



## MATHEMATICS

# Trading Among Oregon Tribes

## ESSENTIAL UNDERSTANDINGS

- **Sovereignty**
- **History**

## LEARNING OUTCOMES

The student will understand

- Oregon tribes trade things they need with their neighbors as part of their sovereignty,
- What trade among Oregon Tribes looked like in the past,
- the role of math in trade, and
- how to use various math strategies to decide the quality of a trade.

## ESSENTIAL QUESTIONS

- Why would it be important to understand and use math when trading?

## REQUIRED TIME

- 40 minutes

## Overview

In this lesson, students learn about the importance of trade to sovereign Native Nations in Oregon. They focus on the historic experiences of Oregon Tribes and have the opportunity to explore these themes through math activities.

## Background for Teachers

This lesson addresses the Essential Understandings: Sovereignty and History. The history of Oregon's Tribal Nations and their lifeways demonstrates that they have always adapted in response to changes—social, environmental, political, etc. In the last two centuries, Oregon's Native Nations have also been deeply impacted by the systematic process of displacement and disruption by the United States government.

Sovereignty is the natural condition and right of Oregon's Tribes to determine how they live and to be self-governed. Sovereignty includes control over natural resources and laws. How sovereignty is practiced can be impacted by federal recognition but is not defined by it.



In this lesson, students learn that as an aspect of sovereignty, Oregon Tribes have, and do, use trading and agreements to share resources, both among themselves and with others. Students explore how resources are counted, traded, and shared for food and valuables.

The lesson showcases the historic trading practices of Oregon Tribes, particularly those on the coast. Historically, their most prized trade item was dentalium shells. Dentalium came from the North and was valuable in its own right. It was also used as a form of currency. People even had tattoos of different lengths on their upper arm to measure dentalium. It could be used as a unit of exchange or as gifts for marriage. Some Tribes, like the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI) also traded sea otter hides, salmon, red headed woodpecker scalps and shell disc beads for other goods. Woodpecker scalps were used for ceremonial dress. Sea otter fur was highly valued and some wealthy individuals made them into quivers (carriers for arrows) or robes.

The activities in this lesson provide students with some hands-on trading experience to get a sense of how Oregon Tribes exchange goods. This will also reinforce the concept of adding and subtracting resources, which will help students track gains and losses in a trade. Simple data collection and organization

## STANDARDS

### Oregon Mathematics Standards

**1.OA.1:** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

**1.MD.4:** Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

**1.E.ST.6:** Investigate how people can benefit themselves and others by developing specific skills, strengths, and goods.

## KEY WORDS and IDEAS

- **Trade:** To exchange things
- **Tribe:** a group of Native American families who have common ways of doing and thinking about things for a long, long time
- **Sovereignty:** The power to make your own rules and take care of your own people
- **More** - A greater amount
- **Less** - A smaller amount



(who traded what and how many items) will connect with representing and interpreting data in math. These activities help students understand the importance of trade to the sovereignty of Native Nations in Oregon.

## Considerations for Teachers

### Practices

While teaching this lesson, the following principles can help guide your decision-making and engagement with students.

- Focus on teaching the Essential Understandings through the lens of historical trading practices.
- When sharing content with students, address the "why" not just the "what".
- Highlight the strengths and struggles of Oregon's Indigenous peoples today while also acknowledging their history and tradition.
- Ensure your teaching practices are accessible and appropriate for Native and non-Native students.

### Assessment

During this lesson, observe and listen to students during discussions and as they work independently and collaboratively to determine how their learning is progressing. Write down what you notice about what students say and do in relation to the success criteria. Use this formative information to provide feedback to students and plan next steps.

At the end of the lesson, provide students with an opportunity to reflect on their learning through a self-assessment. Students can indicate their level of learning in relation to specific success criteria. They can also write out an explanation of why they feel they are at that learning stage.

### MATERIALS

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

- Slide deck
- Trading record sheets
- Trading cards
- Student Self-Assessment



## Success Criteria

- I can explain what trading and sovereignty mean in my own words.
- I can describe how math helps in trading.
- I can use a math strategy to decide if a trade is good.

**For the following activities, use the slide deck to support your implementation.**

## Lesson Activities

### Opening

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**Time: 10 minutes**

#### Step 1:

Say, "Today we're going to be learning about Oregon Tribes and how a long time ago they used a different kind of money to trade things they needed with one another. We're also going to try out trading ourselves and use math to help us understand if our trades are good for us."

#### Step 2:

Introduce the idea of a Tribe. Say, "To get started we're going to talk about what a Tribe is. A Tribe is a group of families who come from this land and share ways of doing things for a long, long time. Tribes are made up of people called Native Americans. They are the first people of Oregon. They lived here before this place was even called Oregon. There are many Native American Tribes in Oregon today."

#### Step 3:

Introduce the idea of sovereignty. Say, "Many Native American Tribes have sovereignty. This means they have the power as a Nation to make their own rules and take care of their own people. Tribes have governments that help them do that. Other types of governments also have sovereignty, like the United States government."

Ask students to turn and talk to a peer, taking turns explaining what they heard in their own words. (1 minute)

Explain how these ideas relate to trading. Say, "As part of their sovereignty, Tribes make their own rules for how they want to trade. To trade means to give something

you have to someone else and get something you want from them in return". Share that trade looks different between Tribes today compared how it looked 300+ years ago.

**Step 4:**

Ask students to think about what might make trade different today compared to the past. You can prompt students, or they may suggest ideas like

- technology
- types of things people need and want today
- type of money

Ask students to turn and talk to a peer, taking turns explaining what they heard in their own words. (1 minute)

Make a connection to students' lives. Ask: "Have you ever traded something with a friend?"

Ask students questions about how they decided the trade was equal. Guide students to the idea that people place different values on objects based on what they need or want.

Create a fuller picture of what trading among Tribes was like in the past. Say, "For some Oregon Tribes the most valuable thing to trade was called dentalium. This is a shell of a small animal found in the ocean. People traded for dentalium which was very precious. People used it to decorate their special clothing called regalia and also sometimes used it for money. Ask students if they have seen dentalium or other shells before.

**Step 5:**

Create a modern connection. Ask questions such as, "What types of money do we use now in the United States?"

**Step 6:**

Share the essential question with students and ask if they have any ideas about how to answer it. This is intended to spark curiosity and get students thinking about a bigger picture.



- Why would it be important to understand and use math when trading?

## Main Activity

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**Time: 20 minutes**

### Step 1:

Say, "Now you'll have a chance to practice trading and using some of your math skills to help you. We're going to pretend to trade a few things that were often traded by Oregon Tribes a long time ago, such as by the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians who still live along the coast of Oregon. Today they still trade but for the types of things they need today.

Say, "Some of the things Tribes traded for in the past include

- pine nuts, these were nuts that were often made into flour for cakes and other foods;
- obsidian, which is a stone that was used to make sharp tools;
- iris plants, which were used for ceremonies, to make rope, and for food; and
- dentalium which was used as money and for decoration."

### Step 2:

Suggest some math strategies students can use to help in their trades, such as addition, subtraction and representing numbers in different ways.

- **Set-up:** Organize students in small groups. Each small group starts with 20 resources, including a different amount of each resource (e.g., 10 pine nuts, 6 iris flowers, 4 pieces of obsidian).
- **Activity:** Students trade freely with other groups to get more of the objects they want. (Students could color the cutouts of the traded items.)
- **Math Connection:** Student groups record the number of each item they start with. Students record each trade, e.g., 3 obsidian for 2 pine nuts. After trading, students record how many items they gained or lost (basic addition and subtraction) and what their new total is.

Say to students, "On your record sheet, you'll write down information about your trades. The top row shows each type of object you're trading. The row below that has places to write in the number of each object you have to start with. Then after each trade, write down the new number of objects you have in the rows below. After making four trades, see if you can figure out the difference between the number of objects you started with and the number of objects you ended up with. Write this in the bottom row. Also write "more" or "less" to show if you have more or less than you started with." (Note: You may need to model the process along with a think-aloud to help students understand how to conduct the process and how to decide which math operation to use.)

## Closing

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**Time: 10 minutes**

### Step 1:

Students look at their records and compare before and after trading.

- Ask students, "Did you have more or fewer resources after the trading?"
- Ask students, "How do you feel about the quality of your trades?" Students may respond that even if they have a smaller total, they have more of a particular, highly valued item which they feel makes it a quality trade for them.
- Discuss what rules of trade meant for them: "What were some of the rules you used while you were trading, for example, how did you decide what you wanted to trade, and how much each object was worth to you?"
- Ask students, "What does making your own rules for trade have to do with sovereignty?"

### Step 2:

Have students do the self-assessment based on the success criteria. Go over the success criteria as needed. They can pick their level of learning (not yet, sort of, or yes) and share with a peer, or you can print out the self-assessment and ask students to fill it out and turn it in.

## Additional Resources:

- Kindergarten lesson, [The Confederated Tribes of the Grand Ronde Community of Oregon: How Many Bones?](#)
- [Abundance: Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians](#)



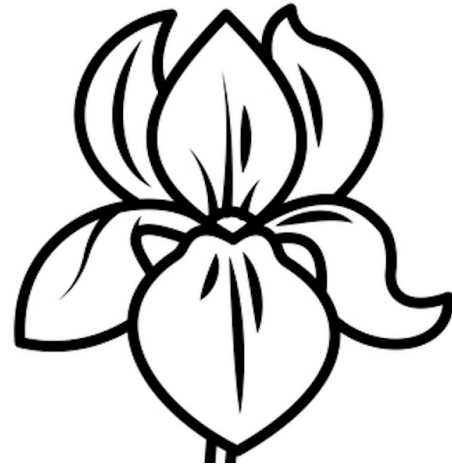


**Trading Cards:** These can be printed and cut out for student use.



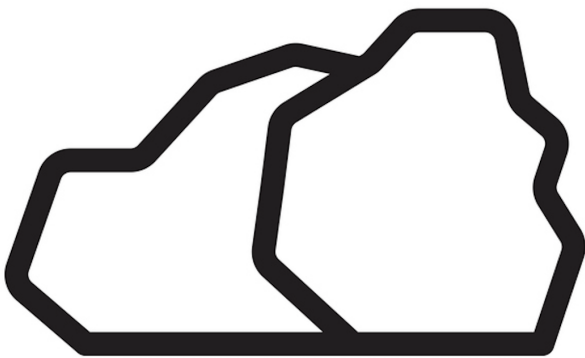
# Pine Nut

Image credit: mayrum



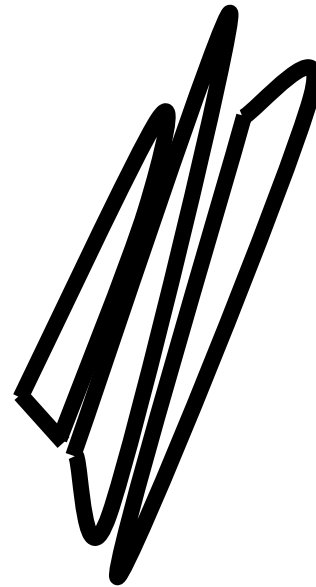
# Iris Plant

Image credit: sudhaben sachapara



# Obsidian

Image credit: Hardikkumar Ghorl



# Dentalium





Image credit: bjoncs



## Handout: Student Record Sheet

**Names:**

**Directions:** Fill in the number of each object you have at the beginning, after each trade, and at the end. Subtract to find out if you ended up with more or less of each object at the end.

	<b>Pine nuts</b> 	<b>Obsidian</b> 	<b>Iris plant</b> 	<b>Dentalium</b> 
<b>Amount at start of trade</b>				
<b>Amount after 1st trade</b>				
<b>Amount after 2nd trade</b>				
<b>Amount after 3rd trade</b>				
<b>Amount at end of trade</b>				
<b>The difference between the beginning and end amounts</b>				



How do you feel about what you ended up with? Explain if you achieved what you wanted in the trades.



## Student Self-Assessment

Name:

**Directions:** Read aloud the lesson success criteria in the first column to students. Have them indicate if they were able to meet the criteria by marking it on the handout, with hand gestures or by sharing aloud. Ask students to explain why they chose “not yet” or “yes” to a peer.

Can I...	Not Yet 	Yes 
explain what trading and sovereignty mean in my own words?		
describe how math helps in trading?		
use a math strategy to decide if a trade is good?		

