

**All About Eggs**

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**Egg shells**

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**Reeko's Mad Scientist Lab**

**Supplies: Four Eggs  
Tape  
Books**

## Super Hero egg shells

Ever wonder why igloos are dome shaped and not square? Ever been amazed at how a suspension bridge can hold the weight of hundreds of passing cars with little or no apparent support underneath it? This experiment demonstrates how arches are used in architecture not only for aesthetic appeal but for a very useful and needed purpose...

Carefully break off the small end of four eggs and pour out the insides. If you're worried about wasting perfectly good eggs then... uhhh, Reeko's heard they're good for your hair...

Wind a piece of cellophane tape around the center of each eggshell.

Cut through the center of the tape to make four dome-shaped shells (discard the broken end of each shell).

Lay the four domes on a table with the cut sides down arranged in the shape of a rectangle.

Next, guess how many telephone books you can lay on top of the shells before they break.

Arches--even those made of eggshells--are strong because they exert horizontal as well as vertical forces to resist the pressure of heavy loads. The crown of an eggshell can support heavy books because the weight is distributed evenly along the structure of the egg.

*Parent's Note.* Arch is a curved structure that supports or strengthens a building. Almost all arches span openings and support weight above them. Others are enclosed in walls.

Most arches are made of stone, brick, concrete, or steel. Arches of stone or brick consist of wedge-shaped blocks called voussoirs. During the construction of most such arches, the blocks are supported by a wooden frame. The last block to be inserted is the keystone, the center stone at the top. The pressure of each side of the arc against the

**keystone supports the arch when the frame is removed. In addition, the arch is supported on both sides by masonry or by other arches to keep it from collapsing under the weight above.**

**The first people to fully utilize the arch were architects of ancient Rome. During the 300's B.C., they began to use semicircular arches to build aqueducts and bridges. Later, they also constructed triumphal arches to honor their leaders. Pointed arches were developed during the Middle Ages. Medieval architects arranged arches in rows to form passageways called arcades. They also built arched roofs called vaults. Arches shaped like horseshoes are common in Islamic architecture.**

Sources:

World Book Encyclopedia (1997)

The Kids Science Book (1995)

**Secret Message Below ( Decoder )  
(Instructions)**

JOJ EUA QTUC ZNGZ ZNK IUXXKIZ ZOSK  
OY KYZGHROYNKJ OT ZNK ATOZKJ  
YZGZKY HE GT GZUSOI IRUIQ ZNGZ OY  
GHAXGZK ZU COZNOT 3 SORROUTZNY UL  
G YKIUTJ VKX EKGX...

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**Reeko's Science Word for the Day is - [LED](#)**

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Now's the time for Americans show the world what they're really made of. The people in the southern United States of America need our help. Reeko's Mad Scientist Lab is taking donations for those that have been affected by Hurricane Katrina. If you would like to make a donation, click the "Make a Donation" button below and complete the required information.

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