children are watching, the teacher will ask if the children know what is in the pictures. The teacher will record some of the answers that pertain to the gourds. Next, the teacher will let the children know the name of the item- VAKOA- Gourd

Activity 1: KWL Chart

The teacher will now ask the children if they have ever seen one of the items before, and where they have seen this VAKOA- Gourd. This part of the lesson is where the teacher will record in the (K) WHAT WE KNOW section of the chart.

O'odham Questions

- sacud i:da? What is this?
- sacud i:dam? What are these?
- sacud hegai? What is that?
- sacud hegam? What are those?

Activity 2

Next, we will move to the (W) WANT TO KNOW section of the chart, and I will ask the kids if there is anything that they want to know about this object. Each answer will be written down. As we go through our lessons, we will revisit some of what we know and want to know and add to (L) WHAT WE LEARN.

- Conclusion: As we move through this curriculum unit, we will be adding pictures of our investigations and learning. Children will be able to identify a Gourd and know of its many uses.

• Assessment: For the assessment portion, we will be collecting observation notes. This will be gathered throughout the investigations. The KWL chart will also reflect the learning that has taken place and will be part of our Learning Story.

Topic: Sensory investigation of Gourds

• Objective(s): Children will use their five senses to explore and investigate Gourds of all shapes and sizes.

<u>AZ Early Learning Standards:</u>
Social Emotional Development:

- S2.C3. c. Shows respect for learning materials in the learning environment.
- SCIENCE:

Scientific Inquiry and Application:

- S1.C1.a. Exhibits curiosity about objects, living things, and other natural events in the environment.
- S1.C1.b. Identifies attributes of objects, living things, and natural events in the environment.
- S1.C1.d. Begins to describe the similarities, differences and relationships between objects, living things and natural events.
- S1.C1.e. Asks and responds to questions about relationships of objects, living things, and events in the natural environment.
- S1.C2. a. Uses a variety of tools and materials to investigate.

Approaches to Learning:

- S1.C2. c. Asks questions to get information.

Culturally Responsive Assessment of Indigenous Schooling Tool (CRAIS)

1. Encourages students to build and sustain relationships.
2. Relationships within the classroom are strong.
3. Local Indigenous language(s) is valued.
4. Local Indigenous language is integrated.

• Materials: variety of gourds, markers, and large Post-its, variety of small items like pebbles, sticks, seeds (those will be labeled in O'odham.)

• Procedure:

- Introduction: Question of the day: Are all gourds the same?

This question will be posted and charted with the children's answers on a T-graph, with 'yes' and 'no' options for each column. We will refer back to these during the investigations and then incorporate what we learned into the (L)earned section of the K-W-L chart.

Small group activity 1

A variety of gourds will be placed on the table. Children will be allowed to explore a variety of gourds. They will be encouraged to manipulate the gourds with their hands and describe what they feel, smell, hear, and see. We tie our senses to our body parts using O'odham words.

Body Parts for sensory in O'odham

Wiyosa	face
Vupui	eyes to see
Da:k	nose to smell
Ciñ	mouth to taste

Na:nk	ear to hear
Mamṣ	fingers to touch

Guiding questions for exploration: Remember to document children's answers and take pictures of their exploration for their learning stories.

Look at the gourds. Use your Vupui to examine the vakoa.

What do you see? What shape is it? Describe its shape for me. Does it look like anything you might have seen before? What is similar and what is different about all the gourds?

Touch the gourds. Use your Mams to feel the vakoa.

What does it feel like? Is it rough and textured, or is it smooth and even? What about the weight? Light like a ____ or heavy like ____? What else can you tell me about how it feels? What about the inside? Are the inside and outside the same? How and how is it different?

Smell the gourds: Use your Da:k to smell the vakoa.

Does it have a smell? What does it smell like? What if we open one, does it have a smell? Are the smells the same or different on the inside and out?

Small group activity 2

Listening activity-

A variety of gourds will be placed on trays with small land items like pebbles, twigs, and seeds. These items will be named in O'odham and accompanied by picture cards. The gourds will have a hole so that children can investigate the different sounds they can make with various items.

Listen to the gourds. Use your na:nk to listen to the vakoa. Sacud hegai? What is that? Does it have a sound when it's empty? Can you make it make a sound? What does it sound like with the seeds in them? With pebbles? With twigs? When it makes a sound, what can we use it for?

When the lesson is complete, we will keep the sound gourds in the Science area for children to distinguish between sounds and match them to the corresponding item that is making that sound.

Conclusion- Large group reflection

The children will gather in a large group. We will review the investigations that we did with the gourds that day. The children will state what we learned about the physical properties of the gourds, and it will be added to the learned section of our K-W-L chart. I will also review some of the notes taken and validate the investigations of the children.

Assessment

This activity will be assessed using observation notes but also added to our Learning Story for this Vakoa Unit. When observations are taken, the children will be assessed in the TSG tool according to their ability in the objective that correlates with the standard.

Topic: From Vakoa to Sakud – From gourd plant to gourd rattle

• Objective(s): Children will listen to a community elder about the importance of the gourd and its uses in ceremony, songs, and the arts.

AZ Early Learning Standards:
Social Emotional Development

- S1.C1. e. Demonstrates developmentally appropriate cultural curiosity and responsiveness.
- S2.C2. b. Initiates and sustains positive interactions with adults and other children.
- S2.C3. c. Shows respect for learning materials in the learning environment.
- SCIENCE:

Approaches to Learning

- S1.C2. c. Asks questions to get information.
- LANGUAGE
- S1.C1. b. Engages actively in finger-plays, rhymes, chants and songs, poems, conversations, and stories.

Culturally Responsive Assessment of Indigenous Schooling Tool (CRAIS)

- 4. Traditional and/or cultural knowledge is included.
- 12. Local and Indigenous community is reflected.
- 13. Norms, values, traditions, interests of local/regional Indigenous community are leveraged for learning opportunities.
- 15. Relationships within and among local/regional indigenous communities are understood and/or reflected.
- 16. Encourages students to build and sustain relationships.
- 21. Local Indigenous language(s) is valued.
- 22. Local Indigenous language is integrated.

• Materials: You Tube video made into book. My Rattle Awakens by Chandra Thomas

Procedure:
Objective(s): Children will listen to community elders about the importance of the gourd and its uses in ceremony, songs, and the arts.
o Introduction: Question of the Day: Have you ever heard of a SAKUD? Where? Record the children's answers.

o Large group Activity 1: Children will do a large group story time with the YouTube video "My Rattle Awakens" by Chandra Thomas, made into a book. This story highlights a young O'odham female who doesn't want her cultural songs and craft of the gourd to fall asleep.

o Large Group Activity 2: A guest speaker/ community elder will be invited to the classroom. The guest will talk to the children about his experience with the gourd. He will share the

importance of the gourd and how it is treated. He will also share songs with the children. We will finish with the Kakaicu dance.

o Conclusion: Children will gather in a large group at the end of the day and will go over activities.

- What did our guest share with us today? What was the best part of the visit?

• Assessment: This activity will be assessed using observation notes but also added to our Learning Story for this Vakoa Unit. When observations are taken, the children will be leveled in the TSG assessment tool according to their ability in the objective that correlates to the standard.

Topic: From Vakoa to Vako- From Gourds to water carriers/canteen

• Objective(s): Children will explore and investigate the physical properties of the gourd and determine why their ancestors chose the Vakoa- gourd to be used as Vako- water carriers.

<u>AZ Early Learning Standards</u>
Social Emotion Development:

- S2.C3. c. Shows respect for learning materials in the learning environment.

Scientific Inquiry and Appllication

- S1.C1.a. Exhibits curiosity about objects, living things, and other natural events in the environment.
- S1.C1.b. Identifies attributes of objects, living things, and natural events in the environment.
- S1.C1.d. Begins to describe the similarities, differences, and relationships between objects, living things, and natural events.
- S1.C1.e. Asks and responds to questions about relationships of objects, living things, and events in the natural environment.
- S1.C2. a. Uses a variety of tools and materials to investigate.

Approached to Learning

- S1.C2. c. Asks questions to get information.
- S5.C1. a. Gathers and analyzes information to reach a conclusion.
- S5.C1.b. Recognizes relationships between cause and effect.

Culturally Responsive Assessment of Indigenous Schooling Tool (CRAIS)

- 12. Local and Indigenous community is reflected.
- 21. Local Indigenous language(s) is valued.
- 22. Local Indigenous language is integrated.

• Materials: pictures of gourd water carriers, large water table, variety of gourds with holes to fill and pour, measuring cups, pitchers, ladeles

Procedure: Using inquiry-based discussion while exploring how gourds could be used as water carriers.
o Introduction: Question of the Day: Will a gourd float? Record on a T-graph with the columns labeled yes and no.
o Small Group Activity 1: Using a large water table, the teacher will have a variety of natural items). First, the teacher will ask if the children know what it means to float. And to sink? (Answers will be recorded.) Next, as the teacher takes out each item, the children will decide

whether it will float. Then, they will test it. Among the items, we will have several sizes of gourds. The teacher will ask the children if the gourd floats. What does that tell us about the gourd? Does the weight contribute to its floating? Do all the sizes float? What if we put something inside? Does it get wet?

o Small Group Activity 2: The children will be able to explore volume with the next activity using a variety of measuring materials such as measuring cups, pitchers, and ladles. The children will practice filling and pouring the various gourds using the tools provided. Count with the children in O'odham to incorporate more language.

Counting in O'odham:

Zero	Pi Haicu
One	Hemako
Two	Go:k
Three	Vaik
Four	Gi'ik
Five	Hetasp
Six	Cudp
Seven	Vevkam
Eight	Gigi'ik
Nine	Hemuckam
Ten	Vestma:m

Questions to guide investigation:

- Which tool is easier to fill the gourd? Could you carry this to hold water?
- How many cups/pitchers/ladles does it take to fill up the selected vakoa?
- Would it be helpful to store water in these if we didn't have any water bottles? Why?
- Which tool do you like when filling up the vakoa with sudagi (water)? Why?
- What else could we put inside these containers?

o Conclusion: We will refer back to the KWL chart at the end of the day and group and add what we learned from the investigation.

• Assessment: This activity will be assessed using observation notes but also added to our Learning Story for this Vakoa Unit. When observations are taken, the children will be assessed in the TSG tool according to their ability in the objective that correlates with the standard.

• Topic: Designing and constructing our own gourd product.

• Objective(s): Children will be able to plan, design, and construct their product through journal writing.

AZ Learning Standards:
Social Emotional Development

- S1.C2. d. Expresses feelings of satisfaction in independent activities
- S2.C3. c. Shows respect for learning materials in the learning environment.

Approached to Learning

- S1.C2. c. Asks questions to get information.
- S2.C1.b. Sustains attention when engaged in an appropriate age activity.
- S2.C1.c. Ability to return to activities after distractions and interruptions
- S2.C2. a. Pursues challenges.
- S2.C2.c. Establishes goals, generates plans, and follows through to completion.
- S4.C1. a. Uses imagination to generate innovative ideas.

Culturally Responsive Assessment of Indigenous Schooling Tool (CRAIS)

- 7. Students are encouraged to exercise self-determination and agency.
- 12. Local and Indigenous community is reflected.
- 13. Norms, values, traditions, and interests of the local/regional Indigenous community are leveraged for learning opportunities.
- 21. Local Indigenous language(s) are valued.
- 22. Local Indigenous language is integrated.

• Materials: paper with a gourd shape, writing utensils like pencils, crayons, markers.

• Procedure:

o Introduction: Which of these gourd objects did you like the most? (gourd doll, water carrier, gourd necklace) The children's answers will be recorded and graphed.

o Small Group Activity 1: The children will be given paper with a gourd shape, and they will be asked to choose a product and design what they would want their (gourd doll, gourd necklace, water carrier, or storage piece) to look like.

Questions to guide their design:

- Why did you choose this product? What do you like about it?
- What colors are you choosing and why?
- What do you remember about the gourds when we investigated?
- What materials do you think we would need to gather to make this item?

o Activity 2: The children will be given their Vakoa and will refer to their design. We will gather their materials accordingly. The children will work to make their gourd pieces. The teachers will be there to assist, but not to take over.

o Conclusion: The children will display their pieces, along with our learning story of our Vakoa investigations. We will have our KWL chart to showcase our journey, along with our learning stories that reflect our children's thoughts, ideas, and wonders as we went through this unit. This activity will be our Celebration. • Assessment:

Rubric for final Vakoa project.		
Below:	Meets Widely Held Expectations	Above:
Child shows no interest in activity.	Child attempts to draw out idea and can complete project with guidance and assistance from teacher.	Child plans out their project by drawing in detail how they want their final project to look. Child works independently to

		complete project with little to no help from the teacher.

References

Borg, G. C., & Kumblathan, T. (2025). Bridging Indigenous ways of knowing with western science pedagogy in STEM education. *Analytical Chemistry (Washington)*, 97(19), 10097–10098. https://doi.org/10.1021/acs.analchem.5c02421

The Center for Educational Measurement and Evaluation. The University of North Carolina. (2011). Teaching strategies gold® assessment system. *Teaching Strategies GOLD® Assessment System Technical Summary.* https://teachingstrategies.com/wp-content/uploads/2017/03/GOLD-Tech-Summary-8-18-2011.pdf

Boss, C. (2024). Learning stories and children's rights: Reimagining assessment in early childhood education. International Journal of Human Rights Education, 8(1).

Cajete, G. (2000). Chapter 2. In *Native science natural laws of interdependence* (pp. 66–66). essay, Santa Fe, New Mexico: Clear Light Books.

Southwest Folklife Alliance. (2015). Gourd rattle, connector of Native American tradition. BorderLore. Retrieved from https://borderlore.org/gourd-rattle-connector-of-native-american-tradition/