

# **McGraw-Hill School Education**

# **Grade 5 ELA Performance Task -**

# **Discoveries**

## **Test ID: 4000710519**

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## Grade 5 Performance Task 1

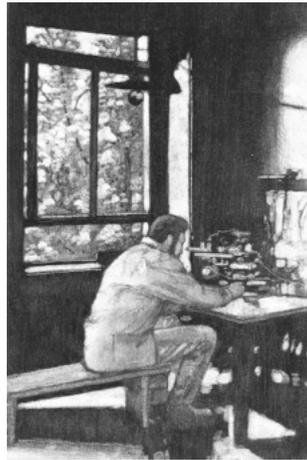
**In this task, you will read about two scientific discoveries that had very different purposes, but which were both truly amazing. You will answer questions about each text. Then you will write about the connections between the ideas in each text.**

Read the first text. Then answer the questions.

### **The Mysterious Rays of Dr. Röntgen**

by Beverly Gherman

illustrated by Stephen Marchesi



Every night Professor Wilhelm Röntgen worked late in his laboratory in Würzburg, Germany, testing electricity and measuring magnetic effects. Often he forgot to go upstairs for supper.

One November night in 1895, his wife Bertha sent their servant downstairs to the laboratory to remind her husband that supper was ready. Still he did not come.

Again Bertha sent the servant and again she waited for Wilhelm to come upstairs.

At last he appeared, his thick black hair on end, his bushy beard askew.<sup>1</sup> He sat at the table, ate a few bites, checked the time on his gold watch, and then rushed back to the laboratory.

For the next few weeks Wilhelm stayed in his laboratory night and day. He ate there. He slept there. But mainly he worked there, repeating his experiments.

No one knew what he was investigating behind closed doors. Bertha had no idea. His students had no clue. The other professors had no inkling what Wilhelm was studying.

“I have discovered something interesting” was all he would say.

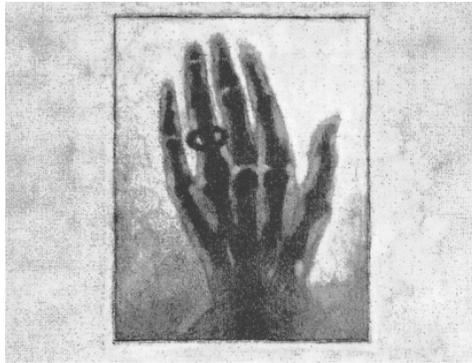
Finally Wilhelm brought Bertha down to the laboratory. He placed her hand on a photographic plate used to take pictures and told her not to move. He wanted to take a picture of her hand. Then he pulled the drapes and put out the lamps. It was pitch black in the laboratory.

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Wilhelm turned on a switch that sent electricity through his equipment. The only sound in the laboratory was the ticking of the clock. Five minutes passed. Ten minutes. After fifteen minutes Wilhelm lifted Bertha's hand.

As soon as the photograph was developed Wilhelm rushed to show it to Bertha. She looked at it and shuddered with fear. She saw a picture of bones—her bones. Her wedding ring seemed to be floating around a bony finger.



Wilhelm tried to comfort Bertha, telling her not to be afraid. “I have discovered invisible rays,” he said. “These rays penetrate living flesh and show our bones. They also let us see through boxes and books,” he explained.

Wilhelm called them X-rays because X stood for the unknown. Although he didn't know what they were, he knew they were important. “This is something new,” he told Bertha. “I must investigate.”

He built himself a tin box large enough to work in. From inside the darkened box, Wilhelm continued to study the rays. He realized that just as sunlight passed through a glass window, the new rays passed through wood or flesh or other nonmetallic objects.

askew: turned or twisted toward one side

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## Grade 5 Performance Task 2

2. This question has two parts. Answer Parts A and B.

A. All of the following words can be used to describe Dr. Röntgen. Circle the word that you think **best** describes Dr. Röntgen.

**secretive**

**determined**

**curious**

B. On the lines below, write **three** details from the text that support the word you chose to describe Dr. Röntgen.

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### Grade 5 Performance Task 3

Now read the next text. Then answer the questions.

## Silly Putty

by Charlotte Foltz Jones

Sand. There's lots of sand on Planet Earth. In fact, there's tons of it.

From sand, chemists can refine silicon. Plenty of silicon.

During World War II, the United States government needed a synthetic rubber for airplane tires, soldiers' boots, and other uses. Since silicon was so widely available, the government asked several large companies to have their engineers try to make a rubber substitute out of silicon.

In 1944 at General Electric, one of the engineers working on the silicon experiments was James Wright. One day while he was doing tests with silicon oil, he added boric acid. The result was a gooey substance that bounced.

Unfortunately, it had no apparent use. Samples were sent to engineers all over the world, but no one could find a use for it.

Then in 1949, four years after the war ended, a man named Peter Hodgson thought of an idea. After borrowing \$147, he encased the goo in plastic "eggs" and renamed it "Silly Putty." Then he began selling it as a toy, first to adults and several years later to children.

It stretches. It bounces. When whacked with a hammer, it shatters. If it is pressed against newspaper comics, it will pick up the imprint. Silly Putty is truly amazing. It is now over forty years old, and was one of the first "fad" toys in America.

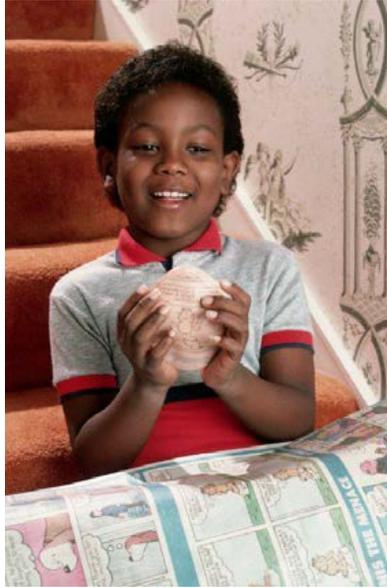
It has been used by athletes to strengthen their hand and forearm muscles. It can level the leg of a wiggly table or clean typewriter keys. It removes lint from clothes and animal hair from furniture.

The astronauts on the Apollo 8 spacecraft played with Silly Putty when they got bored, and they used it to keep tools from floating around after they left the Earth's gravity.

It was used by the Columbus Zoo in Ohio in 1981 to take hand and foot prints of gorillas.

It's the toy with only one moving part, and, best of all, Silly Putty is still priced so almost everyone can afford it.

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*Photograph of a boy stretching Silly Putty (Image No. RR017388), copyright © by Roger Ressmeyer/Corbis. Used by permission.*

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### Grade 5 Performance Task 5

5. This question has two parts. Answer Parts A and B.

Read what someone once said about discoveries.

**“He who never walks except where he sees other men's tracks will make no discoveries.”**

A. What does this quotation mean?

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B. Explain how this quotation applies to the discoveries of Dr. Röntgen, James Wright, and Peter Hodgson. Be sure to include details from **both** texts in your response.

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