



Little Shop of Physics Science Activity Kits

Memory Wire

If you bend this wire into a different shape, and put it into hot water, you will get a surprise!

Things to Try

Take the piece of wire, and bend it into a curve. Don't bend it sharply or tie it into a knot! Now take the wire and drop it into a cup of hot water. What happens? Now take the wire out, let it cool, and bend it again. Put it back in the hot water. It just won't stay bent, will it? Metal like this has been used to make parts for use in space - they can be crumpled up for storage, but they can be made to pop back into their original shape!

What is Going On

This wire is made of what is known as a "shape memory alloy." The metal that makes up the wire has the property that it will "remember" what shape it was formed in. When you bend the wire, stresses build up in the wire, and it wants to return to its original shape. And it will, but only when the wire gets warmer than a certain temperature!

Other Things to Try

Does it make a difference how hot the water is that you put the wire into? You might find that the speed at which the wire bends back is affected. Maybe the wire would get hot enough just sitting on the dash of your car on a sunny day! If you get the wire red hot (don't do this without supervision!) you can bend it into a new shape, that it will return to if you bend it further.

Safety Information

The wire won't hurt you - but the hot water might! Please be careful!



Little Shop of Physics Science Activity Kits

Memory Wire

If you bend this wire into a different shape, and put it into hot water, you will get a surprise!

Things to Try

Take the piece of wire, and bend it into a curve. Don't bend it sharply or tie it into a knot! Now take the wire and drop it into a cup of hot water. What happens? Now take the wire out, let it cool, and bend it again. Put it back in the hot water. It just won't stay bent, will it? Metal like this has been used to make parts for use in space - they can be crumpled up for storage, but they can be made to pop back into their original shape!

What is Going On

This wire is made of what is known as a "shape memory alloy." The metal that makes up the wire has the property that it will "remember" what shape it was formed in. When you bend the wire, stresses build up in the wire, and it wants to return to its original shape. And it will, but only when the wire gets warmer than a certain temperature!

Other Things to Try

Does it make a difference how hot the water is that you put the wire into? You might find that the speed at which the wire bends back is affected. Maybe the wire would get hot enough just sitting on the dash of your car on a sunny day! If you get the wire red hot (don't do this without supervision!) you can bend it into a new shape, that it will return to if you bend it further.

Safety Information

The wire won't hurt you - but the hot water might! Please be careful!