



Have you ever wondered how much a Bison weighs?



(Activities using prediction, hypothesis and one year of weight data)

Bison roam over the tallgrass prairie at the Konza Prairie Biological Station. Out here on the prairie the bison calves are usually born in the spring (April and May) and are fed their mother's milk until they start eating grass at around 6 months of age.

The bison at Konza Prairie have a large open pasture of approximately 2,500 acres on which they roam freely. These bison feed on the grass and other prairie plants and are not fed extra grass or hay – not even in the winter.

Every year at the end of October the bison at Konza Prairie are rounded up and weighed on a special scale. The weight of the bison can give scientists some information.

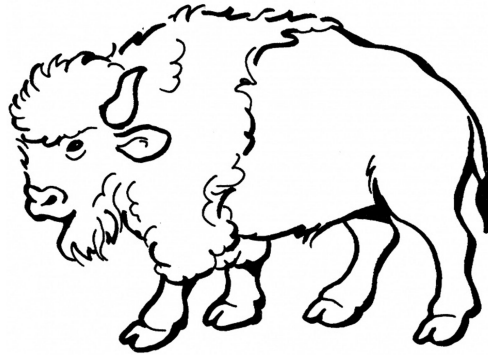
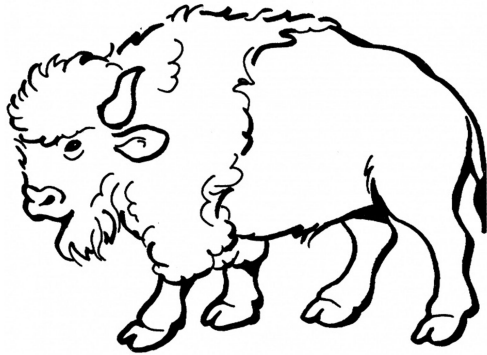
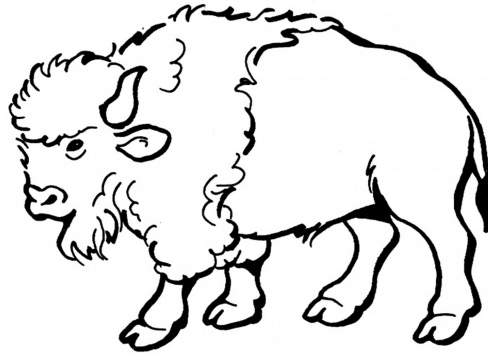
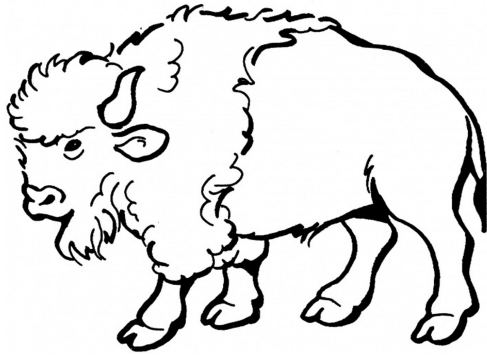
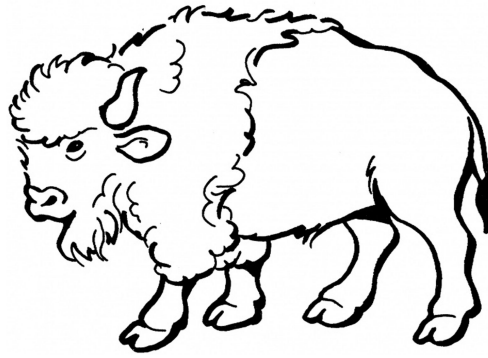
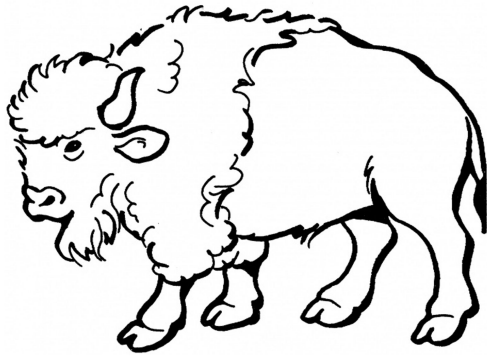
1. During what month of the year do most bison calves start to eat grass for the first time?
2. How much time do new bison calves have to eat grass before they are weighed in October?
3. Who do you think would weigh more, a bison cow (adult female) or a bison bull (adult male)?
4. Do you think all of the bison calves weigh the same in October?
5. Find the weight for the lightest calf. Now find the weight for the heaviest calf. What is the difference between their weights?
6. Why do you think there is so much variation in the calf weights? Think about the kinds of things that could make a calf weigh less weight.

Bison weight data - 2010:

	<u>Weight</u>	<u>Ear tag color and number</u>
Female calves:	162 pounds	Orange – 009
	228 pounds	Orange - 040
	242 pounds	Orange – 049
	248 pounds	Orange - 010
	266 pounds	Orange – 027
	278 pounds	Orange - 062
	296 pounds	Orange - 059
	330 pounds	Orange - 044
Male calves:	180 pounds	Orange - 017
	240 pounds	Orange – 038
	252 pounds	Orange – 014
	274 pounds	Orange - 007
	298 pounds	Orange - 057
	350 pounds	Orange – 045
	360 pounds	Orange - 018
	378 pounds	Orange - 032
Cows: (adult females)	420 pounds	Yellow - 918
	550 pounds	Yellow - 941
	688 pounds	Yellow – 846
	804 pounds	Yellow - 834
	852 pounds	Yellow – 355
	898 pounds	Yellow - 411
	994 pounds	Yellow - 328
	1,062 pounds	Yellow - 324
Bulls: (adult males)	1,266 pounds	Yellow - 721
	1,338 pounds	Yellow – 637
	1,342 pounds	Yellow - 688
	1,408 pounds	Yellow - 642
	1,586 pounds	Yellow - 309
	1,602 pounds	Yellow – 339
	1,612 pounds	Yellow - 331
	1,616 pounds	Yellow - 421

Ear tag colors:

- **Orange** ear tags are found in animals that were born between 2010 – 2019
- **Yellow** ear tags are found in animals that were born between 2000 - 2009
- The 1st number in each ear tag corresponds to the YEAR the bison was born.
E.g. Yellow 421 was born in 2004.



Suggested activities:

The bison outlines may be reused if they are laminated.

Background info: bison babies are called “calves” or a “calf”, bison adult females are called “cows”, and bison adult males are called “bulls”.

Bison weight ranges:

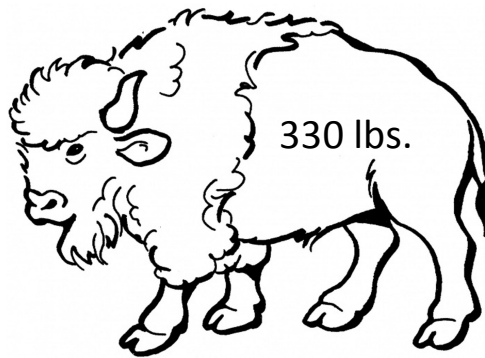
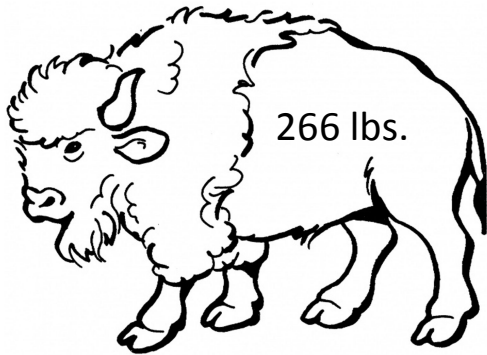
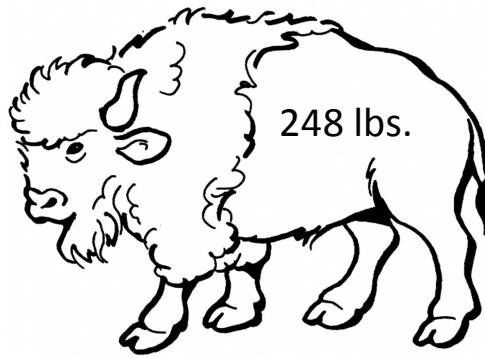
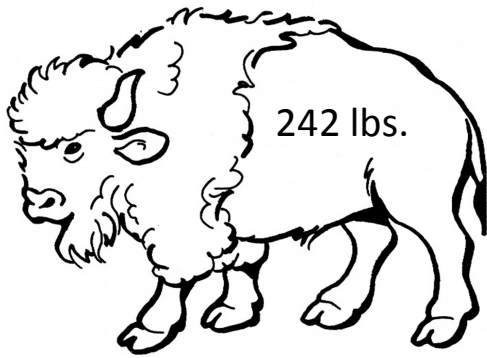
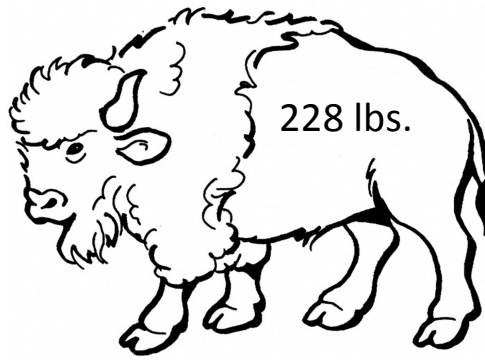
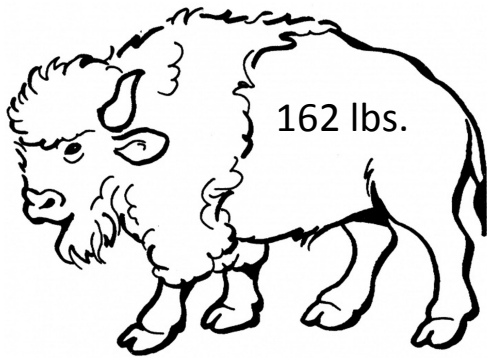
Calf	150 pounds – 380 pounds
Cow	400 pounds – 1,100 pounds
Bull	1,200 pounds – 2,000 pounds

1. Make photocopies of the bison outlines. Write one of the provided bison weights in the center of each (use each weight only once). Pass them out to your students and ask them these questions:
 - Which bison weights do you think are calves?
 - Which bison weights do you think are cows?
 - Which bison weights do you think are bulls?
2. Have your students stand up and put their bison in order in a line on the floor from the lowest weight (on the left side) up to the highest weight (on the right side).

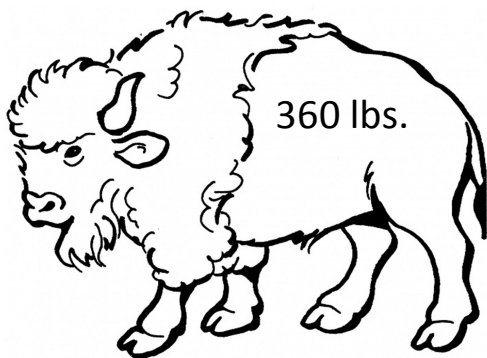
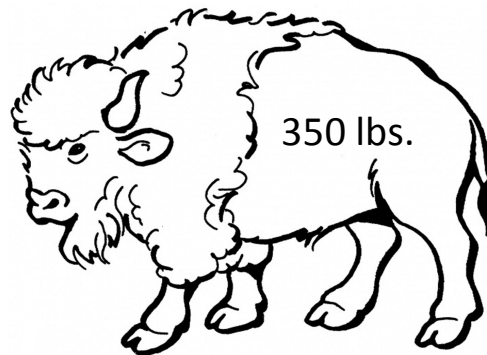
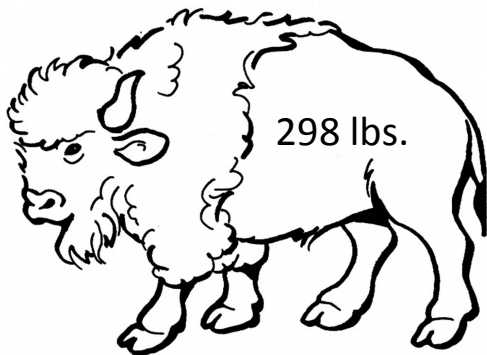
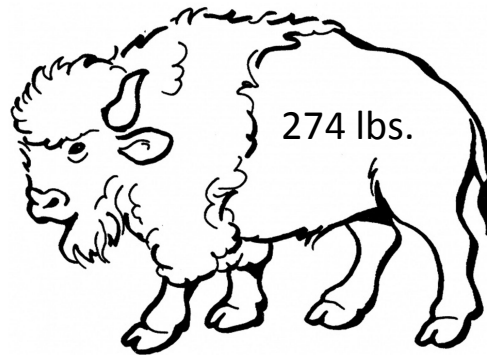
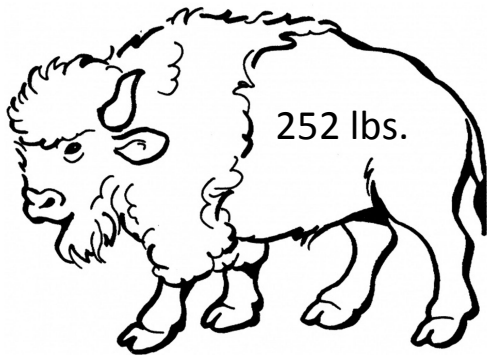
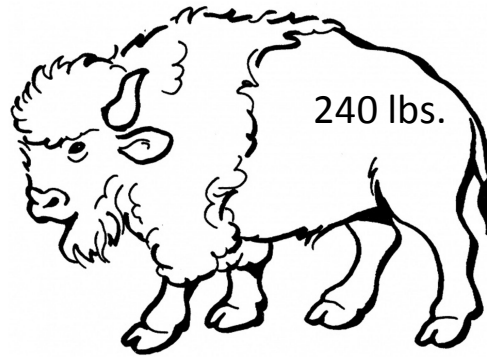
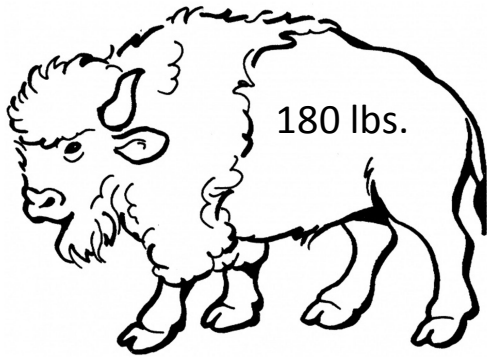
Then ask them:

- Is it surprising how different the weights are in a herd?
 - What is the difference between the smallest bison calf’s weight and the largest bison bull’s weight?
 - Is it surprising how widely different the weights can be in one species?
3. More challenging: Have the students refer to their bison. Give them the table of bison weights and ask them to find their bison and determine:
 - Their bison’s gender
 - What is their bison’s ear tag number
 - Their bison’s age
 4. Construct a pictograph on the white board and have 8 columns divided by age: 6 mo., 1, 2, 3, 4, 5, 6, 7 years of age. Give the students the weight and ear tag data and have them determine their bison’s age. Have them bring their bison up to the board and see what age is the most abundant in the bison herd.

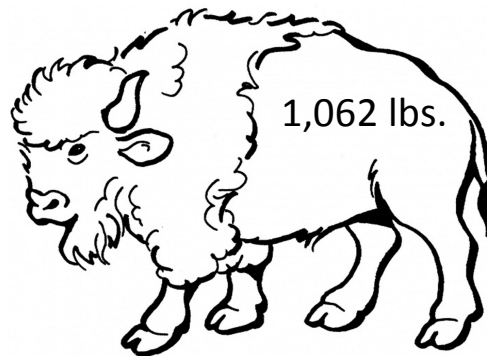
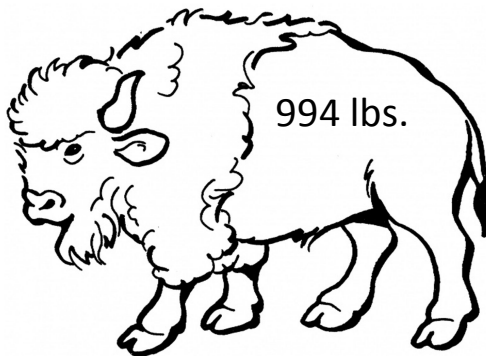
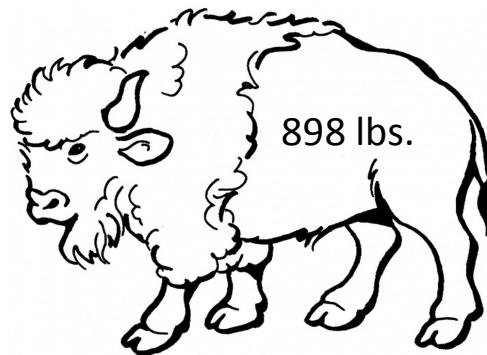
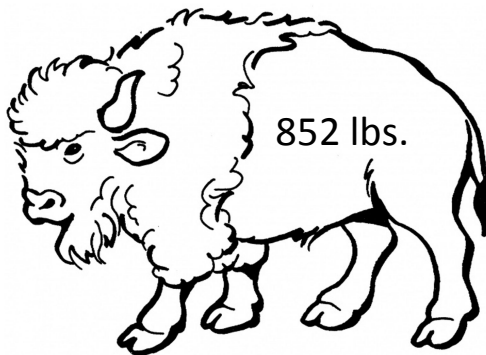
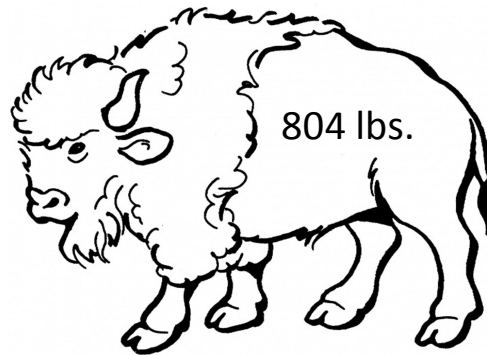
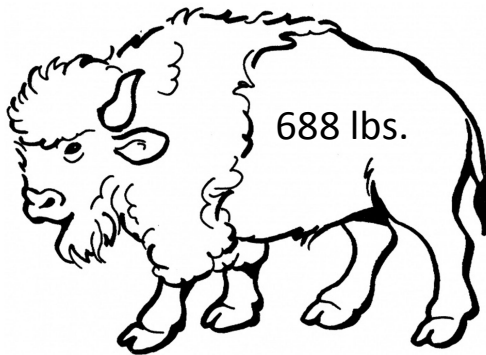
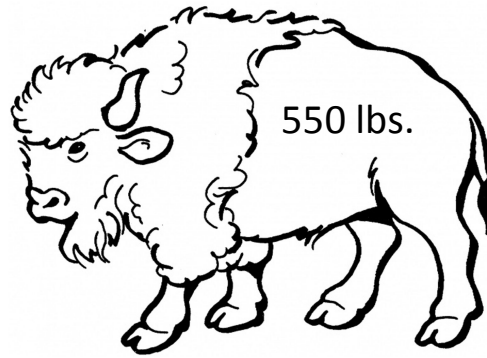
Female calves



Male calves



Cows



Bulls

