

Name _____ Date _____

THE WORLD'S LONGEST BRIDGE

The Akashi Kaiyko Bridge in southern Japan is the world's longest bridge. The Akashi Kaiyko Bridge spans the Akashi Strait, connecting Awaji Island to Kobe, an important industrial center. The bridge has a span of 5973 feet (1991 meters), making it over 25% longer than its nearest competition: the Humber Bridge in England. Strangely, there may be longer bridges in the world, but the Guinness Book of World Records measures the longest bridges according to their record-breaking spans.

The Akashi Kaiyko Bridge is a suspension bridge. This means that the roadway is *suspended* from pillars by cables.

The concrete pillars have to be tall enough to support the whole weight of the bridge. The pillars on the Akashi Kaiyko Bridge are 900 feet tall. These pillars had to be built to withstand not only huge waves but also high-speed winds, and possibly even violent earthquakes, which are not uncommon in the area. The bridge has survived one earthquake already: its span was extended by more than 3 feet by the Kobe earthquake of 1995.

The cables weigh 50,000 tons and have a diameter of almost four feet each. Each cable contains 290 hexagonal strands; each strand is composed of 127 steel wires. The total length of the wire used is more than 200,000 miles, enough to circle the Earth 7.5 times!

The first plans to connect Kobe to Naruto via Awaji Island were voiced in 1955, but it took the government thirty years to decide to really build the bridge. The next three years were spent surveying the site and construction commenced in 1988. In designing the bridge, special consideration was given to its effect on the surroundings, great emphasis was placed on a "pleasing balance between light and shade" and also on the choice of the perfect color.

The construction of the bridge was a very complicated and technologically draining process, which took ten years to complete. Casting concrete in 300 feet of water, installing special pilot ropes over the strait by helicopter, and finally stretching the gigantic steel cables surely wasn't an easy job. Ten years after construction commenced in 1988, the bridge was finished and the six-lane highway finally opened to traffic.

The bridge has made the transportation from island to island much easier, so in addition to breaking a record, the Akashi Kaiyko Bridge achieves the main goal of a bridge: to connect two places.

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ANSWER THE FOLLOWING QUESTIONS
ABOUT THE WORLD'S LONGEST BRIDGE

1. The longest bridge in the world
 - a. is located in England
 - b. has a span of 1991 feet
 - c. lies in southern Japan
 - d. is not listed in the Guinness Book of World Records

2. The pillars
 - a. are built of steel
 - b. have already withstood two earthquakes
 - c. are supported by steel cables
 - d. are built to survive high-velocity winds

3. The article states that
 - a. each cable is composed of 127 steel wires
 - b. cables are made of steel
 - c. the Earth is round
 - d. the strands are round

4. During construction
 - a. the Earth was circled 7.5 times with 200,000 miles of wire.
 - b. the steel cables were installed by helicopter.
 - c. an earthquake took place.
 - d. concrete was usually cast in 30 feet of water.

5. Which of the following sentences is false?
 - a. The government decided to build the bridge in 1985.
 - b. Surveying the construction site took three years.
 - c. The bridge was opened to traffic in 1988.
 - d. The highway has six lanes.

6. Which possible dangers to the bridge were mentioned in the article?
 - a. waves
 - b. typhoons
 - c. traffic jams
 - d. terrorist attacks

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ANSWERS TO QUESTIONS
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1. c
2. d
3. b
4. c
5. c
6. a