Answer on Question #50454, Physics, Other

Task:

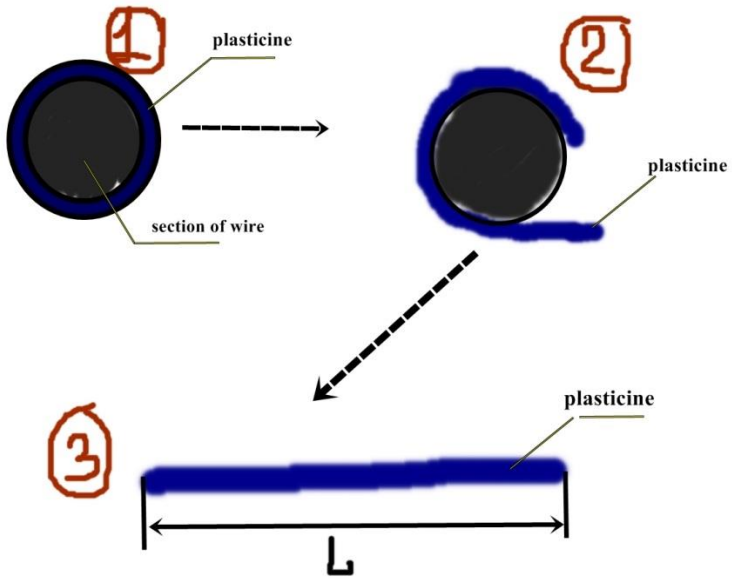
how to obtain the diameter of a wire by using a plasticine and a ruler

Answer:

1.

If the wire is quite thin then it diameter can be determined as follow. Put a one-to-one series of the wire loops in a plasticine. Its total length divided by number of loops will give us a diameter of the wire.

2.



Look at this picture. step 1: take a wire and stick it by a plasticine as shown in figure 1 (not necessarily all wire only part, but on all sides) .

Step 2: cut of plasticine in one place and gradually detach from the wire but so that of plasticine is not stretched and not torn. we got the plasticine strip of length L.

as a section of wire is a circle, the strip of plasticine is the length of circle. we can measure length strips by ruler.

$L=\pi d$, d is a diameter of a wire. So $d=L/\pi$. Of course we will have some error, but it is negligible.