

Name _____ Per _____ Score _____

Science Article of the Week

Directions:

B and C

Step 1: Read the article.

Step 2: Read the article again. This time, use one *color* to highlight **one fact** in each section. Use a different color to highlight **four inferences** in each section of the article.

Step 3: Answer the following questions about the article:

1. Explain whether or not this author thinks that worms should be used to treat sick people?
2. Which section of the article has information that explains why people get allergies?
3. What does the term “skyrocketed” mean in paragraph The Real Dirt?
4. What do you think? Using **TWO examples as evidence** from the article tell me why we should or should not use worms for illness and allergies.

Words to Know:

- Fact: 100% true. Known to be true. Backed by evidence.
- Inference: What someone believes or thinks based on what they observe or already know. May or not be true.

ARTICLE:

This sounds gross, but some scientists think worms may help treat allergies

By Philadelphia Inquirer, adapted by Newsela staff

09.08.15

Word Count **760**

Young children are known for putting things in their mouths. Dirt may be what parents are most worried about, because they do not want their children to eat worms.

There are reasons not to eat soil, but getting intestinal worms may not be one of them.

The Real Dirt

Researchers have long investigated the link between being too clean and losing immunity to disease. There's some evidence that a little dirt creates an immune response in the body that helps fight off disease and allergies.

Now, some scientists are looking into the possible health benefits of eating worms. These kind of worms are called helminths, and live and grow in a person's intestines.

In the Western world, it has been many years since worms were a part of the human biome. This is the term for all organisms - or tiny life forms - that live in people.

But as worms have disappeared, rates of diseases and allergies have skyrocketed. It is not clear that they prevented disease, but the subject is getting more attention.

Some People Will Try Anything

William Parker is a professor at the Duke University Medical Center in Durham, South Carolina. He said the worm-allergy connection was first scientifically investigated about 40 years ago. British scientist John Turton had a hunch that hookworm might stop his allergies. He gave himself hookworms and his coughing and sneezing went away.

Years ago, antibodies in the blood attacked the intestinal worms. These antibodies are cells that identify and attack germs and other foreign substances. In the 1960s, the Western world killed off the helminth worm population. Since then, those antibodies have sought a new target. For many people, the antibodies are attacking pollen from flowers, causing allergies like hay fever, and even their own bodies, Parker said.

"It's pretty much already accepted that when you put helminths back into the ecosystem of the human body," you can stop disease, he said.

Not Government-Approved

Helminthic therapy is done with worms at the larval stage after they first enter the body. Human antibodies kill off the worms before they can grow into adult worms or multiply.

Neilanjan Nandi teaches at the Drexel University College of Medicine. Often patients will ask him if helminths can work for them.

The use of helminths in humans is not approved by the United States government. Still, there are about 7,000 people in the world using helminths to treat a variety of diseases.

Several studies have shown that helminthic therapy may work with some of them.

Parker, who recently published a study on self-treatment with helminths, said those using worms fall into two groups.

Who Wants Worms?

"About half are very well educated," he said. "A lot of them are scientists, or are in the medical field. And the other half either knows one of those people or weren't that educated but got very, very sick" and educated themselves.

Parker said a helminth supplier told him about 1 out of 4 of the company's clients were medical professionals who used the worms themselves.

Some doctors already are suggesting helminths for their patients.

Helminths are given through a drink or are placed on a bandage applied to the skin, which absorbs them.

A Last Resort

Rosemary Kind is a writer from England. Helminths were a last resort for her severe food allergies.

After other treatments failed, she read an article on helminthic therapy.

"That's gross. I really don't want to do that," was her first reaction. Still, she tried it, and some of her allergies went away.

"People are absolutely grossed out by the idea of worms. I think it's the wrong word to use," said Donna Beales. She is a medical librarian in Boston who used helminths to treat a condition that left her feeling like she was suffocating.

Worms "Worked Beautifully"

Beales said the worms "worked beautifully."

It will be some time before reports of helminthic success are backed by enough scientific data to win government approval. Part of the problem is that no one knows how many doses of worms are needed, and how long treatment can take before showing results, Parker and Nandi said.

People considering self-treatment with helminths are advised to speak with their doctors. Some will not be in favor of, but others may think it is worth a try.

Nancy O'Hara, a doctor in Connecticut, said worms can help. "Helminths are much safer than any medication I've ever put any child on, or any adult," she said. "I really do think that this is something more and more physicians need to consider."