

Nicely Done

# MAYA AND AZTECS WERE RUBBER-MAKING MASTERS?

Evidence has proven that the Mesoamericans, like Maya and Aztecs, were making different types of rubber out of latex and the morning glory vines for a very long time. Scientists are trying to find how and what type of rubbers they were making by recreating the ancient rubber making techniques. First of all, the article says that ancient civilizations in much of Mexico and Central America were making rubber 3,000 years before Charles Goodyear "stabilized" the stuff in the mid-19th century. Some of the rubber that the Mesoamerican cultures made was bouncy and might have been used to make balls for the Mayan ball game, which used to be played at that time. This shows how long ago rubber had ACTUALLY started being made. Secondly, scientists were very interested in the different types of rubber that might have been made. Ancient rubber makers (Maya, Aztec, and Olmec) have used latex from rubber trees and mixed it with the juice from morning glory vines, which contains a chemical that makes the solid latex less brittle. Scientists found out that tweaking the formula gave the latex different properties and made different types of rubber. Such as; the formula could have been tweaked to make the rubber bouncier, for Mayan ball games, or tougher for Aztec sandals. A 50-50 blend of morning glory juice and latex created rubber with maximum bounciness, while a 75-25 mix of latex and morning glory made the most durable material, scientists discovered. This shows that there were many types of rubber the Mesoamericans might have made. Finally, while trying to recreate the rubber that Mesoamerican cultures had developed, scientists faced some difficulties in the process. Scientists Michael Tarkanian and Dorothy Hosler had picked latex and drained juice from the morning glory, to take to the MIT laboratory. Taking the juice and latex back was difficult, as there were no official papers to bring latex into USA. There was also another issue, the molecules in the liquid didn't bond if the temperature wasn't warm. Tarkanian and Hosler had to use a process called vulcanization, which cooks liquid latex with sulfur to increase strength and elasticity. These scientists made mainly rubber sheets, but they also made some rubber balls. This shows that the scientists were very curious about the rubber and wanted to recreate them. Rubber has been used by humans for thousands of years, and looks like one of the oldest inventions of man-kind!

"All the way to the Big Idea"

According to the article

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Make sure your points clearly support / explain your Big Idea -

## How does this article support the idea, "Maya or Aztec Master Engineering?"

I think that this article definitely supports the fact that Mayans were masters in engineering. It says that there is historical evidence of Mayans using a rubber ball in their ball game. This shows that the Mayans knew how to make their rubber bouncier. Also, they must have been very skilled to make the rubber in a perfect sphere, AND make it bouncier than the usual rubber. The article says that as per scientists, different kinds of rubber can be made by mixing different amounts of latex and morning glory juice. As it says in the article, 50-50 blend of latex and morning glory gave the rubber maximum bounciness, and 75-25 blend of latex and morning glory gave the rubber maximum strength. So Mayans must have found out this engineering trick to be able to make different types of rubber. The article says that once the raw ingredients had been mixed, the rubber took about ten minutes to form and another five minutes to harden, giving rubber workers just a few minutes to shape the final product. So the Mayans must have been extremely skilled to have made the different specialized rubber products (like a perfect rubber ball) in such less time! The article said that the initial discovery of rubber from latex and morning glory isn't so far-fetched, because morning glory plants tend to grow near rubber trees, and both plants were considered sacred in several Mesoamerican cultures. Based on all these facts, I believe, the Mayans were obviously very advanced with their engineering skills, which favors Maya in the idea: "Maya or Aztec Master Engineering?"

GREAT!  
SUPPORTS  
EXPLANATION