

# Buffalo Runner

## Fast Facts

Curriculum Area: Mathematics  
Grade Level: Grade 2  
Suggested Duration: 1 hour

## Stage 1 Desired Results

### Established Goals

#### Montana Content Standards for Mathematics

**Numbers and Operations in Base Ten 2.NBT.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

**Measurement and Data 2.MD.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

**Measurement and Data 2.MB10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set from a variety of cultural contexts, including those of Montana American Indians, with up to four categories and solve simple put-together, take-apart and compare problems using information presented in a bar graph

#### Indian Education for All Essential Understandings Regarding Montana Indians

**Essential Understanding 1** There is great diversity among the twelve sovereign tribes of Montana in their languages, cultures, histories, and governments. Each tribe has a distinct and unique cultural heritage that contributes to modern Montana.

#### Understandings

- Each tribe is unique in its culture, language, and hunting rituals (Blackfeet Tribe).
- Vocabulary: (Blackfeet language)
  - buffalo jump cliff = pishkun
  - buffalo runner = ahwa waki
  - raven = Omuk-may-sto

#### Essential Questions

- What was the job of the buffalo runner?
- Why was it important for the buffalo runner to be fast?
- What measurement would be best to use to measure how far you can run in ten seconds?



## **Students will be able to...**

- use a stopwatch to measure ten-second intervals.
- observe and mark the starting and stopping point of the runner.
- measure how fast they can run in ten seconds.

## **Students will know...**

- the importance of the buffalo runner's job.
- how to determine who is the best for the buffalo runner position.
- how to measure the distance between two points.
- how to start/stop a stopwatch to measure ten second intervals.

## **Stage 2 Assessment Evidence**

### **Performance Tasks**

1. Observation of students timing, running, and measuring.
2. Measurement of student's ten-second run to the nearest foot.

### **Other Evidence**

1. Compiling of students' information and making a class bar graph.

## **Stage 3 Learning Plan**

### **Learning Activities**

Read aloud *The Buffalo Jump* written by Peter Roop and illustrated by Bill Farnsworth.

Discuss what units of measurement you would use to measure how far someone can run both long and short distances. If you haven't already measured out the string with one-foot intervals marked, you could have the students do that now. This takes a little longer but will give them practice measuring in one-foot increments with a ruler and ownership in making their measuring string.

Demonstrate how to cooperatively measure cooperatively distances by laying the 10-foot strings end to end and repeating the process over until you reach your measurement. Also, demonstrate how to time the runners. If you do not have a stopwatch, you can teach kids how to time by saying: 1--1000, 2—1000, ... up to...10—1000.

Divide the class into groups of three. They will each take turns being the "runner," "timer," and "referee."

- Mark off a starting line and have the "runner" line up behind the line.
- The timer will give a signal to the runner to start and start the time.
- The referee will follow the runner.
- When ten seconds are up the timer says or signals the runner to stop.
- The referee marks off the spot the runner reached in 10 seconds.

- The group then works together with their yarn to measure the distance of the runner to the nearest foot.
- The runner then writes down his/her name and the distance covered in ten seconds on a sticky note.
- Repeat the process until everyone has ran and measured.

Collect the sticky notes and use them to make a bar graph on the board. You could extend this activity by showing the class average and/or mode.

Discuss who would be a good buffalo runner today and why.

### **Teacher Background Knowledge Notes**

To start the drive a buffalo runner would wear a wolf or buffalo skin as a disguise. The buffalo runner would get the attention of the lead cow and try to lure it closer. The curiosity of the new animal would make the lead cow follow it bringing the herd with her. As the lead cow got closer, the buffalo runner would begin to move quickly away. When the buffalo herd moved closer to the cliff, the buffalo runner would discard the calf robe and run or jump to safety. Additional runners circled in the back and sides of the herd to frighten them towards the cliff by shouting, waving arms, and shooting arrows. As the buffalo stampeded towards the cliff, they could not stop the momentum and by the time they realized their demise, it was too late.

### **Materials/Resources Needed**

[Head-Smashed-In Buffalo Jump](#) website

[First Peoples Buffalo Jump](#) website

[First People's Buffalo Jump State Park](#) video

Farnsworth, Bill. *The Buffalo Jump*. Cooper Square Publishing, 1999.

One ten-foot piece of string/yarn per student. Mark off 1-foot intervals with a piece of tape or a marker. Either do this ahead of time or have students do it.

One-stop watch or timer (to the second) per group off three. You could also teach students how to count...1-1000, 2-1000, etc.).

Pack of sticky notes.

Roll of tape or something to mark where the runner starts and stops

One pencil per group

A large area for running and measuring 50-100 yards

### **Montana Content Standards and IEFA Essential Understandings Regarding Montana Indians**

[Montana Content Standards for Mathematics – Grade 2](#)

[Essential Understandings Regarding Montana Indians](#)