

Analyzing a Traditional Game

Traditional games that resemble games played with dice are found in many First Nations communities across Canada and are played by men and women. The equivalents of dice vary, but are commonly made of stone, bone, fruit seeds, shell, wood, or reed. They can be in a variety of shapes and are marked in many different ways.

The dice are tossed from the hand or from a small basket, wooden bowl, or cup. How the game is played and scored varies from nation to nation, community to community, even family to family.

One version of this traditional game is played with eight flat bone buttons. One side of each button is plain and the other side is marked with a symbol. Dried beans are used as counters for scoring and are placed in a pile in the centre so that all players can reach them.

- One player tosses all 8 dice.
- The player counts how many land with the same side up.
- If all 8 land with the same side up, the player takes 10 beans.
- If 7 land with the same side up, the player takes 4 beans.
- If 6 land with the same side up, the player takes 2 beans.
- If 5, 4, or 3 land with the same side up, no beans are taken.
- Once all the beans have been taken from the centre pile, players take beans from other players until one player has all the beans.

? How can you use counting techniques to validate the scoring system used in this version of the game?

- Does this problem involve permutations or combinations? How do you know?
- Determine the number of ways that each outcome of tossing 8 dice, as described above, can occur.
- Do you think the way the scores are assigned to the outcomes is fair? Explain.



The Blackfoot and Cree nations use flat sticks with various patterns on them as dice.



Bone buttons with various symbols on them can be used as dice.

Task Checklist

- ✓ Did you show your work?
- ✓ Did you explain your thinking clearly?