



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.

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