



How does the title help you to understand the first paragraph?

A. The word *microbe* is the clue to the “new world” that is spoken about in this paragraph. Were it not for the title, the reader might be at a loss to understand the intent of the text. With it, however, the reader is immediately plunged into Leeuwenhock’s world.

Leeuwenhoek: First of the Microbe Hunters

excerpt from *The Microbe Hunters*

Paul De Kruif

FOCUS: CHARACTERIZATION

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I

Two hundred and fifty years ago an *obscure* man named Leeuwenhoek looked for the first time into a mysterious new world peopled with a thousand different kinds of tiny beings, some *ferocious* and deadly, others friendly and useful, many of them more important to mankind than any continent or *archipelago*.

Leeuwenhoek, *unsung** and scarce remembered, is now almost as unknown as his strange little animals and plants were at the time he discovered them. This is the story of Leeuwenhoek, the first of the microbe hunters Take yourself back to Leeuwenhoek’s day, two hundred and fifty years ago, and imagine yourself just through high

school, getting ready to choose a career, wanting to know —

You have lately recovered from an attack of mumps, you ask your father what is the cause of mumps, and he tells you a mumpish evil spirit has got into you. His theory may not impress you much, but you decide to make believe you believe him and not to wonder any more about what is mumps — because if you publicly don’t believe him you are in for a beating and may even be turned out of the house. Your father is Authority.

That was the world about three hundred years ago, when Leeuwenhoek was born. It had hardly begun to shake itself free from superstitions, it was barely beginning to blush for its ignorance. It was a world where science

HELPFUL
DEFINITIONS

unsung — not famous.

(which only means trying to find truth by careful observation and clear thinking) was just learning to toddle on vague and wobbly legs.

Antony Leeuwenhoek was born in 1632 amid the blue windmills and low streets and high canals of Delft, in Holland. His family were burghers* of an intensely respectable kind and I say intensely respectable because they were basket-makers and brewers,* and brewers are respectable and highly honored in Holland. Leeuwenhoek's father died early and his mother sent him to school to learn to be a government official, but he left school at sixteen to be an apprentice in a dry-goods store in Amsterdam. That was his university

At the age of twenty-one he left the dry-goods store, went back to Delft, married, set up a dry-goods store of his own there. For twenty years after that very little is known about him, except that he had two wives (in *succession*) and several children, most of whom died, but there is no doubt that during this time he was appointed janitor of the city hall of Delft, and that he developed a most idiotic love for grinding lenses. He had heard that if you very carefully ground very little lenses out of clear glass, you would see things look much bigger than they appeared to the naked eye

It would be great fun to look through a lens and see things bigger than your

naked eye showed them to you! But *buy* lenses? Not Leeuwenhoek! There never was a more suspicious man. Buy lenses? He would make them himself! During these twenty years of his obscurity he went to spectacle-makers and got* the *rudiments* of lens-grinding. He visited alchemists* and apothecaries* and put his nose into their secret ways of getting metals from ores, he began fumblingly to learn the craft of the gold and silversmiths. He was a most persnickety* man and was not satisfied with grinding lenses as good as those of the best lens-grinder in Holland, they had to be better than the best, and then he still fussed over them for long hours. Next he mounted these lenses in little oblongs of copper or silver or gold, which he had extracted himself, over hot fires, among strange smells and fumes

Of course his neighbors thought he was a bit cracked but Leeuwenhoek went on burning and blistering his hands. Working forgetful of his family and regardless of his friends, he bent solitary to subtle tasks in still nights. The good neighbors *sniggered*, while that man found a way to make a tiny lens, less than one-eighth of an inch across, so *symmetrical*, so perfect, that it showed little things to him with a fantastic clear enormosity

Now this self-satisfied dry-goods dealer began to turn his lenses onto everything he could get hold of. He

HELPFUL DEFINITIONS

burghers — here, middle-class merchants.

brewers — makers of ale and beer.

spectacle makers — people who made eyeglasses.

got — here, learned.

alchemists — practitioners of a psuedoscience, who tried to turn base metals into gold and attempted to find magical substances.

apothecaries — pharmacists.

persnickety — fussy about small details.

What metaphor does de Kruif use to describe scientific study?



What metaphor does de Kruif use to describe scientific study?

A. He uses the metaphor of a baby learning to walk; he implies that scientific study was in its infancy.

What do the details of lens-grinding tell us about Leeuwenhoek?



What do the details of lens-grinding tell us about Leeuwenhoek?

A. He was a perfectionist and felt that he could do something better than others could. As the passage continues, we see that he spent an enormous amount of time and energy to accomplish this self-imposed goal.

What seems to have been Leeuwenhoek's primary motivator?



What seems to have been Leeuwenhoek's primary motivator?

A. The primary motivator seems to have been curiosity.