

Overview:

In this activity, students play a game rooted in Alutiiq culture to practice math skills, language, and understanding of geographic features related to tsunamis. (NOTE: Allow two days for this activity – one to make the disks and the second to play the game.)

Targeted Alaska Grade Level Expectations and Cultural Standards:

Math

[3] E&C-3 The student accurately solves problems (including real-world situations) by recalling basic addition and subtraction facts, sums to 20, and corresponding subtraction facts efficiently (L).

Cultural

[B2] Students who meet this cultural standard are able to make effective use of the knowledge, skills, and ways of knowing from their own cultural traditions to learn about the larger world in which they live.

Objectives:

The student will:

- make an Alutiiq tossing disk – a kakangaq; and
- apply the principal of the traditional game to practicing math and vocabulary.

Materials:

- Crayola Model Magic ®
- Markers
- Tape
- VISUAL AID: “Tossing Disks – Kakangat”
- STUDENT WORKSHEET: “Disk Toss”

Cultural Basics:

Kakangaq (plural: kakangat) was a traditional Alutiiq game that consisted of tossing disks made of wood or ivory onto a seal skin. Competitors’ scores were determined by the positions of the disks relative to the target in the center of the seal skin and tallied onto wooden sticks. In 1802-1803, Gavriil Davydov, a Russian Naval officer noted that good hunters did not play this game in the evenings to avoid bad luck during the hunt.

Source: Crowell, A., Steffian, A. F., & Pullar, G. L. (2001). *Looking both ways: heritage and identity of the Alutiiq people*. Fairbanks, Alaska: University of Alaska Press, p 38.

Activity Procedure:

1. Display VISUAL AID: “Tossing Disks – Kakangat” and explain the cultural significance of these disks.
2. Explain that students will be making their own disks about the size of a quarter. Distribute equal-sized lumps of Model Magic ® (about a tablespoon) to each student and tell students to form a disk shape with the material then set aside to dry.





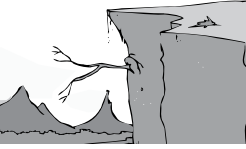

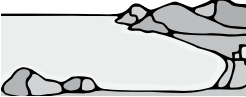


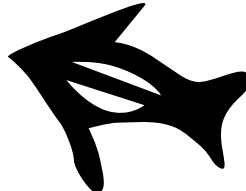
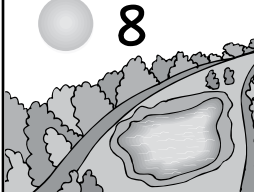
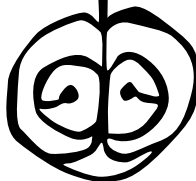

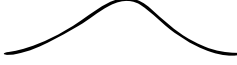

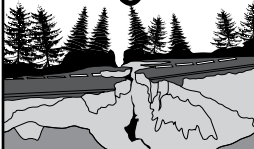


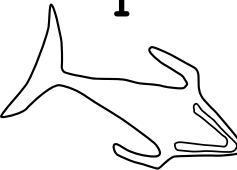


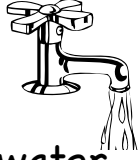


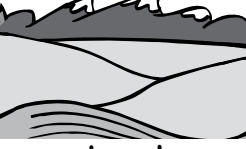


3. After the pieces have dried, students may draw designs on the disks with markers.
4. Distribute STUDENT WORKSHEET: "Disk Toss" to each pair of students. Each pair should secure the worksheet to a table or floor, with tape.
5. Variations of game:
 - Students take turns tossing or flipping his or her disk onto the worksheet. After each try, the student calculates the sum of that try and the previous try. The student with the highest sum after ten tries is the winner. For older students, take turns flipping twice, multiplying those two numbers. After ten tries the student with the highest sum is the winner.
 - Students take turns tossing or flipping his or her disk onto the worksheet. With each try, students record what square the disk landed on. After ten tries, students compare lists crossing off items that occur on both lists. The student left with the most items wins.

Name: _____

Student Worksheet

Disk Toss

<p>5</p> 	<p>9</p> 	<p>3</p> 	<p>2</p> 	<p>5</p> 
<p>sand qaugyaq</p>	<p>volcano puyulek</p>	<p>fish</p>	<p>tsunami tung'iruaq</p>	<p>cliff penaq</p>
<p>9</p> 	<p>1</p> 	<p>7</p> 	<p>4</p> 	<p>6</p> 
<p>qayaq</p>	<p>bay kangiyaaq</p>	<p>cave legta</p>	<p>island qik'rtaq</p>	<p>halibut</p>
<p>8</p> 	<p>2</p> 	<p>4</p> 	<p>10</p> 	<p>6</p> 
<p>lake nanwaq</p>	<p>puffin</p>	<p>ocean wave</p>	<p>hill penguq</p>	<p>volcano</p>
<p>3</p> 	<p>5</p> 	<p>10</p> 	<p>1</p> 	<p>5</p> 
<p>earthquake arulauq</p>	<p>mountain ing'iq</p>	<p>river kuik</p>	<p>whale</p>	<p>trail aprutruaq</p>
<p>8</p> 	<p>9</p> 	<p>5</p> 	<p>7</p> 	<p>6</p> 
<p>wave qangyuk</p>	<p>water taangaq</p>	<p>angyaq</p>	<p>rock yaamaq</p>	<p>land nuna</p>