

Name:

Student 14

Topic:

Exploring Thermal Phenomena

Date: 10.6.11

Before

• If we touch a metal plate, wooden plate, and styrofoam plate, how will their temperatures vary?

I think the metal will be the coldest, the wooden will be the next warmest, and the styrofoam will feel the warmest.

During

- My prediction was confirmed after we touched each plate.

- The metal was the coldest, the wood was the next warmest, and the styrofoam was the warmest.

We then measured the temperature with a thermometer and there was no variation in the internal temp. of the objects.

$\approx 22^\circ$

Vocabulary

heat energy vs temp.

room temperature

density

equilibrium \rightarrow when things come to the same temperature

insulators

conductors

After

Powerful Ideas

- Body heat transfers to plates at different rates
- Materials differ in their properties → some are insulators (don't transfer heat very well) and some are conductors (transfer heat very well)
- When objects reach the same temperature they have reached an "equilibrium"
- Diff. materials transfer heat differently in respect to the materials they are created.

Evidence

• All the materials were the same temperature when we measured w/ thermometer

Reflection

Each material is the same temperature. These plates have been sitting in the room for a week and thus they are not a source of heat. When we touch each plate our body heat is transferred to each plate at different rates. Not only does our source of heat transfer at a different rate, but these materials also differ in their properties such as density. Furthermore, not only do we transfer our body heat @ different rates, but metal also transfers heat because it is a conductor. As it transfers heat it feels cool to the touch. A material such as styrofoam is an insulator and does not transfer heat very well. I learned as well that our perception of temperature and what the actual temperature of an object is greatly varies due to the fact that our body is transferring heat thus causing us to believe something is cool or warm when it may not be.

Therefore feels much warmer to the touch due to our body heat.

What am I still wondering?