

Newspapers In Education and
The Washington State Fair present

IT'S TIME TO ... LIGHT THE STAGE

Washington State Fair's special *Luminasia* light exhibit displays larger-than-life lanterns, which are the culmination of thousands of years of Chinese history and craftsmanship. Chinese lanterns have emerged from humble beginnings as a means to light dark nights to an important form of cultural expression and a driving economic force for large parts of China. Let's take a look at the science and history behind this shining exhibit.

DEVELOPMENT OF LANTERNS IN ANCIENT CHINA

The Chinese lantern originated as an improvement on the open flame. The shade not only protects the flame inside from being extinguished in windy weather, but also provides a more diffuse form of lighting. Given the Chinese tendency for embellishment, it was inevitable that the lantern shade would become an object of artistic expression. It also underwent extensive design experimentation: lampshade artisans competed to produce lampshades of exquisite beauty, functionality, design and artistic decoration.

- What are other benefits of protecting an open flame?
- What type of lantern shade would you design that encompasses beauty, functionality, design and decoration?

ANCIENT USES FOR LANTERNS

While the earliest Chinese lanterns were created for practical use in the house and as entryway lighting, they eventually became highly ornamental and a status symbol. This is evidenced in the red lanterns extensively used in the Qiao family's compound northeast of Pingyao City and also the gates to the Siheyuan housing compounds. It was also quickly discovered that the lantern made an excellent "flashlight," or portable light.

Some historical experts believe that the concept of street lighting in Europe stems from European contact with Imperial China, where "street lighting" had long existed in the form of the Chinese lanterns hanging on doors and gateways.



Photo: Qiao Family Compound

- How has the technology of flashlights and lanterns evolved over the years?
- Find examples of early European street lamps. How does the design and technology compare with the ancient Chinese lanterns?

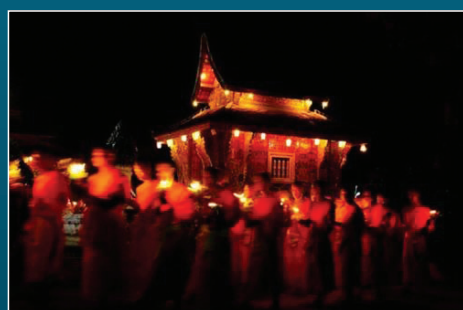


Photo: ISA Luminasia 2012 Archive

GRAND CELEBRATIONS IN ANCIENT CHINA

Ancient Chinese society had a proclivity toward grand celebrations. One such celebration was the Lantern Festival, aka Little New Year, so named because it was the culmination of the Chinese New Year festival. Ancient Chinese celebrations always contained an element of reference to other artistic genres, such as the fine art of calligraphy, literature or, in this case, lanterns hanging on doors and gateways.

- What celebration or holiday do you take part in which references artistic genres?

LANTERN SHAPES AND MATERIALS

The most common Chinese lanterns are red, oval-shaped and decorated with red or golden tassels, but they come in many forms. Traditional Chinese lanterns such as these are made from a variety of materials. Bamboo, wood, rattan or steel wire is usually used for the framework, while paper or silk is used for the shade. For decoration, Chinese calligraphy, painting, paper cutting and embroidery will often be utilized to make each lantern unique.

The larger-than-life lanterns in Luminasia are created using steel and angle-iron framework, which is then covered with silk, satin and vinyl in vibrant colors and internally lit using LEDs, fluorescent and incandescent bulbs. This creates the amazing environments in which guests are immersed from the moment they step into the attraction. To see a lantern being made, follow this link: [youtube.com/watch?v=RgoK1aJR0qI](https://www.youtube.com/watch?v=RgoK1aJR0qI).

- What material do you think is the best for a traditional Chinese lantern?
- For a modern light fixture as in Luminasia, what material might sustain heat over time?
- What lantern shape do you think emits the greatest amount of light? Why?

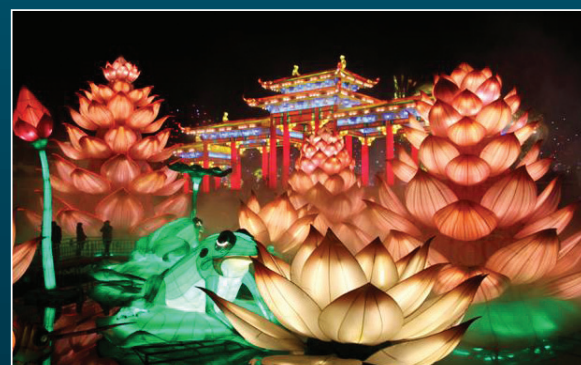


Photo: ISA Luminasia 2012 Archive

LANTERN RIDDLES

Placing riddles within lanterns is a unique folk custom dating back to ancient times. In the past, families in China hung colorful lanterns at the gates of their towns during the Lantern Festival. Some wrote riddles on pieces of paper, and attached them to the lanterns. The answer to each riddle then had to be guessed from a word, a poem or a phrase. Guessing lantern riddles made the festival more interactive and lively, and because the riddles were interesting and thought-provoking, it was an essential activity during the festival and remains so to this day.

- As an example, a lantern might contain the following phrase:
"What building holds the most stories?" Can you solve this riddle*?
- Think of your own lantern riddle.



Families guessing lantern riddles during the Lantern Festival
Photo: Luminasia 2012 Archive

LUMINASIA FACTS AND STATISTICS

- Approximate total weight of steel framework: 65,000 pounds
- Approximate total weight of fabric: 5,000 pounds
- Number of fabric colors: 18
- Type of fabric used: Satin treated with flame retardant
- Number of lights (LEDs, incandescent, fluorescent): 50,000 bulbs
- Length of electrical wiring used: 8,750 yards
- Number of artisans: 48
- Artisans' point of origin: Zigong, Sichuan Province, China
- Construction time in China: One month
- Construction time in the United States: One month
- Total footprint: 2 acres
- Miles from Zigong to Puyallup: 6,402
- Travel time from Zigong to Puyallup: 21-25 hours, including a minimum of two flight layovers (a combination of Kunming, Seoul, Shanghai, Beijing or Tokyo)

Learn more about the Chinese lanterns and the *Luminasia* lantern festival:

[youtube.com/watch?v=vPaFvbnwHig](https://www.youtube.com/watch?v=vPaFvbnwHig)

zgdenghui.cn/zgdh/main_en.asp

chinahighlights.com/travelguide/culture/lanterns.htm

chinahighlights.com/festivals/lantern-festival.htm

* ANSWER: A library

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