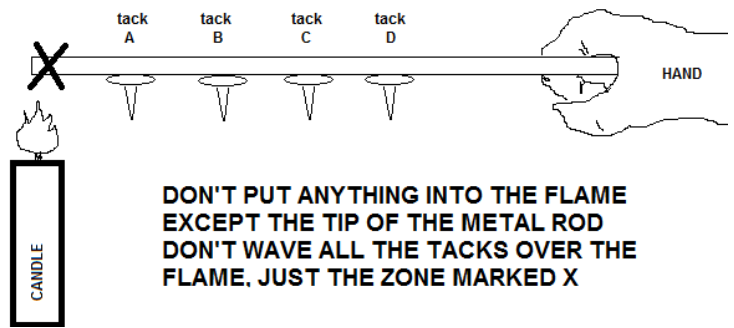


CONDUCTION

1. DEFINE CONDUCTION- _____

EXPERIMENT ONE

Get the metal rod and nail apparatus. The nails have been "glued" in by wax. Turn the apparatus upside down, and notice that the nails will not fall out.



2. Hypothesize: What will happen if you place the end of the rod in the flame?

3. Actual Observations: _____

4. Conclusion: (Why did it happen that way?) The molecules in the bar... _____

EXPERIMENT TWO

Place both hands in ice water for 30 seconds.

5. Hypothesize: What will happen if I put one of my cold hands on my neighbor's arm and left the other one out in the open? Which will warm up quicker?

6. Actual Observations: _____

7. Conclusion: (Why did it happen that way?) _____

8. Which direction did heat energy flow? From where to where?

9. DEFINE CONVECTION-

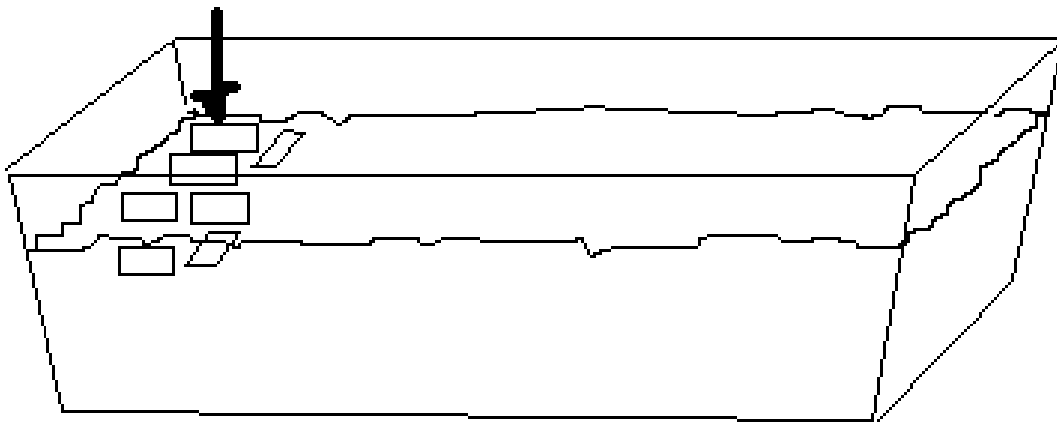
EXPERIMENT THREE

Get a plastic tub and fill it with warm water about 2/3 full. Place the tub on your lab table and let it rest a minute so that the water is very still. Do not bump the table. When it is very calm, gently place 4-5 ice cubes on ONE END of the tub. DO NOT let the ice cubes wander to a new location. After 20 seconds of being in the water, drop a couple drops of food coloring on the ice cubes. It will show you how the water is moving.

10. Hypothesize: How will the water move in the container?

11. Actual Observations: CAREFULLY WATCH how the food coloring moves and sketch it below.

ice cubes



12. Conclusion: (Why did the water move this way?) The cold water molecules....

EXPERIMENT FOUR

Go to the “thermometer station” and take two readings of the air temperature.

13. Hypothesize: Where will the air be hotter? Where will it be cooler?

14. Actual observations: _____

15. Conclusion: (Why did it turn out this way?) The air molecules... _____

CONVECTION

16. DEFINE RADIATION-

EXPERIMENT FIVE

Put a glass of cold water into the microwave. Turn it on for 1 minute.

17. Hypothesize: How will the cup of water change?

18. How will the inside air of the microwave feel?

19. Actual observations:

20. Conclusion: (Why did it happen this way?)

21. Was anything touching the water to make it hotter? (conduction)

22. Was the air inside so hot that it moved around and made the water hot too? (convection)

23. Where did the heat energy come from?

24. How did this energy get into the water?

RADIATION