

Heat

Fill in the gaps with the correct answer for these important facts about heat.

- 1.) Heat is the flow of _____ energy. Heat moves from _____ objects to _____ objects.
- 2.) Materials that are thermal conductors transfer heat very _____. An example is: _____.
- 4.) Materials that do not move heat very well are called thermal _____. An example is: _____.
- 5.) When heat causes a solid to change to a liquid it is called _____.
- When heat causes a liquid to change to a gas it is called _____.
- 6.) _____ is when the thermal energy of a substance increases and the volume of the substance _____.



Heat Conduction Experiment

How will different materials conduct heat?

Hypothesis: (Guess what will happen):

I think that metal, plastic, and wood will conduct heat _____ (the same/differently) because _____.

I think that _____ (metal/plastic/wood) will be the **best** heat conductor. I think _____ will be the second best.

Materials Needed:



- ◆ Three spoons about the same length : 1 metal, 1 plastic, 1 wood
- ◆ Butter
- ◆ Small pot of hot water

**If you don't have a spoon in each of the materials you can use a different object made of the same material. Examples:
plastic=chopstick wood=pencil*

Experiment Instructions:



- 1) Fill the small pot about half full with water and place it on the burner until the water is very hot. Then turn off the heat.



- 2) Place a small piece of butter on each spoon (or object) and place them into the hot water with the butter end up.



- 3) Observe for a few minutes.
On which spoon (or object) does the butter melt first? On which spoon does the butter melt second?

Experiment Summary:

Was your hypothesis correct? _____ (yes/no)

The _____ object was the **best** conductor because _____ are excellent heat conductors.

Want to watch this experiment?

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