

Probability and Data Analysis

Fast Facts

Curriculum Area: Mathematics
Grade Level: Grade 1
Suggested Duration: Two 45-minute sessions

Stage 1 Desired Results

Established Goals

Data Analysis Mathematics Content Standard 2 A student, applying reasoning and problem solving, will use data representation and analysis, simulations, probability, statistics, and statistical methods to evaluate information and make informed decisions within a variety of relevant cultural contexts, including those of Montana American Indians.

IEFA Essential Understanding 1 There is great diversity among the 12 tribal Nations of Montana in their languages, cultures, histories and governments. Each Nation has a distinct and unique cultural heritage that contributes to modern Montana.

Understandings

- Blackfeet children played tossing a hoop as a competition for skill and as a social game.
- How to predict, collect data, and gather information.
- How to make a graph from the information that is collected.

Essential Questions

- How many times out of ten do you predict that you will be able to catch the hoop with a stick?
- What skills are you developing through this data collection?
- Do you know of other Native American games?

Students will be able to...

- recognize the uniqueness of games that Blackfeet children played by age and social skills.

Students will know...

- how to play the Blackfeet game “Ring the Stick.”
- how to collect and display data using a line plot.

Stage 2 Assessment Evidence

Performance Tasks

1. Students will play the traditional Native American game of Ring the Stick.
2. Students will collect and tally the results of the games.
3. Students will organize collected data and display data using a line plot.

Other Evidence

1. Teachers will assess students' social skills as they play the game.

Stage 3 Learning Plan

Learning Activities

Introduce the game of Ring the Stick and discuss that it is a game played by Blackfeet children. It is a game that is used in competition.

- Attach a hoop of any size to a stick. However, the older the child the smaller the hoop should be. Rawhide or sinew was originally used for this but string may be used. Starting from having the hoop flat on the ground, swing the hoop upward and as it comes down try to catch it on the stick. If competing against others, decide on a number of times to catch the hoop on the stick and then take turns until there is a winner.

Have the materials available for students to play the game in groups of three to four.

On a piece of paper, have students make a prediction as to how many times they will be able to catch the hoop on the stick.

Have students toss the hoop ten times and record the number of catches by tallying on their paper.

Once all students have finished, make a class line plot by having the numbers 1 through 10 on the x-axis. Each student will put an X on the number of times they caught the hoop.

Display the line plot and review how many were right on their original prediction and record that information.

Materials/Resources Needed

- A piece of rawhide or hard piece of plastic, string, hoop, graph paper and pencils
- Blackfeet Children Games, published by Montana Art Council, Blackfeet Community College. By calling the Community College at (406) 339-5411, you can request a copy of the game rules.