

Topics: Addition, Probability, American and California History

Materials List

- ✓ Six tongue depressors, craft sticks, or other long, thin, flat objects
- ✓ Markers and/or Colored Pencils

This activity can be used to teach:

CO Math Standard 1: Number Sense, Properties and Operations

- Addition

Grades: k, 1, 2, 3

CO Math Standard 3: Data Analysis, Statistics and Probability

- Probability

Grades: 7, HS

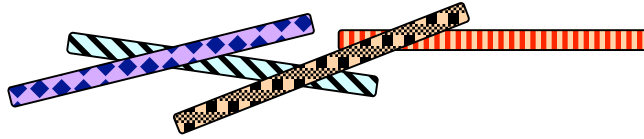
CO Social Studies Standard 1: History

- Traditions, culture, and recreation

Grades: 1

Gaming Sticks

A Native American Game of Addition and Probability



Games are wonderful ways to motivate students; they enjoy themselves and do not always realize that they are getting practice with basic skills, like addition and probability. Playing Native American Stick Dice also connects mathematics to culture and the social sciences.

Assembly (for teachers or students)

1. Decorate one side of all 6 sticks. Traditionally, the sticks in a set of dice were all decorated with the same pattern. Depending on the material, you may need to use permanent marker or pieces of colored paper taped onto the stick or object in order to decorate them.

Playing the Game (any number of players)

Sample game:

- Each person takes turns tossing the sticks. How the sticks land, design-side up or down, determines how many points that player scores for the round. The game ends when one person has scored 15 points. Scoring:
 - All Six Sticks land design-side-up: 3 points
 - No sticks land design-side-up: 2 pts
 - 3 sticks land design-side-up: 1 point
 - All other combinations: 0 points.

(Note: The point values for these combinations are just a suggestion; any point value can be assigned to any throw combination.)

The Content Behind the Activity

North American inhabitants have played dice games for hundreds (if not thousands) of years, being especially popular with West Coast dwellers, such as the Pomo of California. Recreation is as much a part of culture as language, kinship, and food acquisition. There are literally hundreds of different versions of dice games that have been catalogued by anthropologists. Traditionally, game pieces were created from split sticks or walnut shells halves filled with pitch and mother-of-pearl shell pieces.

This activity reinforces basic arithmetic skills. While adding single digit numbers is a very basic skill, many students do not get the opportunity to add numbers in their heads with any frequency. Like any other skill, frequent repetition is required to maintain competency. Probability also comes into play. This activity can serve as a springboard to more detailed probability lessons.

Taking it Further

Challenge students to come up with their own stick dice game, including a write-up of the rules. Encourage more complex variations (i.e. - In any given turn, players can continue to throw their sticks, building on their points for the round, until they decide to stop and claim their points, or until they throw 2 sticks design-side-up and lose all points for that round.)

Web Resources - Visit www.raft.net/more for how-to videos and more ideas!