Expert Group Animal Research Notebook: Monarch Butterfly

Name: _____ **Date:** _____

Contents:

Expert Group Animal Research Notebook: Monarch Butterfly

KWEL Chart

Focus questions: What does your expert group animal look like? What is its habitat? What are its predators? How does it use its body and behaviors to help it survive?

K: I think I know …	W: I want to know …	E: Evidence, and L: I Learned …	Source

Expert Group Animal Research Notebook: Monarch Butterfly

Pages 2-6: Close Read Questions: "Fight to Survive!"

Directions and Text	Questions
Read: Imagine that you are walking along a path in the woods. Suddenly you are face-to-face with a bear! Would you like to be able to leap high into the air to escape? What if you could curl up in an impenetrable, armored ball? Perhaps you would prefer to run as fast as a car? Animals have the ability to do some of these amazing things. Over many generations, they have developed both physical and behavioral defense mechanisms that allow them to survive.	1. Underline the sentence that tells you the main idea of the whole article. 2. In your own words, what is the focus (main idea) of this article? _____ _____ _____ _____
Read: **Physical Defense Mechanisms** A Tough Exterior Did you know that knights, from long ago, used armor to protect themselves from enemies during battle? Today, some animals still protect themselves with external structures similar to a knight's armor. The millipede, a worm-like arthropod with many legs, uses its hard exoskeleton to protect itself. When faced with danger, the millipede curls up in a tight coil. This keeps it safe from predators such as birds, toads, and badgers. The three-banded armadillo's name means "little armored one." It also relies on a tough external shell for protection. An armadillo can run amazingly fast when threatened by a predator. However, it is more likely to curl up into a tough ball that predators can't penetrate.	3. What external structure do both the millipede and armadillo use to survive? Underline evidence from the text to support your answer. _____ _____ 4. From this section, choose the one word that you feel is most important to understanding the main idea of the section. Use this word to write a new heading that clearly expresses the main idea. _____ _____

Directions and Text	Questions
Read: **Hide and Seek** The ostrich has a very odd defense mechanism. When faced with danger, the ostrich flops down and stretches its neck flat along the ground. Since the head and neck are lightly colored, they blend into the sandy soil. From a distance, only the ostrich's body can be seen. For that reason, people have sometimes thought that the ostrich was actually hiding its head in the sand. This is a myth. The ostrich's head is always exposed on top of the ground. It is just well camouflaged! Many animal babies also use camouflage. Springbok fawns stay hidden in the brush before they join the herd with their mother. Their tawny coats blend into the background, making it difficult for predators to see them.	5. How do external structures help both the ostrich and the baby springbok survive? Underline evidence from the text to support your answer. 6. From this section, choose the one word that you feel is most important to understanding the main idea of the section. Use this word to write a new heading that clearly expresses the main idea.
Read: **Warning! Stay Away!** In addition to external structures, many animals also have internal structures that help them survive. The yellow-spotted millipede produces a toxic fluid, hydrogen cyanide, when threatened. Hydrogen cyanide is not only poisonous, but it also has a foul smell. As with other animals that taste or smell bad, the yellow spots on the outside of the millipede's body send a clear warning about the poison inside its body. The distinctive colors send a warning: "Eat me and you'll be sorry!" Similarly, the bright yellow, white, and black bands of the monarch caterpillar warn predators not to eat this little creature. When it	7. How do internal structures help the millipede and monarch to survive? Underline evidence from the text to support your answer.

emerges, the monarch caterpillar eats only the milkweed leaf. Milkweed has a toxic chemical in it. Monarch caterpillars eat the poisonous milkweed leaves and incorporate the milkweed toxins into their bodies. This makes the caterpillar's body taste bitter. Even when the caterpillar transforms into a butterfly, the toxins stay inside its body. Animals that ingest a monarch get very sick. Predators, especially birds, will not make that mistake more than once! Both the warning coloration of their bodies and their toxicity help monarchs survive.	8. From this section, choose the one word that you feel is most important to understanding the main idea of the section. Use this word to write a new heading that clearly expresses the main idea. _____ _____ _____
Read: **Behavioral Defense Mechanisms** Peek-a-Boo Animals may also have special behaviors that help them survive. If the three-banded armadillo's coat of armor isn't enough to discourage a hungry predator, it also has another line of defense. Instead of closing completely into a tight ball, this armadillo leaves a small gap between its shells. When a persistent predator inserts a paw or a snout, the armadillo quickly snaps its shells shut. Ouch! The attacker is startled or injured and, with any luck, goes looking for a meal elsewhere.	9. From this section, choose the one word that you feel is most important to understanding the main idea of the section. Use this word to write a new heading that clearly expresses the main idea. _____ _____ _____
Read: **Ready, Set, Go!** If you can't fight, run! Fleeing from predators is a very effective defensive behavior. For example, an adult springbok can run almost as fast as a car on a highway. Springbok are among the top 10 speediest animals in the world! That's important since one of their primary predators, the cheetah, is too. Springboks really need to run fast in order to survive and avoid becoming a cheetah's dinner!	10. What behavioral defense mechanism is being discussed in this section? Underline evidence from the text to support your answer. _____ _____ _____ _____

Directions and Text	Questions
Ostriches also use speed to escape from predators. They are strong runners with long, powerful legs. They can cover great distances without much effort. In fact, ostriches have the longest legs of any bird. They are the fastest birds in the world! Even though ostriches have wings, they can't fly to escape from predators. Instead, they use their wings like rudders on boats to help steer their bodies as they move swiftly across the land.	11. From this section, choose the one word that you feel is most important to understanding the main idea of the section. Use this word to write a new heading that clearly expresses the main idea. 12. Circle any modal auxiliaries you can see in this paragraph.
Read: Safety in Numbers The springbok's tendency to live in large groups or herds is another defensive behavior. Being part of a herd has benefits. In a herd, many eyes, ears, and noses are alert for danger. A cheetah slinking through tall grass could easily be missed by some members of the herd. However, one alert springbok is all that is needed to set the whole herd in motion! There is also safety in numbers. Many animals moving at once can confuse a predator and make it difficult to choose only one springbok to chase. The odds of being eaten are much lower when an animal is in a group of one hundred! Ostriches live in groups for similar reasons. Their long necks and keen vision allow them to see for great distances. One ostrich can warn others when a predator approaches. The ostrich flock also works together to raise their young. The dominant male and female then take primary responsibility for hatching the flock's eggs in a community nest. That is another advantage of living in a group. There is a lot of help for raising babies!	13. How does this defense mechanism help keep animals safe? Underline evidence from the text to support your answer. 14. From this section, choose the one word that you feel is most important to understanding the main idea of the section. Use this word to write a new heading that clearly expresses the main idea. 15. Circle any modal auxiliaries you can see in this paragraph.

Directions and Text	Questions
Read: **Amazing Defenses** Predators are constantly looking for food, and prey such as millipedes, armadillos, ostriches, butterflies, and springboks want to avoid being eaten! Defense mechanisms increase their chances of survival. Some animals have special internal and external physical structures that help them survive, like the armadillo's tough shell or the poison-producing glands of the yellow spotted millipede. Many also use behaviors such as fleeing or living in herds to protect themselves. These body structures and defensive behaviors have evolved over a long period of time to give animals their best chance at survival. Just imagine the defense mechanisms these animals might develop in another thousand years!	16. Underline the two sentences in this paragraph that best sum up the main idea of this article.

Expert Group Animal Research Notebook: Monarch Butterfly

Page 7: Reading for Gist and Unfamiliar Vocabulary

Source: Wildscreen ARKive. "Monarch Butterfly (Danaus plexippus)." *EL Education.* Web. http://eled.org/monarch-butterfly.

Focus task: Read for gist and unfamiliar vocabulary.

Directions:

1. Read your web page once all the way through from start to finish.
2. Reread the first paragraph of your web page and think about the gist.
3. Underline things that you understand or know about.
4. Circle any words that you do not know and record them in your vocabulary log.
5. Talk with your group about all of your good ideas.
6. Record the paragraph number and state the gist of the paragraph (what the paragraph is mostly about) on the gist chart.
7. Use the strategies you learned in Unit 1 to find the meaning of the unfamiliar vocabulary words. Record the meaning, and the strategy you used to find the meaning, in your vocabulary log.
8. Repeat with the next paragraph until you have read the whole web page.

Expert Group Animal Research Notebook: Monarch Butterfly

Page 8: Gist Chart

Paragraph	Gist

Expert Group Animal Research Notebook: Monarch Butterfly

Pages 9-14: Web Page Research Guide

The Monarch Butterfly: A Close Reading for Research http://eled.org/monarch-butterfly **Focus questions:** What does your expert group animal look like? What is its habitat? What are its predators? **How does it use its body and behaviors to help it survive?**	
1. Use the arrows to scroll through the slideshow photographs at the top of the web page. Then use details from the photographs to answer the question on the right.	What details do you see in these photographs that might provide some clues about how the monarch butterfly defends itself?
2. Scroll down and find the section titled "Monarch butterfly description." Then use the questions to help you determine what this section is about.	What familiar word do you know that might help you figure out the meaning of the word *description*? Quickly skim the information in this section. What do you think this section is about?

3. Reread this section out loud. Then follow the directions on the right.	Find this sentence in the section: "While the striking colouration of the upperwings serves as a visual warning to predators that this species is poisonous, the undersurface of the wings is duller orange, and helps to camouflage this species against tree bark and other substrates when at rest." Draw two pictures, in color, to show what this sentence means. Label each picture. What color wings do we see when the monarch butterfly is "at rest"? How does this help protect the butterfly?

4. Scroll down and read the section titled "Monarch butterfly biology." Then use a dictionary to determine what the parts of the word *biology* mean.	What does the Greek root *ology* mean? What does the Greek root *bio* mean? What do you think *biology* means?
5. Reread the last paragraph in this section. Then answer the questions on the right, using details from the text.	**diet**: the food and drink ordinarily consumed by a person, animal, or group Wordsmyth Free Online English Dictionary http://www.wordsmyth.net/ Read the definition of the word *diet* above. According to the article, what is in the monarch butterfly's diet? The web page says, "When attacked, by naïve birds for example, the toxin causes severe vomiting, and ensures that the predator avoids the monarch butterfly in the future." What do you think ensures means? What, in the text, makes you think so? How does the monarch's diet help the butterfly to defend itself?

6. Scroll down and read the section titled "Monarch butterfly habitat" aloud. Then use details from the text to answer the question on the right.	Based on the information in the paragraph, what do you think the word *habitat* means? What, in the text, makes you think so?
7. Silently reread the section again.	How does the monarch's diet affect its choice of habitat?
8. Now scroll back up to the photographs at the top of the web page. Use details from the photographs, as well as what you have read, to answer the question on the right.	Describe the monarch butterfly's habitat. Use information from both the words and pictures.
9. Use any part of the website or search a different website to answer the question on the right.	What are your animal's predators?

10. Read the section titled "Monarch butterfly threats." Then answer the question on the right.	What is the main idea of this section?
11. Optional CHALLENGE question	"Although the monarch butterfly is not considered to be globally threatened, the North American migration is recognised by the IUCN to be an endangered biological phenomenon." With a partner, paraphrase each part of this sentence from the website to figure out what it means. Use a dictionary to understand unfamiliar words. In your own words, what does this sentence mean?

Pulling it all together ...	
12. Using evidence from the text, sketch what the monarch butterfly does when a predator is near. Be sure to show the animal's habitat in the background of your picture. Add a caption under your illustration to help the reader understand what you drew.	

Expert Group Animal Research Notebook: Monarch Butterfly

Page 15: Organizing Research Note-catcher

Focus questions: What does your expert group animal look like? What is its habitat? What are its predators? How does it use its body and behaviors to help it survive?

Expert Group Animal Research Notebook: Monarch Butterfly

Page 16: Organizing Research Note-catcher

Focus questions: What does your expert group animal look like? What is its habitat? What are its predators? How does it use its body and behaviors to help it survive?

Expert Group Animal Research Notebook: Monarch Butterfly

Page 17: Organizing Research Directions

1. Label the columns of your Organizing Research note-catcher.
2. Underline information about your expert group animal in "Fight to Survive!"
3. Record the source.
4. Categorize the information on your note-catcher by recording it in the appropriate column.
5. Open the web page.
6. Record the new source.
7. Read the first paragraph. Discuss with your group how you would categorize this information.
8. Categorize the information on your note-catcher by recording it in the appropriate column.
9. Repeat with the rest of the web page text.

Expert Group Animal Research Notebook: Monarch Butterfly

Page 18: Sketch Page

Criteria for sketching:
It is based on your research, which means …

- It has realistic coloring, shape, size, and habitat.
- It has a descriptive and accurate caption that uses vocabulary from your research.

First Draft: Caption:	Second Draft: Caption:
Third Draft Caption:	Fourth Draft Caption: