

Buffalo Trace Education Box Lesson 7

Bison by the Numbers

Purpose: Teams create a poster with their own computation problems for bison facts.

Subject Areas: Math, Science

Materials Needed: Poster board or other 12" x 14" paper (one for each team), sticky notes 3" x 3" (8 for each team), markers, pencils, resources about bison

Steps:

1. Divide students into teams of 2-4 students, with a poster board, sticky notes, markers and pencils.
2. At the top of the poster board, write the title "Bison By The Numbers." In the middle of the poster, leave space (about a four-inch square) for a bison illustration or photo.
3. Teams choose eight bison categories from the twelve below to be used on their poster.
 - Number in Herd
 - Number of Males in Herd
 - Number of Females in Herd
 - Number of Calves in Herd
 - Amount of Water Drank in a day (week or month)
 - Amount of Grass Eaten in a day (week or month)
 - Bison's Weight
 - Bison's Age
 - Length of Horns
 - Speed Bison Traveled
 - Amount of Time Traveled in a day (week or month)
 - Miles Traveled in a day (week or month)
3. The categories are written under the title and spread around the poster. Be sure to leave spaces under each category for the sticky note.
4. Teams decide on their correct answer to each category. The answer is written under each sticky note, to hide the answer from other teams. The answer should be within the number limits to be a bison fact. (Below are the categories written with the number limits appropriate for bison on the Buffalo Trace.)
 - Number in Herd (10-100)
 - Number of Males in Herd
 - Number of Females in Herd
 - Number of Calves in Herd (twins are very rare)
 - Amount of Water Drank in a day (week or month) (10-12 gal a day)
 - Amount of Grass Eaten in a day (week or month) (24 lbs a day)
 - Bison's Weight (for a male up to 2000 lbs; for a female 800-1100 lbs)
 - Bison's Age (can live 15-20 years)
 - Length of Horns (10-26 inches long)
 - Speed Bison Traveled (usually 5-6 mph and up to 30-45 mph)
 - Amount of Time Traveled in a day (week or month) (up to 9 hr a day)
 - Miles Traveled in a day (week or month) (10-15 miles per day)

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5. Teams create their own computation problems so that other teams can come up with the correct answer. The problems are written on the sticky notes covering up the answer. For example: For the category “Bison’s Weight,” with an answer of “840 pounds,” the computation problem may be “420 pounds x 2.”
6. After the problems are created, add a bison photo or illustration to the middle of the poster.
7. Place the posters around the room. Provide a time for teams to visit other posters. For Assessment, require students to show their computations and answers.

Differentiate:

- Require one type (addition, subtraction, multiplication or division)
- Require multi-step computation and equations
- Require fractions, decimals or geometry (for example: For the category “Number in Herd,” with an answer of “24,” the problem may be “Sides on a hexagon multiplied by sides on a square.”)

Resources:

- “How Many Bison?” is another math activity that simulates a method biologists use to count a herd. The activity is intended for grades 7-10, but can be adapted for fourth grade. The activity is found at nwf.org and is part of the Buffalo Box Activity Guide.
- See an example of using another math idea using an anchor chart in the article “Anchors Aweigh” from Aisha Hoilett (Florida) in the Scholastic Teacher (Holiday 2015).