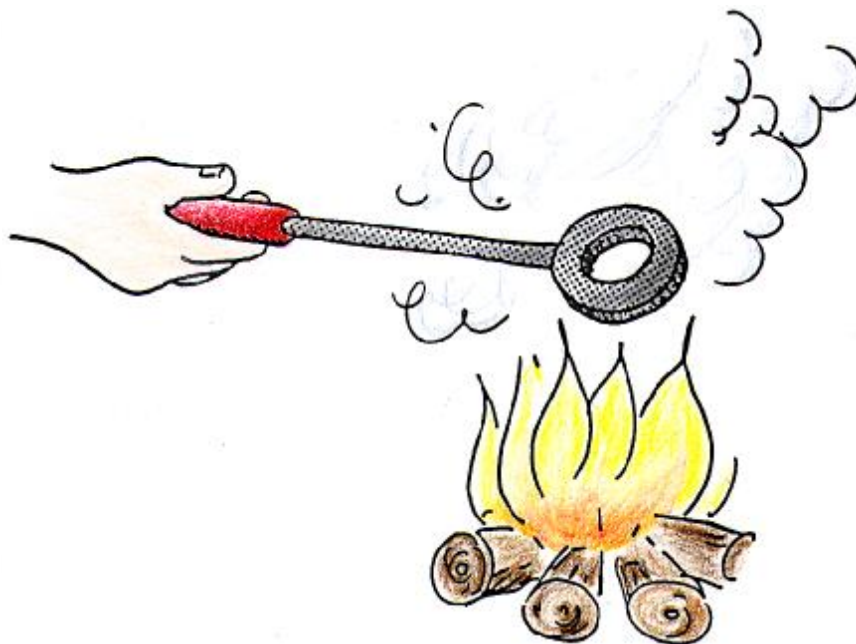


NEXT-TIME QUESTION

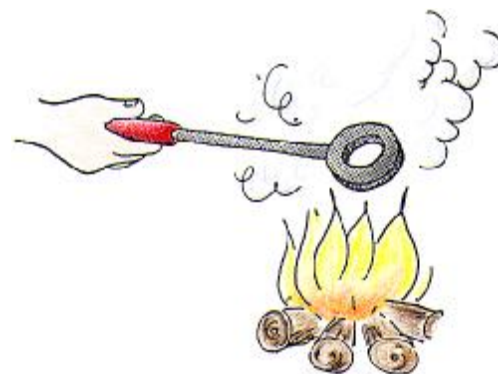


When the temperature of a metal ring increases, does the hole become larger? Smaller? Or remain the same size?



NEXT-TIME QUESTION

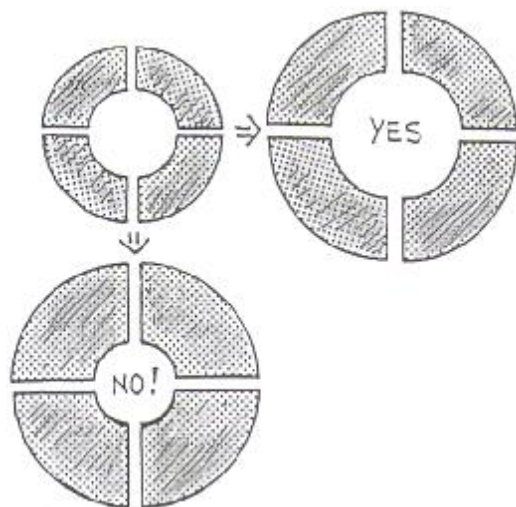
When the temperature of a metal ring increases, does the hole become larger? Smaller? Or remain the same size?



Answer: larger

When the temperature increases, the metal expands—in all directions. It gets thicker; its inner as well as its outer diameter increases; every part of it increases by the same proportion. To better see this, pretend that the ring is cut in four pieces before being heated. When heated they all expand.

Can you see when they are reassembled that the hole is larger?



Test this yourself the next time you can't open the metal lid on a jar. Heat the lid by placing it over a hot stove or under hot water so that its temperature momentarily increases more than the glass jar. Its inner circumference will increase and you'll easily unscrew the lid!

