

Plan For The Week Students Template

Plan for the week of: April 13 - April 17

At the end of the week you will know, understand, and/or be able to do the following:

I can use mathematics and statistics to analyze data.
I can use tables and graphs to display and analyze data.
I can communicate findings clearly and persuasively.
I can defend my explanation.

Why does this learning matter?

You will be able to use cross cutting concepts that span all subject areas and engage in science and engineering practices.

The plan for the week :

- Monday: Read the Data Nugget Research Background "Feral Chickens Fly the Coop" and underline the hypothesis.
- Tuesday: Answer the questions on Feral Chickens Fly the Coop Check for Understanding.
- Wednesday: Analyze the scientific data by finding the proportion (in decimal form) and percent

To complete the table, students will need to calculate the proportion and percent of hens with chicks for all seasons. To use winter as an example, divide the number of hens with chicks by the total number of hens observed:

 $(3 + 4 + 1) / (24 + 11 + 14) = 0.163$ proportion
proportion $\times 100 = 16.3\%$ hens with chicks
- Thursday: Select the level that is most appropriate for your current skills and complete the graphing portion. You only need to do one of these graphs. Start with Level C and see if you can complete the graph. If that is beyond your current skills then look at Level B or Level C. The graphs are not labeled as A, B, or C but you can tell the difference by the following.
Level A: Make observations of a completed graph
Level B: Complete a graph that has the x and y axes labeled and intervals already selected
Level C: Complete the graph on a blank graph
- Friday: Answer the Interpret the Data questions. I included Sentence Starters: Claim, Evidence, Reasoning to help shape your response.

DATA *Nugget*

Feral chickens fly the coop

Featured scientist: Eben Gering from Michigan State University

Research Background:

When domesticated animals that humans keep in captivity escape into the wild, we call them **feral**. You may have seen feral animals, such as pigeons, cats, or dogs, right in your own backyard. But did you know that there are dozens of other feral species all over the world, including goats, parrots, donkeys, wallabies, and chameleons?

Sometimes feral species interbreed with closely related wild relatives to produce **hybrid** offspring. Feral dogs, for example, occasionally mate with wolves to produce hybrid pups which resemble both their wolf and dog parents. Over many generations, a population made up of these wolf-dog hybrids can evolve to become more wolf-like or more dog-like. Which direction they take will depend on whether dog or wolf traits help the individual survive and reproduce in the wild. In other words, hybrids should evolve traits that are favored by natural selection.

You might be surprised to learn that, like dogs, chickens also have close relatives living in the wild. These birds, called Red Junglefowl, inhabit the jungles of Asia and also many Pacific islands. Eben is a biologist who studies how the island populations of these birds are evolving over time. He has discovered that Red Junglefowl on Kauai Island, which is part of Hawaii, have recently started interbreeding with feral chickens. This interbreeding has produced a hybrid population of birds that are somewhere in



Red Junglefowl are the same species as chickens (*Gallus gallus*). On Kauai, they mated with feral chickens to produce hybrids.



Feral hen on Kauai with her recently hatched chicks.

Left photo by Tontantours, Right photo by Pamela Willis

between red junglefowl and domestic chickens.

One of the biggest differences between chickens and Red Junglefowl is their breeding behaviors. Red Junglefowl females lay only a handful of eggs each year and only in the spring. Domestic chickens can lay eggs during any season and sometimes up to 300 or more eggs in one year! Eben wanted to know more about the breeding behaviors of Kauai's feral populations. In many cases, natural selection favors individuals who produce more offspring during their lifetimes. Because domesticated chickens can lay eggs year-round, Eben thought that the feral population would be evolving to be more like domesticated chickens. He predicted that feral hens would breed in all seasons.

To test his hypothesis, Eben's research group collected hundreds of photographs and videos of Kauai's hybrid chickens. Tourists delight in photographing Kauai's wild chickens and uploading their media to the internet. Fortunately for Eben, their cameras and cell phones often record the dates that images are taken. Eben looked at media posted on websites like Flickr and YouTube to find documentation of feral chickens throughout the year. This allowed him to see whether chicks are present during each of the four seasons. He knew that any hen observed with chicks had recently mated and hatched eggs because the chicks only stay with their mothers for only a few weeks.

Scientific Question: Is the hybrid chicken population on Kauai evolving to behave more like chickens or more like Red Junglefowl?

What is the hypothesis? Find the hypothesis in the Research Background and underline it. A hypothesis is a proposed explanation for an observation, which can then be tested with experimentation or other types of studies.



A view of the island of Kauai in Hawaii.

Name: _____

Feral Chickens Fly the Coop Check for Understanding

After reading Research Background answer the following questions using complete sentences:

1. Describe what is meant by "feral" and "hybrid" animals.
2. Describe where hybrid chickens On Kauai came from.
3. Describe in your own words the benefits of laying eggs year-round.
4. State the hypothesis and distinguish it from the predictions of what Eben expects to see.
5. Explain how Eben used photos from vacationers to collect data on the populations of hybrid chickens.

Scientific Data:

Use the data below to answer the scientific question:

Month	Time of Year	Total number of hens observed	Hens that were observed with chicks	Hens that were observed without chicks
December	Winter	24	3	21
January	Winter	11	4	7
February	Winter	14	1	13
March	Spring	42	8	34
April	Spring	4	3	1
May	Spring	18	7	11
June	Summer	12	3	9
July	Summer	12	2	10
August	Summer	3	2	1
September	Fall	12	2	10
October	Fall	5	3	2
November	Fall	14	4	10

Proportion hens with chicks		Percent hens with chicks	
Winter		Winter	
Spring		Spring	
Summer		Summer	
Fall		Fall	

What data will you graph to answer the question?

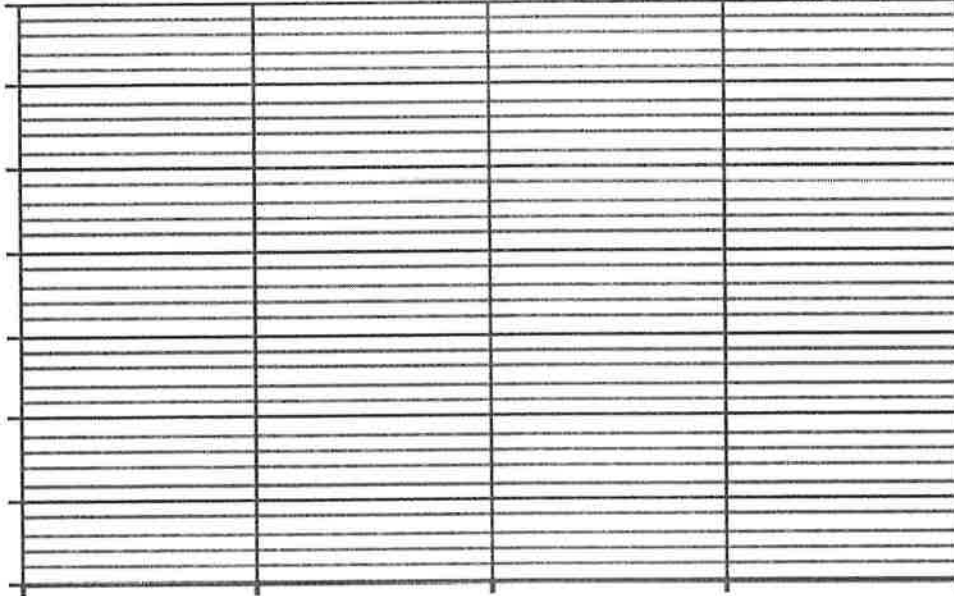
Independent variable: _____

Dependent variable: _____

Level C

Name _____

Draw your graph below: Identify any changes, trends, or differences you see in the graph. Draw arrows pointing out what you see, and write one sentence describing what you see next to each arrow.



Interpret the data:

Make a claim that answers the scientific question.

What evidence was used to write your claim? Reference specific parts of the table or graph.

Name _____

Explain your reasoning and why the evidence supports your claim. Connect the data back to what you learned about how natural selection can operate on feral populations.

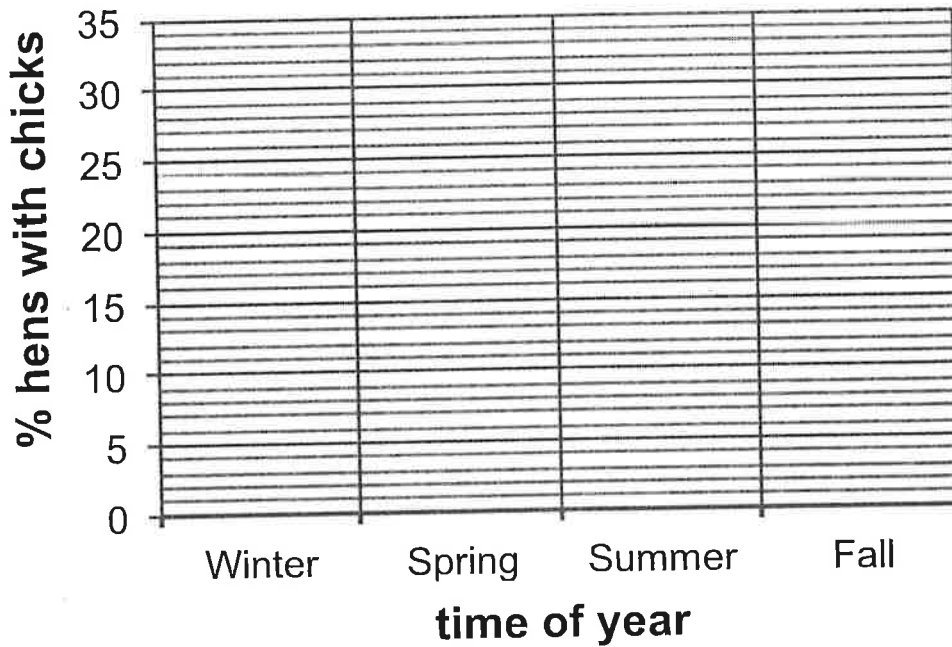
Did the data support Eben's hypothesis? Use evidence to explain why or why not. If you feel the data was inconclusive, explain why.

Your next steps as a scientist: Science is an ongoing process. What new question(s) should be investigated to build on Eben's research? What future data should be collected to answer this question?

Level B

Name _____

Draw your graph below: Identify any changes, trends, or differences you see in the graph. Draw arrows pointing out what you see, and write one sentence describing what you see next to each arrow.



Interpret the data:

Make a claim that answers the scientific question.

What evidence was used to write your claim? Reference specific parts of the table or graph.

Name _____

Explain your reasoning and why the evidence supports your claim. Connect the data back to what you learned about how natural selection can operate on feral populations.

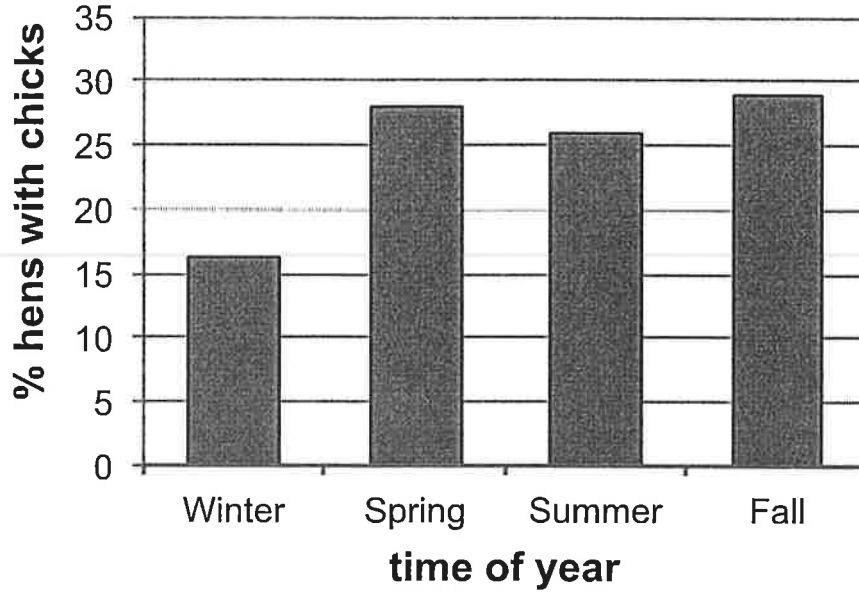
Did the data support Eben's hypothesis? Use evidence to explain why or why not. If you feel the data was inconclusive, explain why.

Your next steps as a scientist: Science is an ongoing process. What new question(s) should be investigated to build on Eben's research? What future data should be collected to answer this question(s)?

Level A

Name _____

Below is a graph of the data: Identify any changes, trends, or differences you see in the graph. Draw arrows pointing out what you see, and write one sentence describing what you see next to each arrow.



Interpret the data:

Make a claim that answers the scientific question.

What evidence was used to write your claim? Reference specific parts of the table or graph.

Name _____

Explain your reasoning and why the evidence supports your claim. Connect the data back to what you learned about how natural selection can operate on feral populations.

Did the data support Eben's hypothesis? Use evidence to explain why or why not. If you feel the data was inconclusive, explain why.

Your next steps as a scientist: Science is an ongoing process. What new question(s) should be investigated to build on Eben's research? What future data should be collected to answer this question(s)?

SENTENCE STARTERS: CLAIM, EVIDENCE, REASONING

CLAIM

- Directly answer the question/ prompt.

Sentence Starters

- I observed _____ when _____.
- I compared _____ and _____.
- I noticed _____, when _____.
- The effect of _____ on _____ is _____.

EVIDENCE

- The scientific data that supports the claim.
 - Data are observations or measurements OR results from an experiment.
 - Specific Examples
 - Use numbers and data table information

Sentence Starters

- In the data ...
- The evidence I use to support _____ is _____.
- I believe _____ (statement) because _____ (justification).
- I know that _____ is _____ because _____.
- Based on _____, I think _____.
- Based upon _____, my hypothesis is _____.

REASONING

- Explains why the evidence supports the claim, providing a logical connection between the evidence and claim.
 - Why is claim valid?
 - include general scientific principle
 - background/ prior knowledge

Sentence Starters

- Based on the evidence, we must conclude... because....
- The most logical conclusion we can draw from this evidence is that.... because....
- These facts work together to build a case that... because...
- All of this proves that..... because...
- The reason I believe _____ is _____.

Plan For The Week Students Template

Plan for the week of: April 13th

At the end of the week you will know, understand, and/or be able to do the following:

Learn & interpret through oral history about specific experiences of their family members centered around an important historical event (i.e. 9/11, WWII, Pearl Harbor, the Kennedy Assassination, Y2K, the End of the Cold War, ect.).

Why does this learning matter?

You'll be learning about the personal experiences and thoughts of the someone in your family, while also learning history.

The plan for the week :

- **Monday:** Decide which family member to interview in person or via video or phone chat. Use the “**Ten Questions**” page to develop the **first** ten questions that you ask the interviewee.
- **Tuesday:** **Interview** the family member in person, or via video or the phone, asking the first ten questions you created on the “Ten Questions” page. Be sure to write down notes on the answers given for each question. You don't have to stop at ten questions... there is space on the page(s) for more information. You don't have to write using complete sentences... these are just notes.
- **Wednesday & Thursday:** Using the questions and answers from the interview, write up a full one page summary of the interview. You can hand write the page, or you can choose to type it out. You do have to use complete sentences for this. You do not have to stop at one page, you can make it two pages if you prefer.
- **Friday:** Using the historical information gained in the interview, draw a picture related to the historical event. You can use stick figures and very basic shapes if you want, or you can be as detailed as Michaeangelo. You will not be graded on your art for the pic, just how it addresses the

content of your interview and write-up. Consider this a cover page for your report on the interview.

If you want to go **above and beyond** you can do some research on the topic you discuss in the interview, either while you are creating your questions, or after the interview, comparing what you find to the answers that were given.

If you struggle with writing the notes on what their answers are, simply write down keywords for what they answered... remember, the answers you write down do not need to be in complete sentences.

Who To Ask For Help and How To Reach Them

Mrs. French, 8th Grade Social Studies Teacher

Email: mfrench@fernridge.k12.or.us

Phone: 541-362-4768

Student name: _____ Date: _____

INTERVIEW – TEN QUESTIONS WORKSHEET

Instructions: Create ten questions you will ask the person you will interview about a specific, crucial event in world history (like 9/11, WWII, Pearl Harbor, the Kennedy Assassination, Y2K, the End of the Cold War, ect.). Answers do not need to be in complete sentences.

- Sample Questions:
- How old were you when the event occurred?
 - Where were you living when the event occurred?
 - How did you find out about the event?
 - What did you think about what was going on?
 - How did the event affect you and your family?
 - Ect.

NOTE: There is space provided at the end of this worksheet for further notes after the tenth question is asked. Use that space to write down any further information you gain after the last question... (a.k.a. the last question doesn't have to be the end of the conversation).

Question #1: _____

Answer: _____

Question #2: _____

Answer: _____

Question #3: _____

Answer: _____

Question #4: _____

Answer: _____

Question #5: _____

Answer: _____

Question #6: _____

Answer: _____

Question #7: _____

Answer: _____

Question #8: _____

Answer: _____

Question #9: _____

Answer: _____

Question #10: _____

Answer: _____

Further Discussion Notes (Anything else you discuss related to this topic, including, but not limited to, further questions and answers)

