

CREATE YOUR OWN ARCHIMEDES' SCREW



Archimedes of Syracuse was an ancient Greek mathematician and engineer. He is credited with inventing a device known as the Archimedes' screw that pumps

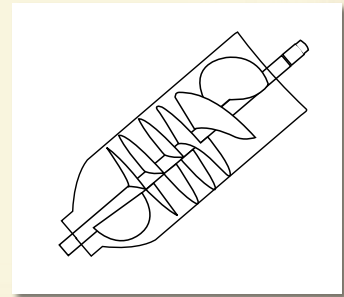
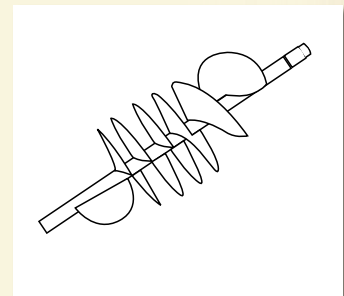
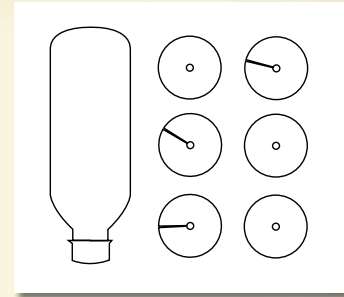
water and may have been used to irrigate the plants in the Hanging Gardens of Babylon. In **Seven Wonders Book 2: Lost in Babylon**, Jack and his friends use an Archimedes' screw to pump water to battle a dangerous fire that could destroy the entire city.

How does the Archimedes' screw work? Let's build a simple version of it. You won't be pumping water, but you'll get the idea! You'll need: 1 clean, dry 2-liter soda bottle; 1 14"-15" wooden dowel; 1 tack; adhesive tape; 2 pieces of 8.5"x14" cardstock; and 2 small bowls or boxes. You also will need a supply of dry Cheerios cereal or other lightweight items of similar size.

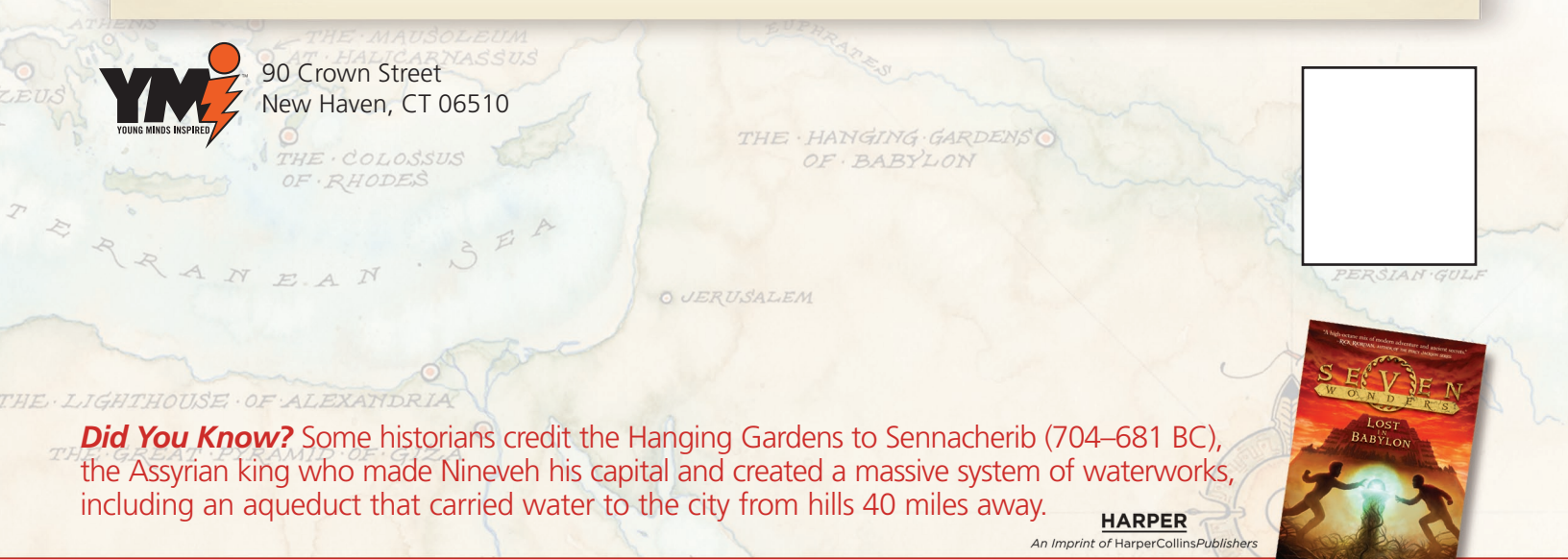
To start, use the bottom of your bottle as a template and trace six circles on the cardstock. Cut out the circles and then trim them so that they are about .25" smaller in diameter than the inside of the bottle. Punch a hole in the middle of each circle that is just big enough for your dowel. Then cut a slit in each circle from the edge to the hole. Tape one side of the cut of one circle to the opposite side of the cut on the next circle, and continue until all the circles are taped together, forming a spiral. Thread the spiral onto your dowel, and tape each end to the dowel. Slide this into your bottle, and use your tack to attach the end of the dowel to the bottle cap. Put the cereal into one bowl on a table or desk. Stack several books to a height of about 4"-5", and put the other bowl on top of the books. Put the end of your bottle with the triangular hole in the bowl with the cereal. Lean the bottle so the top hangs over the empty bowl. Slowly turn the dowel so the circles in your spiral turn.

What happened when you turned the dowel? _____

Now do some research to learn a little about the history of the Archimedes' screw. What were some of its real-life uses? Write a paragraph that describes how it was used on the back of this paper.

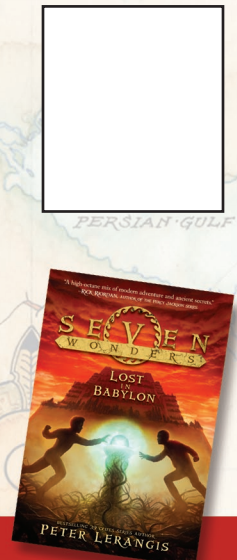


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Did You Know? Some historians credit the Hanging Gardens to Sennacherib (704-681 BC), the Assyrian king who made Nineveh his capital and created a massive system of waterworks, including an aqueduct that carried water to the city from hills 40 miles away.

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