



acadience® reading k–6

Student Materials

Grade 5 | Benchmark 2

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with

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A Genius at Work

► The boy was seven years old and starting school for the first time. He was the only son of a poor family who lived in what is now part of Germany. To look at this child, he seemed like an ordinary boy; however, he had an amazing talent in math and science. In fact, he would go on to become one of the most important mathematicians in the world.

The boy's name was Carl Gauss. He reportedly was able to calculate in his head by the time he was three years old. The youngster was so good in math that he corrected mistakes that his father made when computing the family budget.

Carl also showed his superior abilities in math at school. One time, his teacher asked the students to add the list of numbers from one to one hundred. The teacher thought that this would take the students a long time. To his surprise, young Carl arrived at the correct answer almost instantly. The boy explained that he had found a clever way to pair the numbers that allowed him to turn the problem into a simple multiplication calculation. He could use this method to add a long string of numbers very quickly.

Carl's mother and father had different views about their son's education. His father was a mason who built things with brick and stone. Carl's father wanted Carl to become a mason, too. The boy's mother, though, strongly supported Carl's schooling in math and science because she realized that he had a special talent in these areas. Carl continued his studies in math and science and went on to make many important discoveries. Some of his first discoveries were made while he was still a teenager.

Carl Gauss became known throughout the world as the "Prince of Mathematicians." Although he lived long ago, his keen understanding of math continues to have a remarkable influence on the field of math today.

A Special Song

► The boy searched through the pieces of bamboo that his mother had cut. He ran his hands over numerous pieces to know what each would feel like when he held it. He narrowed down his choice to three pieces. He looked down the hollow centers of those pieces. Finally, he picked the one that he thought would make the best flute.

As Zachary presented the piece of bamboo to his mother, she admired his selection. She proceeded to turn the bamboo into a flute with six perfect holes in a straight line and a hole for the mouth. She provided some special oil, which her son gently applied to his fabulous new instrument.

Zachary anticipated making lovely melodies with his flute. He pressed the instrument firmly against his lips and blew into it with a deep breath. He made a sharp squealing noise, which caused him to giggle. Mama smiled and instructed him to blow with a gentle, even breath. She showed him how to cover the holes with his fingertips. Mama explained that he could play various notes by doing this. Zachary experimented and was thrilled to hear how the different notes sounded.

Every afternoon Zachary practiced playing his flute. He was delighted to make up little songs, but he wanted to do something special to express his appreciation to his mother for making this musical instrument. He remembered her favorite song and figured out for himself how to play it. Then, one day, while Mama was washing the dinner dishes, he asked if he could perform something special. She turned off the faucet and stood by the sink as Zachary grasped his flute and began to play. She was captivated by her favorite song, which was more beautiful than she had ever heard it before. When the music had concluded, Mama walked over to her son and gave him an enormous hug.

The Chunnel

► The body of water between France and Britain is called the English Channel. If you want to cross from one side of the English Channel to the other, there is no bridge you can cross. Instead, you can take a train through an underwater tunnel. This channel tunnel is known as the Chunnel.

The Chunnel consists of three tunnels that allow trains to run under the water from one side of the channel to the other. Trains that carry people and goods use the two outer tunnels. The middle tunnel is smaller than the other two tunnels. It is used for ventilation and to make sure maintenance and emergency vehicles can reach the other tunnels.

The Chunnel was dreamed of long before it was finally built. More than two hundred years ago, an engineer first talked about building a tunnel under the English Channel. He believed that people could travel in carriages drawn by horses through the tunnel. The tunnel would have oil lamps since they did not have electric lights back then. He imagined an island in the middle, where people could change to fresh horses. Over the years, many people drew up plans for the tunnel. Although one attempt at digging was made, none of the early plans ever made it to completion.

Almost forty years ago, construction work finally began on what would become the Chunnel. The governments of England and France soon became worried about how much money the tunnels would cost, though, and in less than a year, the work was stopped.

It took a long time before the building project was resumed. Numerous construction companies worked on the big project. It took seven years, but finally the tunnels were completed and trains traveling at very high speeds were allowed to use them. Today, people enjoy traveling through the Chunnel, which is the world's second longest underwater tunnel.
