GRADE 4
UNIT : Math - Patterns & Relations; Social Studies - Heritage
THEME: Human Face of Mathematics - Mathematics in Aboriginal Culture

EQUIPMENT
- atlatl and dart of various lengths (For example 0.5m, 1 m, 1.5 m, 2 m)
- pylon (or other easily seen target that cannot damage or be damaged by the dart)
- measuring tape
- coloured tape
- distance chart
- accuracy chart

PREREQUISITE KNOWLEDGE:

Math - Patterns & Relations

Demonstrate an understanding of patterns and relations by:
- identifying and describing patterns and relations in a chart, table, or diagram
- reproducing patterns and relations in a chart, table, or diagram using manipulatives

LEARNING OUTCOMES:

Math - Patterns & Relations

Demonstrate an understanding of patterns and relations by:
- creating charts, tables, or diagrams to represent patterns and relations
- solving problems involving patterns and relations

Work with their understanding of numbers and data analysis to explore and create a deeper understanding of Saskatchewan within the Social Studies context.

Social Studies - Heritage

Knowledge Objectives
Students will know that :
- First Nations peoples have inhabited this region for many thousands of years.
- First Nations peoples developed language, traditions and technologies appropriate for their lifestyles.
- Explorers, fur traders, and early immigrants came to this province for a variety of reasons and brought with them their own cultures.
- interactions of Aboriginal peoples and immigrants resulted in new identities.

Skills/Abilities Objectives
Students will:
- identify and describe past experiences, traditions, and technologies of Aboriginal peoples of Saskatchewan.
- use a variety of resources to access, organize, and present information.

- identify various changes that took place during this time period.

Attitudes/Values Objectives
Students will value and appreciate the past experiences, cultures and traditions of Saskatchewan's peoples.

Citizen Action Objectives
Students may plan and participate in simulation activities.

Teacher Set Up
1. Using the coloured tape, mark off a circle with a diameter of 2 m and a throw line about 10 m from the perimeter of the circle. Place the pylon in the centre of the circle
2. Give each student a distance and accuracy chart.

Culminating Activity
Student Instructions
Background Information
1. Research about the daily lives of First Nations People in Saskatchewan before contact with early explorers: food, tools/weapons, clothing, homes. Discover where the atlatl has been found in Saskatchewan and to how it works.
2. After your teacher demonstrates how to use the atlatl, try it yourself.

Finding Maximum Distance
3. Either the teacher or one student will throw the dart for the sake of consistency. Throw each dart about 5 times each, not crossing the line.
4. Measure each throw from the line to see how far the dart traveled.
5. Record the maximum distance for each length of atlatl.

Determine Accuracy
6. From the throw line, throw the shortest dart 10 times but this time aim at the pylon. Keep a running tally of how many times it lands within the target circle.
7. Repeat with each length of dart.

Data Analysis
8. Represent data graphically by choose the appropriate graph type
9. Determine which dart length had the best combination of distance and accuracy.
10. Justify answers and the type of graph used.
11. Research what weapons the First Nations People used after contact with the early explorers. Discuss the advantages and disadvantages of each of the weapons.

Closure
As a class, discuss how the atlatl is easily made, very effective and very portable. Generate a list of other similar items in the lives of First Nation's People.