

Name:

Date: \_\_\_\_\_

## Critical Skills Assignment

### Critical Reading and Informative Writing (A)

Read the passage. Then answer the questions.

#### *Creepy, Crawly Healers*

(1) Let's face it. The thought of maggots and leeches makes most people shiver. And spiders make some people's skin crawl. But these creatures are sometimes creepy, crawly healers!

#### **Maggots**

(2) Maggots are baby blowflies. They look like little caterpillars and are germ-free. Just as caterpillars turn into butterflies, maggots turn into flies. Maggots eat dead tissue. Tissue is cells that work together to perform a specific function in the body. Maggots are usually gross, but they can help people who have a serious wound that won't heal. How?

(3) Maggots can clean and disinfect serious wounds that refuse to heal. Sometimes wounds are so bad that doctors think about removing the body part that has the wound. Instead, the doctors place maggots on the wound for two or three days. The maggots feed on the infected part of a wound and crawl away when they have finished. It is necessary for the wound to be covered with a special dressing, or bandage, so that the maggots stay in place. When the dead tissue is removed, the maggots activate the growth of healthy new tissue in the body.

(4) Using maggots to help heal wounds is not a new idea; they have been used in this way for thousands of years. During a war in Europe in the early 1800s, doctors found soldiers with wounds crawling with maggots. They discovered that these soldiers survived better than soldiers whose wounds were free of these creatures. During the Civil War, doctors placed maggots in soldiers' wounds to help them heal. Maggots also were used during both world wars. Then new antibiotics, medicines that fight infection, were developed. With the availability of antibiotics, doctors stopped using maggots on a regular basis.

(5) In the late twentieth century, maggots were used only when modern practices failed to heal a wound. Scientists performed a study in 1989 and discovered that maggots were safe and useful. In 2004, a U.S. government agency approved a special brand of maggots. Their use has increased because antibiotics do not heal all infections.

#### **Leeches**

(6) Leeches, which are in the earthworm family, have been used for thousands of years to cure a variety of illnesses. They live mostly in freshwater, such as ponds and

lakes. Leeches are found all over the world. They attach themselves to people by biting them and sucking out their blood. This causes the person's blood to flow. When a body part—say, a foot—is repaired, it is easy enough to fix the arteries that bring the blood in. It is harder to fix the tiny veins that take the blood out. If the blood can't leave, a clot may form and cause the tissue in the foot to die. Leeches solve the problem by eating the old blood. They also release special chemical compounds that keep the blood flowing and deaden the pain.

(7) Most doctors stopped using leeches in the twentieth century. But some doctors liked to use them after certain kinds of surgery. In 1985, one doctor used leeches to help clear a clot in an ear that was reattached to a young girl. After this success, leeches began being used to reduce severe swelling after operations. A company in Britain has created a leech farm. It supplies leeches to doctors all over the world.

### **Spiders**

(8) Some people scream or squirm when they walk into a spider web. But scientists are finding that the fine silk these creatures spin may provide medical benefits. The use of spider webs to help heal wounds and clot blood has been found in folklore from 2,000 years ago. This natural material is said to be stronger than steel. Scientists have found no evidence that spider webs kill germs. But they could be used to help reproduce tissue that has been damaged in common knee injuries.

(9) Since scientists know all the good spider silk can do, spider silk is being developed in a lab. It could be used to stitch up wounds. These stitches will have medication on them. They look like beads on a string. The beads contain glue droplets. Using this material will help wounds heal without leaving any scars.

(10) The use of maggots, leeches, and spiders is creepy business. But most patients welcome them, especially if these little healers save their lives.

Choose answers to multiple choice questions. Type responses to questions that ask you to write a response. Be sure to save your work.

1. What is the meaning of *tissue* as it is used in this passage?

- A. a woven fabric used to cover wounds
- B. medicines that fight infection
- C. cells that achieve a function in the body
- D. a soft paper used for cleaning

**Teacher feedback:**

**Score:**

2. Answer the questions about the passage.

(a) Which statements tell the main ideas of “Creepy, Crawly Healers?”

Choose **all** answers that are correct.

- A. Some creatures have life-saving qualities that are beneficial to people.
- B. Leeches attach themselves to people and suck their blood.
- C. Maggots, leeches, and spiders make people squirm but they’re beneficial.
- D. The fine silk of spider webs is as strong as steel.

**Teacher feedback:**

(b) Which sentences from the text support the answer in Part (a)?

Choose **all** answers that are correct.

- A. Spider silk is being developed in a lab that could be used to stitch up wounds. (Paragraph 9)
- B. Using maggots to help heal wounds is not a new idea. (Paragraph 4)
- C. But most patients welcome them, especially if these little healers save their lives. (Paragraph 10)
- D. But these creatures are sometimes creepy, crawly healers! (Paragraph 1)

**Teacher feedback:**

**Score:**

3. Answer the questions about the passage.

(a) Why were maggots no longer used regularly after World War II?

- A. New medicines were developed.
- B. Many people were grossed out by them.
- C. They failed to heal wounds.
- D. It was difficult to control them.

**Teacher feedback:**

(b) Which sentence **best** supports your answer in Part (a)?

- A. Maggots eat dead tissue. (Paragraph 2)
- B. They discovered that these soldiers survived better than soldiers whose wounds were free of these creatures. (Paragraph 4)
- C. Then new antibiotics, medicines that fight infection, were developed. (Paragraph 4)
- D. When the dead tissue is removed, the maggots activate the growth of healthy new tissue in the body. (Paragraph 3)

**Teacher feedback:**

**Score:**

4. How does spider silk interact with human skin when it is damaged?

Use an example from the passage to support your answer.

**Type your answer here:**

**Teacher feedback:**

**Score:**

5. What evidence does the author provide to support the points she makes about the benefits of leeches?

**Type your answer here:**

**Teacher feedback:**

**Score:**

Read the passage. Then answer the questions.

### ***Doctor Fish***

(1) At some time you may have waded in a creek, stream, or pond and felt something brush against your leg or ankle. It may have made you squirm or jump in fright. More than likely you felt little fish as they swam by. These fish were probably minnows. Some people purposely dunk their feet in a tank of water filled with fish about the same size as minnows. They are Garra rufa fish. These fish are often called “doctor fish.” They remove dead skin from people’s feet. Just like minnows, these tiny fish are members of the carp family.

(2) People go to fish spas or nail salons for fish pedicures. The fish remove dry, flaky skin and calluses from their feet. These tiny fish are toothless, so it doesn’t hurt. It actually tickles because the fish use their puffy lips to remove the pieces of old skin. After the treatment, people’s feet feel soft and smooth.

(3) Garra rufa fish are found in muddy streams and rivers in countries in the Middle East. In Turkey, these fish live in hot springs where the water temperature can reach 99°F.

(4) People who suffer from skin diseases such as eczema and psoriasis have used these fish doctors. Some have found that their skin has improved. Nearly one half of psoriasis patients in a controlled study said many of their symptoms were reduced. These symptoms included itching, pain, skin tension, and scales on the skin. Scientists have discovered that Garra rufa fish have a special chemical in their saliva that helps renew the skin.

(5) But there is some concern that these fish may cause infections. In 2011, 6,000 Garra rufa fish were imported from Indonesia to Britain. They were used in spas. The fish had been infected with bacteria that cause pneumonia, a lung infection. They also could have caused some other serious infections. People’s bones, joints, and blood could have become infected. Another shipment of fish carried other bacteria that can cause soft tissue infections. But only a handful of infections were reported in Britain. A U.S. health agency that works on worldwide health issues investigated fish pedicures in the United States. It found no reports of illness from the fish.

(6) Fourteen U.S. states have banned nail salons from the practice. Tubs used for fish pedicures cannot be cleaned well enough while fish are swimming in them. The fish are expensive and they are often used several times. The fish cannot be cleaned after each customer’s use. So the fish can transmit diseases from one person to another. And by law, fish in a salon must be kept in an aquarium.

(7) Some skin health organizations are concerned that these foot fish can do more harm than good. Skin conditions such as eczema and psoriasis are not contagious. A person does not develop one of these conditions by being in contact with someone who has it. But a person with one of these conditions may have an open sore or a weakened

immune system. He or she could easily pick up an infection from the fish or from other people the fish have nibbled.

(8) Soaking your feet may help you relax after a busy day. But if you decide it's time to see the fish doctor, be prepared to have your toes nibbled.

Choose answers to multiple choice questions. Type responses to questions that ask you to write a response. Be sure to save your work.

6. What does the word *bacteria* mean in Paragraph 5?

- A. organisms that can cause disease
- B. blood that carries an infection
- C. soft tissue that has been infected
- D. fish that carry infectious diseases

**Teacher feedback:**

**Score:**

7. What does the word *contagious* mean in Paragraph 7?

- A. infected with a disease
- B. weakened by an infection
- C. able to pick up an infection
- D. able to spread a disease

**Teacher feedback:**

**Score:**

8. Answer the questions about the passage.

(a) Why are Garra rufa fish beneficial to people with psoriasis?

- A. The fish help prevent lung infections.
- B. They help ease many symptoms of psoriasis.
- C. They keep psoriasis sufferers from being contagious.
- D. The fish in the water help people with psoriasis relax their feet.

**Teacher feedback:**

**(b)** Which sentence **best** supports your answer in Part (a)?

- A.** But a person who has one of these conditions may have an open sore or a weakened immune system. (Paragraph 7)
- B.** A U.S. health agency that works on worldwide health issues investigated fish pedicures in the United States. (Paragraph 5)
- C.** It actually tickles because the fish use their puffy lips to remove the pieces of old skin. (Paragraph 2)
- D.** Scientists have discovered that Garra rufa fish have a special chemical in their saliva that helps renew the skin. (Paragraph 4)

**Teacher feedback:**

**Score:**

**9.** How does the structure used in the explanation of the animals in “Creepy, Crawly Healers” differ from that in “Doctor Fish”?

Support your answer with at least one detail from each passage.

**Type your answer here:**

**Teacher feedback:**

**Score:**

**10.** How does the author support the idea that fish pedicures can be risky to people’s health?

Use details from the text to support your answer.

**Type your answer here:**

**Teacher feedback:**

**Score:**

Read the passage. Then answer the questions.

### ***Itty Bitty Biters***

(1) We've all had mosquito or flea bites, but other tiny biters can cause those itchy red bumps, too. Some are so small we can barely see them.

#### **No-see-ums**



**Figure 1: No-see-um**

(2) No-see-ums are biting flies called midges. These two-winged insects are less than one-eighth of an inch long and are very difficult to see with the naked eye. Because they are so small, they can easily pass through window screens. These little flies look similar to mosquitos. They come out mostly in the early morning and in the evenings in mid-to late summer.

(3) These flies feed on the nectar from flowers. But only the adult female bites because she needs blood for the eggs she will lay. No-see-ums lay their eggs near water, such as streams, ponds, swamps, and even near water from air conditioners. Within three days, the eggs hatch.

(4) As small as they are, no-see-ums can cause painful bites. A bite begins as a small red mark or a water-filled blister that itches. When it is scratched, it opens and bleeds and the itching persists. Some people are allergic to the bites. They develop sores that are painful and itchy and they last for a while. There are some creams that temporarily relieve the itchiness and help reduce any inflammation.

(5) One way to stay clear of these pests is to avoid wearing perfumes or lotions because the no-see-ums are attracted by the scent. Since no-see-ums are weak fliers, fans that are run at high speed can keep them out of some areas.

## Sand Fleas



**Figure 2: Sand Flea**

(6) Sand fleas are even tinier than no-see-ums—at less than one-sixteenth of an inch. These creatures aren't really insects but members of the crab family. Their bodies are the color of sand, and they look like little shrimp.

(7) These sand fleas are much smaller than sand crabs, which are often called sand fleas, too, or mole crabs. Sand crabs are a half inch to an inch long, and the females can grow up to two inches. They are often used as bait by fishermen.

(8) The tiny sand fleas are found on beaches and near marshes or creeks. They hide in the sand during the day and come out at night to look for food. Sand fleas feed on starfish, small fish, swordfish, and whales. First, they eat the slimy outer layer of their host's body. Then they eat the skin. Usually, the object of their appetite is dead, and they will eat the rest of the body.

(9) Sand fleas also bite humans. They jump up on people's feet, ankles and legs. When they bite, they leave a red welt that can be itchy. It's best not to scratch the bite mark because it could swell. Sand fleas also can burrow into the skin and pass on diseases to humans. The skin may become swollen and be rather painful, and the person may need medical attention.

(10) Avoid sandy areas early in the morning and soon after the sun sets. If you hear a loud, high-pitched, whining noise, move on to another area. The sound is from the sand fleas.

## Chiggers



**Figure 3: Chigger**

(11) Chiggers are a type of mite that are in the spider and tick family. They are barely visible to the human eye. The adult chigger measures about one-sixtieth of an inch and has eight legs. Chiggers feed on small insects and insect eggs and are quite harmless to humans. It's the chigger larvae that like to feed on humans. These little critters are yellowish to light red in color and have six legs. They measure one-hundredth of an inch.

(12) Chiggers can be found worldwide. They like damp places such as lakes or rivers and need humidity to survive. Chiggers can also be found in tall grass, in woody areas, parks, and gardens.

(13) These little mites hop from vegetation to humans. They travel on the skin until they find the perfect feeding area. Most chiggers bite the ankles, behind the knees, in the armpits, and in folds of the skin. However, chiggers do not burrow into the skin and remain there. Instead, they poke their way into the skin and inject a special goo that causes severe itching. The site of the bite becomes red and can look like a blister. Itching can last for

several days and be intense for one or two days. Special lotions can treat the itch and reduce any swelling.

(14) For the most part, the best way to keep from being a meal for tiny predators is to wear protective clothing or avoid being out when they are present.

Choose answers to multiple choice questions. Type responses to questions that ask you to write a response. Be sure to save your work.

11. What does *inflammation* mean in Paragraph 4?

- A. itchiness
- B. injury
- C. swelling
- D. burning

**Teacher feedback:**

**Score:**

12. What does *burrow* mean in Paragraph 9?

- A. huddle
- B. bite
- C. cave
- D. dig in

**Teacher feedback:**

**Score:**

13. Answer the questions about the passage.

(a) Which step **best** helps to prevent insect bites?

- A. Don't walk through tall grass.
- B. Make sure all windows have screens.
- C. Wear long pants and long sleeves.
- D. Use sweet-smelling bug spray.

**Teacher feedback:**

(b) Which sentence **best** supports your answer in Part (a)?

- A. There are some creams that temporarily relieve the itchiness and help reduce any inflammation. (Paragraph 4)
- B. They come out mostly in the early morning and in the evenings in mid- to late summer. (Paragraph 2)
- C. For the most part, the best way to keep from being a meal for tiny predators is to wear protective clothing or avoid being out when they are present. (Paragraph 14)
- D. If you hear a loud, high-pitched, whining noise, move on to another area. (Paragraph 10)

**Teacher feedback:**

**Score:**

14. Answer the questions about the passage.

(a) Which statements tell the main ideas of “Itty Bitty Biters”?

Choose **all** answers that are correct.

- A. Some insects are so small they can barely be seen.
- B. Sand fleas jump on people’s ankles and legs.
- C. Chigger larvae, not adult chiggers, like to feed on humans.
- D. Tiny insects can bite people and leave painful bumps.

**Teacher feedback:**

(b) Which sentences from the text best support the answer in Part (a)?

Choose **all** answers that are correct.

- A. These little critters are yellowish to light red in color and have six legs. (Paragraph 11)
- B. As small as they are, no-see-ums can cause painful bites. (Paragraph 4)
- C. These two-winged insects are less than one-eighth of an inch long and are very difficult to see with the naked eye. (Paragraph 2)
- D. Their bodies are the color of sand, and they look like little shrimp. (Paragraph 6)

**Teacher feedback:**

**Score:**

**15.** How do sand fleas interact with other animals they find at the beach?

Use an example from the passage to support your answer.

**Type your answer here:**

**Teacher feedback:**

**Score:**

**16.** How are the animals in “Creepy, Crawly Healers” and “Itty Bitty Biters” alike? How are they different? What does each author’s presentation of information tell readers about the author’s opinion about these creatures?

Use examples from the passages to support your answers.

**Type your answer here:**

**Teacher feedback:**

**Score:**

**17.** You have read two articles about animals some consider disgusting but are actually helping people. You have also read an article about animals that pester people and seem to have no redeeming qualities. Write a report of at least three paragraphs comparing and contrasting a helpful animal to a bothersome one. Tell why you chose the animals you did and what interests you about them. Include any information you learned about the animals from the passages and information you may have already known before. Include a general observation about the way you think people view animals. In your report you should:

- (a)** Introduce the topic clearly.
- (b)** Include information from the passages about a helpful animal.
- (c)** Include information from the passages about an animal that isn’t helpful.
- (d)** Explain how these animals compare and contrast.
- (e)** Include facts, details, and examples related to the topic.
- (f)** Include headings to help readers understand.
- (g)** Use transitions and connecting words to connect your ideas and your paragraphs thoughts.
- (h)** Use clear language, include concrete nouns, vivid verbs, and strong description to tell about and explain the topic.
- (i)** Include a conclusion that summarizes the information in the report.

**Type your answer here:**

## Purpose and Content

**Score:** (of 5)

**Teacher feedback:**

## Structure and Organization

**Score:** (of 5)

**Teacher feedback:**

## Language and Word Choice

**Score:** (of 5)

**Teacher feedback:**

## Grammar and Mechanics

**Score:** (of 5)

**Teacher feedback:**

Final Score for Assignment: ( of 50)