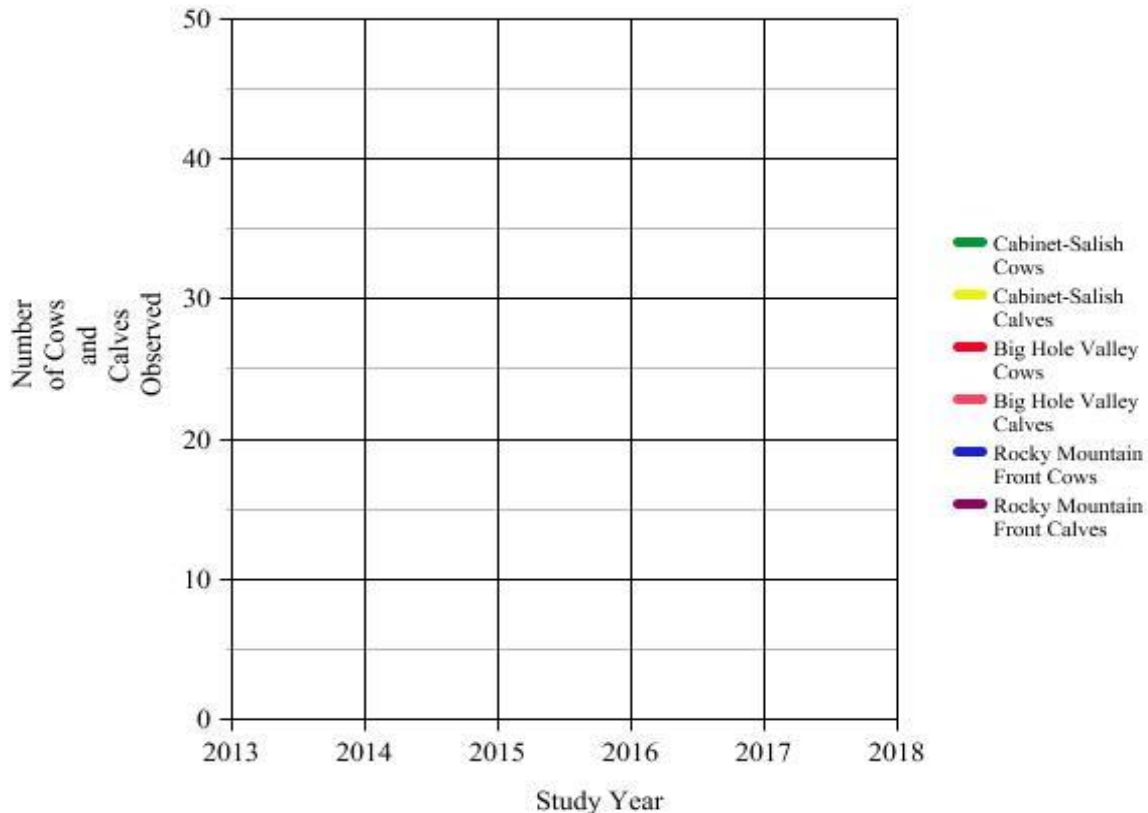THE **OUTSIDE** IS IN US ALL.

Solving Montana's Moose Mysteries

Math activity for September/October 2019 "Solving Montana's Moose Mysteries"

Calculating population trends for wildlife is difficult. Many variables are involved in the complex calculations that scientists make to try to estimate the true populations of moose and other wildlife species. The data listed below is the approximate number of cow and calf moose present at the end of each year from FWP's ongoing moose study. Use the data provided to create a line graph displaying the results of the study from 2013 to 2018. Once you have graphed the data, use the graph to answer the Critical Understanding section.

Study area	Biological year (May - April)											
	2013		**2014**		**2015**		**2016**		**2017**		**2018**	
	cows	calves	cows	calves	cows	calves	cows	calves	cows	calves	cows	calves
Cabinet-Salish	27	3	30	9	26	3	28	9	28	9	22	9
Big Hole Valley	20	3	24	10	26	11	27	8	27	10	28	11
Rocky Mountain Front	30	5	27	9	30	22	25	10	24	18	26	15

Montana Moose Study: Cow and Calf Populations

1. According to the graph, which study area showed the most consistent increase in cows each year from the beginning of the study in 2013 to 2018?
    a. Cabinet-Salish
    b. Big Hole Valley
    c. Rocky Mountain Front
2. According to the graph, which study area has had the greatest number of calves for any given year, from the beginning of the study in 2013 to 2018?
    a. Cabinet-Salish
    b. Big Hole Valley
    c. Rocky Mountain Front
3. According to the graph, which area had the greatest increase in cows between the years 2013 and 2014?
    a. Cabinet-Salish
    b. Big Hole Valley
    c. Rocky Mountain Front
4. According to the graph, which year had the greatest increase in cow populations in the Big Hole Valley?
    a. 2013 to 2014
    b. 2014 to 2015
    c. 2015 to 2016
    d. 2016 to 2017
    e. 2017 to 2018
5. According to the graph, which year had the greatest increase in calf populations in the Rocky Mountain Front?
    a. 2013 to 2014
    b. 2014 to 2015
    c. 2015 to 2016
    d. 2016 to 2017
    e. 2017 to 2018
6. According to the data, which year did cows and calves get observed in the greatest total numbers for all three regions combined?
    a. 2013
    b. 2014
    c. 2015
    d. 2016
    e. 2017
    f. 2018
7. On your graph, draw connecting lines with the same colors for cows and calves in each region to display the trend of data for each. Which area appears to have the lowest calf numbers on average? Based on the article and your data, why might this be?