



MATH

Are We Going to Make It to the Pow Wow?

ESSENTIAL UNDERSTANDINGS

- Sovereignty
- Lifeways

LEARNING OUTCOMES

- Students will plan to visit three pow wows within the state of Oregon.
- Students will develop charts and graphs to explain their choices.

ESSENTIAL QUESTIONS

- How does one plan for adventures with the biggest payoffs?

LOGISTICS

- Where does the activity take place?
Classroom
- How are the students organized?
 - Whole class
 - Teams: 2 – 4
 - Pairs
 - Individually

TIME REQUIRED

2 – 2.5 hours

Overview

This math lesson introduces students to an important element of Native American culture: the pow wow. These are public events in which Native people celebrate and share their culture; honor friends, family members, elders, and military veterans; participate in singing and dancing; and display traditional skills and crafts. There are more than a dozen pow wows held in Oregon each year, from early spring to early fall, in all regions of the state. Most pow wows are also open to non-Native people.

In this lesson, pow wows serve as the basis for a task-rich exercise in which students choose which pow wow to attend and then calculate the related expenses. The lesson allows students to develop their skills in using math for contextual problem solving and to make informed decisions.

Background for teachers

For many Native people, pow wows are a time of gathering and connecting with friends and relatives. These celebrations, which typically take place from spring to early fall, are a way to share knowledge and traditions with others and a time to honor veterans, friends and relatives who have died, recent graduates, toddlers learning to dance,



and more. Many families participate in the “Pow Wow Trail” to support their families and their way of life. Pow wows typically include dancing and regalia contests across a variety of age groups and dance categories, and drummers and singers also compete for recognition and prize money. Most pow wows have vendors who sell food and merchandise, as well as some youthful entrepreneurs who sell items to support future travels and endeavors.

Many pow wows are open to the public and can be enjoyed by all. In addition to dancing, shopping, and eating there might be other activities, such as basketball tournaments, information booths about local colleges, and more. Those who are just learning about pow wow etiquette should not be afraid to ask those around them, as most people are happy to share their knowledge about these traditional celebrations. Pow wows are drug and alcohol free; use of such items is prohibited and frowned upon.

People not familiar with pow wow culture may mistakenly call regalia “costumes.” It is important to know that the clothing and adornments are not costumes and are called regalia for a reason. Some pieces of regalia are handed down between families or created specifically for the type of dancer or to reflect the dancer’s personality or identity. Many tribal nations have unique designs or colors that carry meaningful messages.

This task is meant for student exploration and application of skills in a particular context. Students may have a diverse set of correct answers based on their choices, but those choices must meet the requirement of the assignment and show appropri-

STANDARDS

Oregon mathematical practice standards

HS.MP.1 Make sense of problems and persevere in solving them.

HS.MP.3 Construct viable arguments and critique the reasoning of others.

HS.MP.4 Model with mathematics.

Oregon math standards

S.MD.5 Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.

b. Evaluate and compare strategies on the basis of expected values.

MATERIALS

What materials are needed for students to engage in this activity?

- Pow Wow Descriptions
- Pow Wow Trail Task Sheet
- Pow Wow Trail Task Set
- Pow Wow Trail Planning Sheet
- Mileage Chart for Oregon Cities
- Computer and a way to show videos
- Internet access for students to research additional pow wow information



ate application of math skills. Students should be encouraged to utilize resources that are available to them, including other students, since answers are unique and each student will be asked to justify their choices.

Additional resources are available via Oregon’s Math in Real Life which can be found at:

- <https://www.oregon.gov/ode/educator-resources/standards/mathematics/Documents/Math%20in%20Real%20Life.docx>

Another resource is www.gasbuddy.com which allows users to accurately track route distances and compare costs of gasoline in different areas of Oregon.

Review Oregon’s Vision and Objectives for 2020 High School Math Standards Project found at:

<https://www.oregon.gov/ode/educator-resources/standards/mathematics/Pages/Oregon-Math-Project.aspx>

Review the guidance to understand pow wows and celebrations.

The Native American Youth and Family Center (NAYA) provides some guidance to those unfamiliar with pow wow celebrations and the proper etiquette: <https://nayapdx.org/powwow/powwow-101/>

VOCABULARY

Pow wow – A public social gathering where Indigenous people dance, drum, sing songs, and socialize.

Drum group – A group responsible for providing the music at a pow wow; during competition, they are responsible for providing specific songs for the dancers.

Regalia – The clothing and adornments dancers wear to express their identity.

Grand entry – A chance for all the dancers in regalia to gather and enter the arena or field together.

The Montana Office of Public Instruction developed *Your Guide to Understanding and Enjoying Pow Wows*, which provides an overview of the planning committee; the contests; the drumming, songs, and singers; and the dancers and dances: <https://opi.mt.gov/Portals/182/Page%20Files/Indian%20Education/Indian%20Education%20101/PowWows.pdf>

Note: Prior to delivering the lesson, the teacher will need to calculate mileage from their local city or town to all other locations on the mileage chart. Alternately, they can ask students to find the distance if they have access to a mileage calculator.

Considerations for teachers

Assessment

- Formative assessment:
 - Review the Pow Wow Trail Task Set for completion and accuracy
- Summative assessment:
 - Review the Pow Wow Trail Planning Sheet for completion and accuracy

Practices

Students are expected to justify their choices, and they may have a variety of answers depending on the data they choose for the task. This aligns to the vision and objectives of the Oregon Mathways Initiative and practice standards.

Learning targets

- I can utilize math skills to justify choices in visiting multiple pow wows across Oregon.
- I can understand and appreciate the various elements of a pow wow celebration.

Options/extensions

- Students can create a map with the travel plans, highlighting the pow wows they chose and the final budget.
- Students can create an advertisement to entice other students to travel to a certain pow wow using the information they gathered about costs.
- Students can use resources such as mapping distance calculators and www.gasbuddy.com to accurately track route distances and comparative costs of gasoline in different areas of Oregon.
- Students can research different vehicles and compare costs for the same trip based on the costs of gas.
- Students can research the history of pow wows including how the modern pow wow is different from the original pow wows that were war dances, how they evolved from war dances and how war dance songs celebrate veterans/service men and women.

Reflection/closure

Have students share their choices of which pow wows they chose to attend and the justifications. If time allows, students can debate which trips were most successful and what defined that success.

Appendix

Materials included in the electronic folder that support this lesson are:

- Pow Wow Trails Task Sheet
- Pow Wow Descriptions
- Pow Wow Trails Task Set
- Pow Wow Trails Planning Sheet
- Mileage Chart for Oregon Cities

Activity 1

Introduction to Pow Wows in Oregon

Time: 40 minutes

Prior to the activity, view the following newscasts. The first one features the Southern Oregon University Pow Wow in Ashland, Oregon

<https://kobi5.com/news/video/sou-holds-27th-annual-powwow-celebration-100062/>

<https://kobi5.com/news/rogue-valley-powwow-honors-veterans-78672/>

Say:

Pow wows are social gatherings that are held all across Oregon and the United States in celebration of Native American heritage and culture. They are a chance for people to gather; see friends, family members, and neighbors; wish good intentions for others; and share cultural heritage with each other. Pow wows are held in various locations and often have different meanings and purposes depending on the time and place they are held. We're going to watch two different newscasts that highlight two very different settings and two very different purposes.

In the videos you will see a variety of dancers and notice what they are wearing. These outfits are called regalia, and it's important to understand that they are not costumes. They are specific to the type of dance and are also meant to reflect the personality and identity of the dancer. Many are passed down from generation to generation. You will notice the many different colors, materials, and styles of regalia.

For our lesson today we're going use pow wows as the context for a problem-solving activity. You're going to choose three pow wows you would like to visit and then create detailed travel plans for each one. You have an exact budget that you will have to work with, and you will need to plan for gas, food, and lodging.

As you watch the videos, I want you to think about what specific things you would be interested in seeing while traveling to the pow wows. I want you to pay attention to, the music, the drums, the regalia, the purpose, and even the environment in which the pow wow is held.

Activity 1 *(Continued)*

Show the first video, which features the Southern Oregon University Pow Wow in Ashland, Oregon: <https://kobi5.com/news/video/sou-holds-27th-annual-powwow-celebration-100062/>

After the video, have students turn to a partner to share for 2 to 5 minutes about things they noticed and would like to see in a pow wow trip.

Show the second video, which features the Rogue Valley Veterans Pow Wow in White City, Oregon: <https://kobi5.com/news/rogue-valley-powwow-honors-veterans-78672/>

Repeat the pair-share process.

Give students the Pow Wow Trail Task Sheet that addresses the student task and requirements. Let students know they will have multiple choices, there will be multiple correct answers, and there will be multiple opportunities to apply mathematical skills in context.

Allow students to research topics specific to pow wows and tribes in Oregon by going to tribal websites, college and university sites, or other appropriate websites to see traditional dances, songs, and regalia. Students may compile a list of interesting pow wows, their locations, and an interesting fact that may entice others to visit.

Activity 2

Pow Wow Trail Task Set

Time: 45 – 60 minutes

Students will complete the Pow Wow Trail Task Set in which they identify individual reasons to go to different pow wows and create equations and graphs for their gas, food, and lodging budget.

Say:

You will be given the Pow Wow Trail Task Set, which establishes the guidelines for the task and has some steps and tools that will help you make your choices. You will have a very specific budget to work with, and you'll need to write an equation to figure out how much gas will cost and how far you can travel. You will also have to write a linear equation regarding the cost of lodging, and then you'll extend those skills to create a graph that helps you determine the cost of food and the length of time you can go between meals.

Teachers may choose to allow students to work in teams, but each student should complete the assignment.

Say:

The first two questions are for you to determine what makes an interesting pow wow trail for you. You have to visit at least three, and one must be a tribally hosted one, while another must be hosted by a school. The third choice is up to you. Use the Pow Wow Description Sheet to note which pow wows you find most interesting. Then list your top five and justify your choices. Be sure to give the name and location of the pow wow. [Teachers may also allow previously identified student choices from earlier research.]

Questions 3 through 5 will give you a lot of the information you will need, and you will have to determine which details are going to be most important to either write an equation or create a graph.

Activity 3

Pow Wow Trails Planning Sheet

Time: 35 – 60 minutes

Students will apply the information from the Pow Wow Trails Task Set to determine and justify their choices using a mileage chart.

Say:

So, you have done some preplanning and have an idea about which pow wows you might want to visit, how far you can go on a tank of gas, and how much it will cost to fill it up again. You know how long you can travel before you have to attend the pow wow or get some sleep and how much it could cost for food and lodging. Now you are going to use this mileage chart to determine and finalize which pow wows to go to and how much each one will actually cost. Remember, you have a specific budget and some guidelines you have to follow. [Refer back to the Pow Wow Trails Task Sheet.] You have to leave from here and end up back here, with enough gas left in your tank.