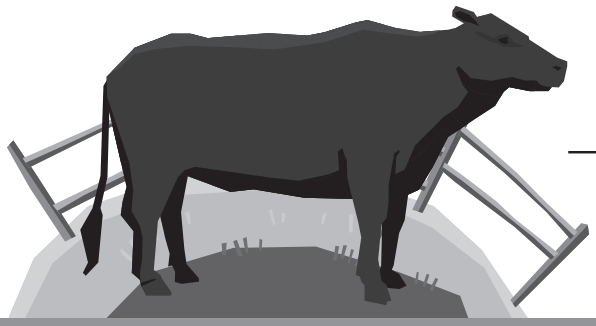
Name _____ Date _____



Criollo vs. Angus Cattle *in a Changing Climate*

GET OUT AND GRAZE (GO AG!)

Scenario 1 – Abundant Resources: Predictions

1. I predict that _____ (Angus / Criollo) cattle will need more supplemental feed because they will not collect enough food resources during the game.

2. I predict that _____ (Angus / Criollo) cattle will consume a greater percentage of the resources available.

Abundant Resources: Data

ANGUS	
COW	**NUMBER OF RESOURCES**
1	
2	
3	
4	
5	
TOTAL	

Total Number of Resources Available: 50

Percent of Total Resources Consumed:

(_____ ÷ 50) x 100 = _____%
Total

Mean Resources Per Cow:
(Total Resources Consumed divided by Number of Cows)

Number of Cows that Needed Supplemental Feed
(10 Resources or Less):

CRIOLLO	
COW	**NUMBER OF RESOURCES**
1	
2	
3	
4	
5	
TOTAL	

Total Number of Resources Available: 100

Percent of Total Resources Consumed:

(_____ ÷ 100) x 100 = _____%
Total

Mean Resources Per Cow:
(Total Resources Consumed divided by Number of Cows)

Number of Cows that Needed Supplemental Feed
(7 Resources or Less):

Scenario 2 – Limited Resources: Predictions

1. I predict that _____ cattle will need more supplemental feed because they will not collect enough food resources during the game.
   (Angus / Criollo)

2. I predict that _____ cattle will consume a greater percentage of the resources available.
   (Angus / Criollo)

Limited Resources: Data

ANGUS	
COW	NUMBER OF RESOURCES
1	
2	
3	
4	
5	
TOTAL	

Total Number of Resources Available: 25

Percent of Total Resources Consumed:

(_____ ÷ 25) x 100 = _____%
(Total)

Mean Resources Per Cow:
(Total Resources Consumed divided by Number of Cows)

Number of Cows that Needed Supplemental Feed
(10 Resources or Less):

CRIOLLO	
COW	NUMBER OF RESOURCES
1	
2	
3	
4	
5	
TOTAL	

Total Number of Resources Available: 50

Percent of Total Resources Consumed:

(_____ ÷ 50) x 100 = _____%
(Total)

Mean Resources Per Cow:
(Total Resources Consumed divided by Number of Cows)

Number of Cows that Needed Supplemental Feed
(7 Resources or Less):

RESULTS AND CONCLUSIONS

1. Use the data tables on pages 1 and 2 to complete the following.

   a. The _____ cattle needed more supplemental feed because they did not collect enough food resources during the game.
      (Angus / Criollo)

   b. The _____ cattle consumed a higher percentage of the resources available.
      (Angus / Criollo)

2. It is predicted in some places that climate change will cause increased temperatures and prolonged drought. This will reduce the availability of plants that cattle eat. Which type of cattle could better forage in these conditions? Why?

3. Increased temperatures and prolonged drought create a problem for cattle ranchers that rely on Angus cattle because they require more water and forage in a smaller area. Many ranchers are considering a transition to Criollo cattle.

   Identify two characteristics of Criollo that could make them a more sustainable alternative for cattle ranchers.

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4. How would a transition to Criollo affect other parts of an ecosystem?