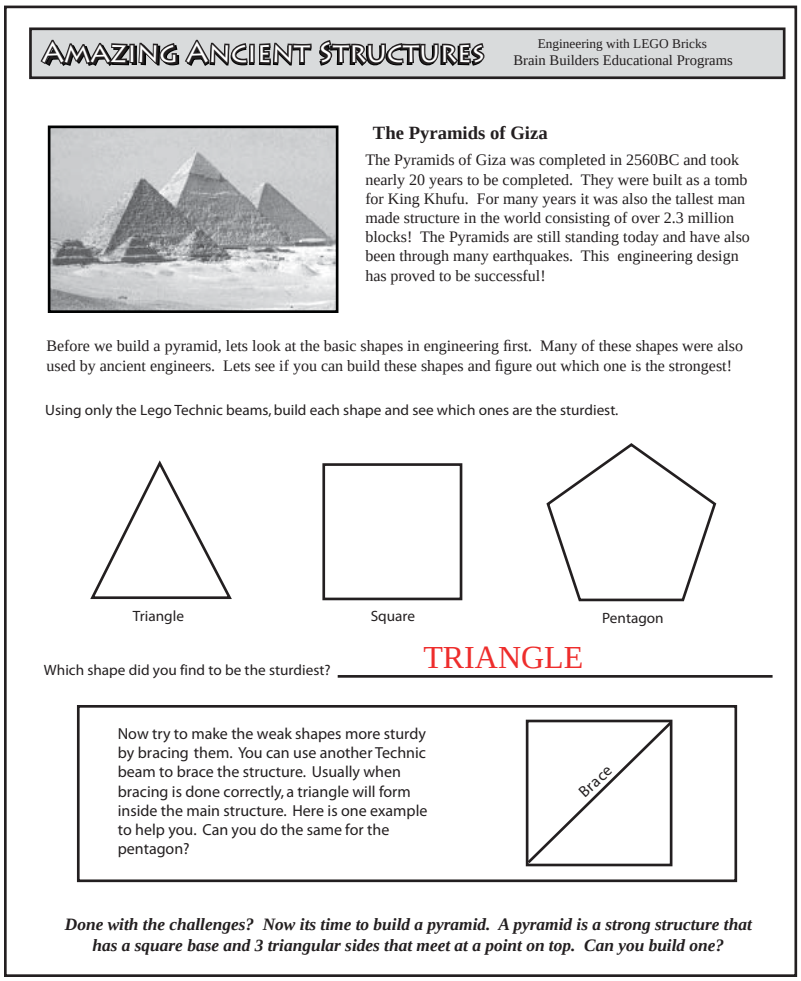
Review last weeks lesson
-*Sample Questions*-
-Where is the Great Wall of China?
-What is a joint?

Pass out this weeks worksheets
-Go over and have students read through the worksheet in class.

Interactive Activities
-Have students identify different shapes in the class.

Construct an example for the students to follow. Show students how to use the technic bricks to build a square. This will show them that the square is weak because it will colapse on itself.



AMAZING ANCIENT STRUCTURES

Engineering with LEGO Bricks
Brain Builders Educational Programs

The Pyramids of Giza

The Pyramids of Giza was completed in 2560BC and took nearly 20 years to be completed. They were built as a tomb for King Khufu. For many years it was also the tallest man made structure in the world consisting of over 2.3 million blocks! The Pyramids are still standing today and have also been through many earthquakes. This engineering design has proved to be successful!

Before we build a pyramid, lets look at the basic shapes in engineering first. Many of these shapes were also used by ancient engineers. Lets see if you can build these shapes and figure out which one is the strongest!

Using only the Lego Technic beams, build each shape and see which ones are the sturdiest.

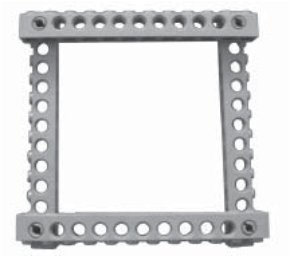
Triangle Square Pentagon

Which shape did you find to be the sturdiest? TRIANGLE

Now try to make the weak shapes more sturdy by bracing them. You can use another Technic beam to brace the structure. Usually when bracing is done correctly, a triangle will form inside the main structure. Here is one example to help you. Can you do the same for the pentagon?

Brace

Done with the challenges? Now its time to build a pyramid. A pyramid is a strong structure that has a square base and 3 triangular sides that meet at a point on top. Can you build one?



This is how the square should look like. It is connected with pins at the corners. If you shake the square it will colapse.

Challenge 1 - Individual build

-Construct each shape on the worksheet and answer the question on the worksheet. The students will be constructing the shapes out of the technic pieces.

-Now make the weak shapes stronger by bracing.
-emphasize to the students that they need to build triangles inside the main shape to make it sturdy.

Challenge 2 - Team Build

-Have students build a pyramid to see if it is a strong structure or not. Students can use any of their pieces and may team up.