WILD WISE: COEXISTING WITH CARNIVORES
Community Interview

Name _____ Teacher _____

School _____ Period _____ Date _____

Directions: *The purpose of this interview is to learn about experiences people have living in an area where there are large carnivores, such as bears and cougars. Choose one adult from your household to interview. Read him or her each question and write their answers in the available spaces.*

Who are you interviewing (for example, "Mom" or "Grandpa"**)**? _____

Questions:

1) Which of the following animals do you think live in the wild in Issaquah or Sammamish? (circle all that apply)


Gray wolf


Badger


Grizzly bear


Coyote


Raccoon


Black bear

2) Since living in the Issaquah/Sammamish area, have you had any personal encounters with wild carnivores? If yes, please describe what happened.

Type of carnivore: _____.

Date and Time: _____.

Sighting location (for example: "in the garden in my yard" or "hiking trail on Tiger Mountain"):
_____.

Sighting location description (for example "forested", "wilderness area" "suburban", or "rural")
_____.

What was the carnivore doing?
_____.

3) How much do you agree with the statements below? (*Circle their response)*

I think it's cool that large carnivores live in my area	I strongly disagree	I disagree	I don't agree or disagree	I agree	I strongly agree
I feel worried about large carnivores living in my area	I strongly disagree	I disagree	I don't agree or disagree	I agree	I strongly agree
I'm grateful that I live in an area that has large carnivores	I strongly disagree	I disagree	I don't agree or disagree	I agree	I strongly agree
I feel intimidated that I live in an area that has large carnivores	I strongly disagree	I disagree	I don't agree or disagree	I agree	I strongly agree

COEXISTING WITH CARNIVORES

STUDENT PACKET

2017-2018

SW1: CARNIVORE COMMUNITY MAPPING ANALYSIS AND DISCUSSION

Summary: This activity will help you to learn about the landscape features that carnivores use to meet their needs in our communities. You will also learn how human-made changes to the landscape impact carnivore behavior.

Vocabulary and Concepts

- Animal distribution: The arrangement of animals across the landscape. Distribution is influenced by many factors including climate, season, food, water, shelter and competition from other animals.
- Carnivore needs: Some carnivores, like wolves and mountain lions, need large patches of unchanged natural habitat to survive. Other carnivores, like coyotes or raccoons, can adapt to urban areas. These adaptations include changing their food sources and using different habitat.
- Ecosystem: A community of living (biotic) organisms and non-living/never have lived (abiotic) components of the environment interacting as a system.
- Habitat: The area in an ecosystem where an organism fulfills its basic needs for food, water, shelter and space.
- Landscape: The visible features of an area of land including natural landscape features and human-made features.
- Natural landscape features: Includes mountains, hills, plains, lakes, oceans, streams, soils, forests, grasslands.
- Human-made landscape features: Includes agricultural areas, buildings, roads or dams.
- Landscape change: Humans change the landscape by altering the size and shape of natural habitats. These changes affect that ways that carnivores behave. An example of a human caused landscape change is replacing natural vegetation (forests or meadows) with other types of vegetation such as lawns or agriculture.
- Wildland-urban interface: Locations across the landscape where natural areas and expanding human settlements meet.

Instructions: Use your carnivore community map to answer these questions. Write your answers to the following questions in the provided spaces.

1. Where are carnivores seen most often in your community?

_____

_____

_____

2. Describe the natural landscape features in the areas where carnivores are seen most often.

_____

_____

_____

3. Why do you think carnivores are attracted to these natural landscape features? How do you think carnivores might be using these natural landscape features to meet their needs?

_____

_____

_____

_____

_____

4. Describe the human-made landscape features of the areas where carnivores are seen most often.

_____

_____

_____

_____

_____

5. Why do you think carnivores are attracted to these human-made landscape features? How do you think carnivores might be using these human-made landscape features to meet their needs?

_____

_____

_____

_____

_____

_____

6. What other factors could be attracting carnivores to these areas of your community?

_____
_____
_____
_____
_____

7. What does the distribution of carnivores on the map make you wonder about the carnivores in your community?

_____
_____
_____
_____
_____
_____

SW2: DEVELOPING INVESTIGATIVE QUESTIONS AND PREDICTIONS

Summary: This activity will help you to develop an investigative question about the ways that carnivores use the landscape in your community.

Vocabulary and Concepts

- Investigative question: A question that you can answer by making systematic observations and collecting and analyzing the data. Your investigative question will compare how the manipulated variable affects the responding variable
- Manipulated (independent) variable: The variable that has naturally occurring different conditions (e.g. a yard with lots of trees vs. a yard with few trees). You make observations of the different conditions of the manipulated variable to see if they effect the responding variable.
- Prediction: A prediction is a guess, based on prior observations, that explains what might happen when the outcome is unknown.
- Responding (dependent) variable: The variable that you will measure or observe. The responding variable may or may not be affected by the manipulated variable.

Instructions: Use your Carnivore Community Mapping Worksheet to help you answer the questions below. Write your answers to the following questions in the provided spaces.

1. Which landscape feature are you most interested in investigating? Why?

_____

_____

_____

_____

_____

2. What do you wonder about how carnivores use this landscape feature? Brainstorm and list **five** "wonder" questions below.
    - Remember, your questions should help you to determine how carnivores are using the natural or human-made resources in your community to meet their needs.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. Select your favorite question from Step 3 and write it in the space provided below.

My question is:

_____

_____

_____

_____

_____

Now, we will turn your "wonder" question into an investigative question. An investigative question has a manipulated variable and a responding variable.

4. The first step is to identify your manipulated variable. Choose only ONE manipulated variable. Remember, the manipulated variable is the variable that has naturally occurring different conditions (e.g. a yard with lots of trees vs. a yard with few trees).

   My manipulated variable is:

   _____.

5. The second step is to identify your responding variable. Remember, your responding variable is the variable we are looking at to observe changes based on the manipulated variable.

   My responding variable is: _____.

6. The last step is to write your investigative question. Use the format below to state your investigative question.

How does the (manipulated variable) affect the (responding variable)?

My investigative question is:

_____

_____

_____

_____

_____

7. Make a prediction: Make a prediction about the answer to your comparative question. Use this format:

As the (manipulated variable)_____, I predict that the (responding variable) will _____. I think this because _____.

My prediction is:

_____

_____

_____

_____

_____

_____

SW3: DEVELOPING YOUR RESEARCH METHODS

Summary: You will select a research method and use it to collect data Your data is the evidence that you will use to answer your investigative question. We collect data by taking measurements related to the responding variable. Measurements can include counts of things, sizes of things, length of time and more.

Vocabulary and Concepts

- Confounding factor: An outside variable that changes the effect of the responding and manipulated variables.
- Research method: The process used to collect information. This process produces new knowledge or deepens understanding of a topic or issue.

Instructions:

1. Review your investigative question.
2. Brainstorm ideas for different research methods that you can use to answer your investigative question.
3. Select one research method. This method will help you collect the most useful data.
4. Write the action steps for your research method. You action steps are the activities that you need to complete in order to make your data collection successful. Examples include writing survey questions, finding locations for camera traps, making maps and more.

Brainstorm Research Methods

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.

My Research Method is: _____ .

My Action Steps:

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6. _____.
7. _____.
8. _____.
9. _____.
10. _____.

Instructions:

5. Determine what scientific tools you will need to conduct your method. List your materials below.

My Materials

-
-
-
-
-
-
-
-

Now, we will determine your confounding factors. Remember, confounding factors are additional variables that may impact your data. These are often variables that we can't control and that are different between your conditions. Confounding factors are different than your manipulated and responding variables.

We will not measure the confounding factors but knowing what they are will help you to collect more useful data. List the confounding factors that could influence your data.

My confounding factors:

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.

Brainstorm ways to minimize your confounding factors from influencing your data. Write your answers in the space provided below.

I can minimize my confounding factors by:

_____
_____
_____
_____
_____
_____
_____
_____

SW4: DATA ANALYSIS

Summary: This activity will help you to transform your raw data into useful information that you will use to answer your research question.

Instructions: Use your Developing Investigation Questions and Predictions worksheet and your Developing Your Research Methods worksheet to answer these questions. Write your answers in the spaces below.

1. Restate your research question.

My investigative question is:

_____

_____

_____

_____

_____

2. Restate your prediction.

My prediction is:

_____

_____

_____

_____

_____

3. Briefly describe how you collected your data.

My methods were:

_____

_____

_____

_____

_____

_____

_____

_____

_____

4. If applicable, use the space below to convert your raw data into descriptive data. You can create a data table to summarize your results.

5. Analyze and explain your data. Describe what your data shows (what is important about it and why it is important)

_____

_____

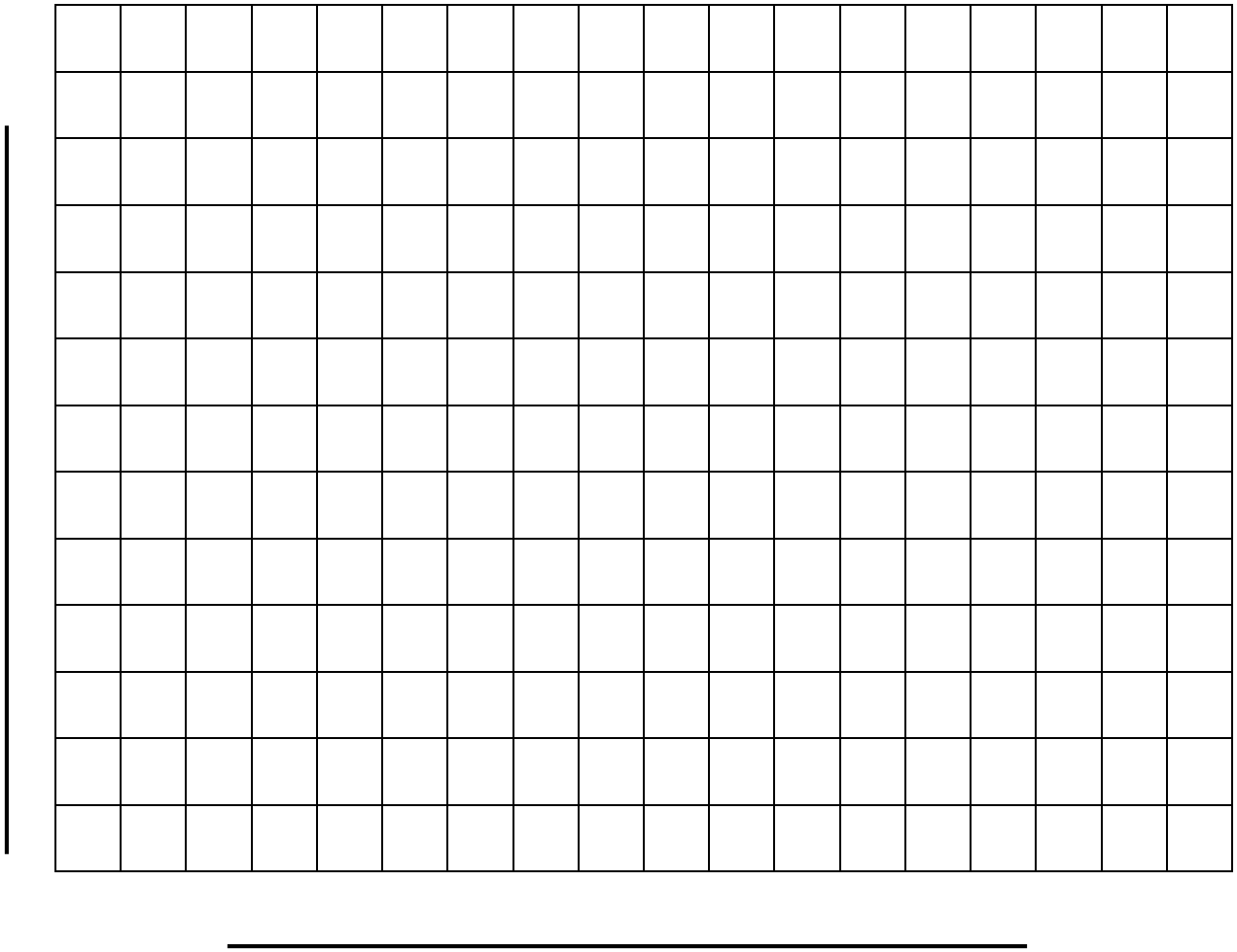
_____

_____

_____

_____

6. If applicable, graph your data.



7. Analyze and explain your graph: Describe how your data addresses your investigative question.

_____
_____
_____
_____
_____
_____

8. Describe how your confounding factors may have influenced the results of your data.

_____
_____
_____
_____
_____

SW5: CONCLUSION WRITING

1. Write your research conclusion using the CER Format.

   C: Claim - Answer the investigative question. Use the language of the question in your conclusive statement.

   E: Explain with evidence - Compare the high and low (average) data values or other quantities. Give units. Clearly point out how the difference illustrates or supports your claim.

   R: Reasoning- Clearly state a possible scientific explanation of your result based in your evidence.

Claim

_____

_____

_____

_____

_____

_____

Evidence

_____

_____

_____

_____

_____

_____

Reasoning

_____

_____

_____

_____

_____

_____

2. **State your recommendation**: Based on **your** research, describe your evidence-based recommendation(s) for actions people can take to coexist with the carnivores in your community. Restate your **C**laim, **E**vidence, and **R**easoning in your recommendation.

   Remember, your recommendations should answer the following question:
   - How can humans meet their needs while allowing carnivores to meet their needs? (How can humans and carnivores successfully share the landscape?)

My recommended action(s) to help people coexist with the carnivores in our community are:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

3. Reflect on your research experience: It is very important for scientists to reflect on their research experience so that they can be more successful in the future. Answer the prompts in the spaces provided.

Describe why you think your research is important for your community:

_____
_____
_____
_____
_____
_____

Describe what you learned about designing and conducting an investigation during this project.

1. Which parts of your investigation were successful?

_____
_____
_____
_____

2. Which parts of your investigation were not successful?

_____
_____
_____
_____

3. Which parts of your investigation would you change if you had the opportunity to do it again?

_____
_____
_____
_____

4. What new questions do you have now that you've completed your investigation?

_____
_____
_____
_____

Describe what you learned about yourself during this project.

1. What did you learn about your ability to solve problems?

   _____
   _____
   _____
   _____

2. What did you learn about your ability to work as a member of a group?

   _____
   _____
   _____
   _____

3. What did you learn about your ability to communicate like a scientist?

   _____
   _____
   _____
   _____