

Monday 29th March

Aim

What metal conducts heat fastest:- Steel, Aluminum, Copper or Brass?

Hypothesis

I think that Copper will be fastest conductor of heat because it has a weak core and will defuse quicker than normal metal. I think that Steel will melt the slowest because it is used for everyday equipment.

Method

Materials:

1x Tripod

1x Spirit Burner

4x Small wax buttons (Same Size)

1x Round wooden ring with 4 pieces of metal the same size and shape fixed equidistant to each other so that the point faced inwards and the indent was on the outside (See Figure 1). The metals were steel (S), Aluminum (A), Copper (C) and Brass (B).

1x Stop Watch

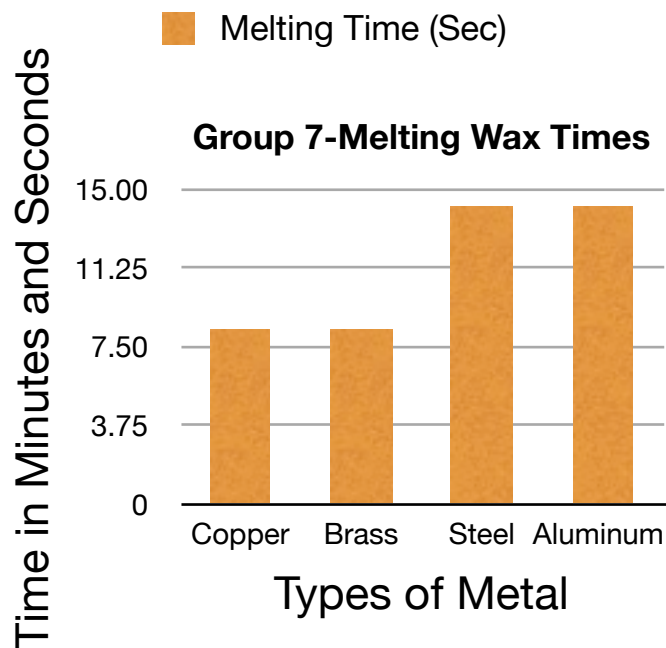
Method

Procedure:

1. We put small pieces of wax in the hollow on the ends of 4 strips of different metals that were fixed on a round wooden frame.
2. We heated the metal strips
3. We timed the melting of the wax
4. We recorded the times in a table

Results:

	Copper	Brass	Aluminum	Steel
Time Taken to melt fully- liquid form	14.18	8.31	10.46	14.18



Conclusion: I was wrong on copper melting it melted last in equally with steel at 14 minutes and 18 Seconds but I was right with steel melting last because steel hardly made a turnout it hardly melted because steel is used to conduct hot experiments like making lava go hard into rock.

On average the wax melted in the following order:

1st Brass

2nd Aluminum

3rd & 4th Copper and Steel.

We noticed that copper and steel hardly did nothing the steel only started to crack from the inside but it did nothing except for staying completely still and doing nothing.

The wax melted fastest with the brass because the molecules are easier to move than in the other metals and this is what makes the heat travel through the metal. This is called "Heat Conduction". Where the molecules are more difficult to move, heat takes more time to move through it.

Conduction occurs when the molecules bump against each other and cause more movement. It is like pushing someone who trips and pushes another person in a crowd and the movement ripples outwards.