Reading Is Fundamental
until every child reads

Leonardo's Bridge

In the 1400s, the sultan leader of the Ottoman Empire wanted to build a bridge. His goal was to connect the city of Constantinople to the city of Galata. The bridge needed to be long. It needed to go over a river area called the Golden Horn.

The sultan held a contest. He asked artists and scientists to design a bridge that would work for his plan. People from all over the world entered the competition.

Leonardo da Vinci was a famous painter and engineer. He wanted to win the contest. He designed a bridge that was different from any bridge the world had ever seen. It was ten times longer than any bridge built at the time. Its sytle – a flattened arch – had never been used before.

Leonardo's bridge also had safety features. He added wing walls to the sides of the bridge. These walls would steady the bridge during high winds.

The bridge was made out of stone. Leonardo modeled it on the classic buildings of ancient Rome. He used forces of physics and gravity in his design to hold the stone together. There was no need for any mortar between the stones.

Leonardo did not win the contest. The sultan rejected his design. The sultan, and the rest of the world, thought the plan was ridiculous. They believed it would never work.

Five hundred years later, engineers at MIT tested Leonardo's design. They built a scale model of the bridge based on his plans. It worked! The power of geometry held the bridge together.

Leonardo was ahead of his time. The bridge he designed would have worked perfectly. It would have been the longest and strongest bridge in the 1400s. It could even have withstood an earthquake. Amazing!

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NAME: _____ DATE: _____

1. Which of the following was NOT mentioned about Leonaro's bridge design?
    a. It was made of stone
    b. It had a flattened arch style
    c. It was painted blue
    d. It had safety features

2. Which natural events could the bridge withstand?
    a. Heavy winds
    b. Floods
    c. Earthquakes
    d. A and C

3. Why did the sultan reject Leonardo's bridge?
    a. He didn't think it would work
    b. He didn't like Leonardo
    c. He was jealous
    d. He ran out of money

4. What does the author mean by "he was ahead of his time?"
    a. He worked faster than others
    b. His ideas were advanced
    c. He designed a clock
    d. He used forces of physics and gravity

Instructions for teachers:

These questions can be used to assess understanding of the reading passage.

The item in bold is the correct answer for each question.

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