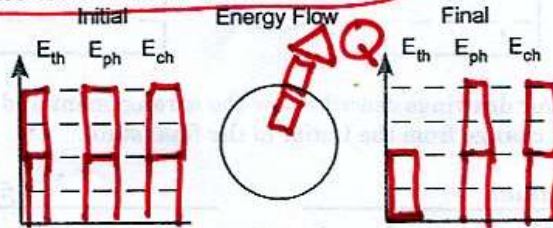


1. A cup of hot coffee cools as it sits on the table.



In words and/or drawings describe how the arrangement and motion of the molecules change from the initial to the final state:

initial:

fast vibrations of liquid

final:

slower vibrations of liquid

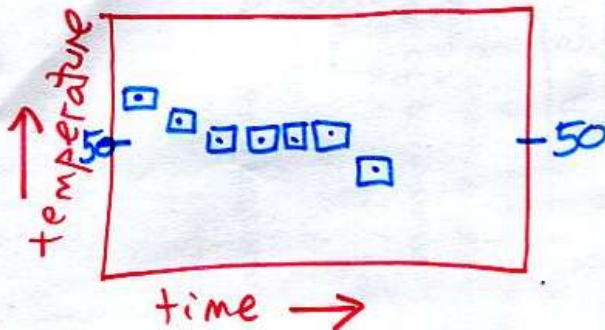
HAND IN LAB SHEET NOW IN THE RED BOX.

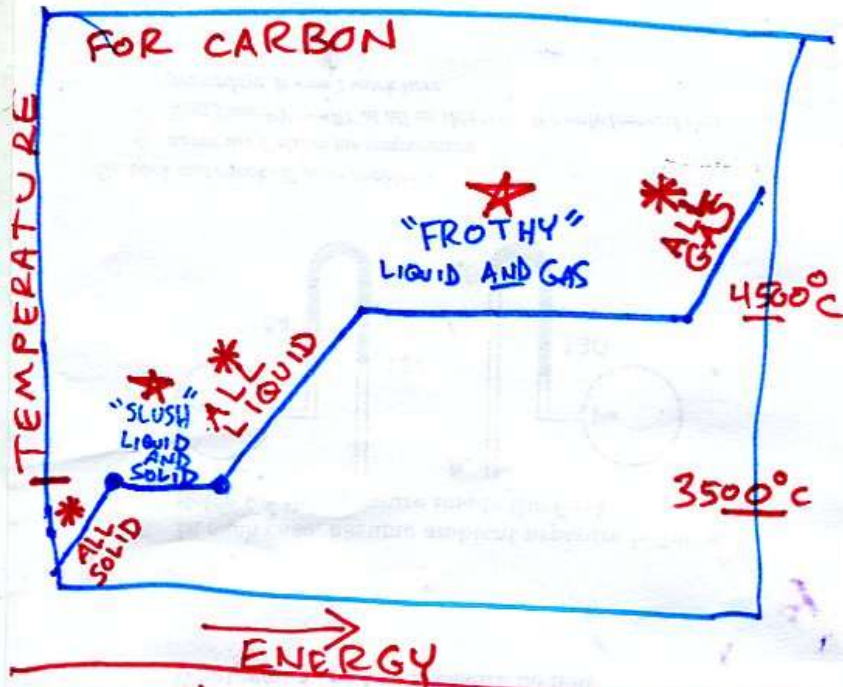
PURPOSE: WHY DOES COOLING CAUSE A STRANGELY CURVED GRAPH?

WARMUP (copy)

"A student records cooling temperatures for a liquid as

60, 55, 50, 50, 50, 50, 45"

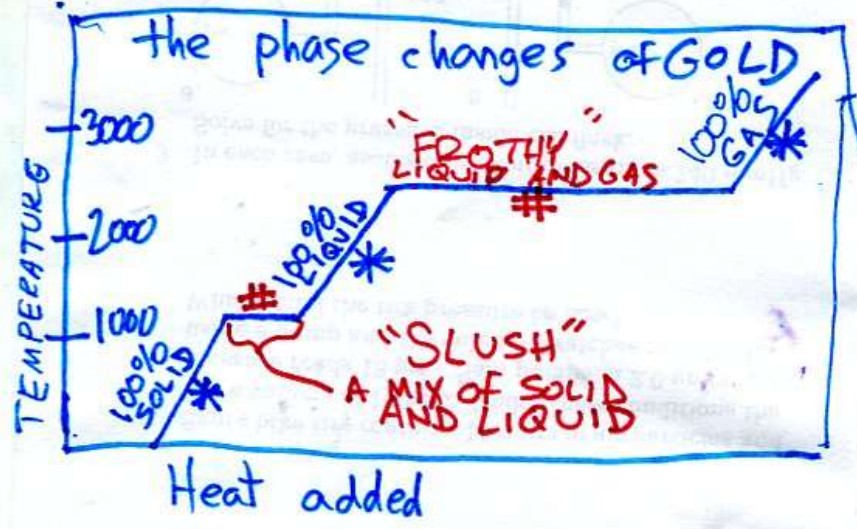




\* the energy that's added only goes to cause faster vibration

\* the energy that's added only goes to separate the molecule distance (change the phase)

ALL ELEMENTS AND MOST SUBSTANCES GO THROUGH A ZIG ZAG WHEN HEATED AND COOLED, MELTED, BOILED, ETC



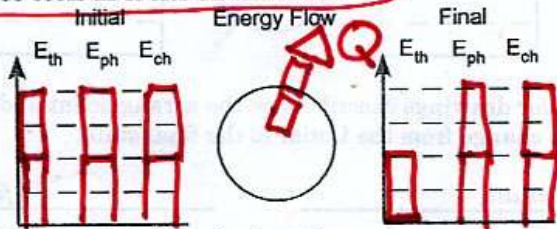
\* IN THIS REGION, AS YOU ADD HEAT, IT ALL GOES INTO MAKING FASTER VIBRATIONS

# IN THIS REGION AS YOU ADD HEAT, IT ONLY GOES INTO SEPERATING THE MOLECULES





1. A cup of hot coffee cools as it sits on the table.

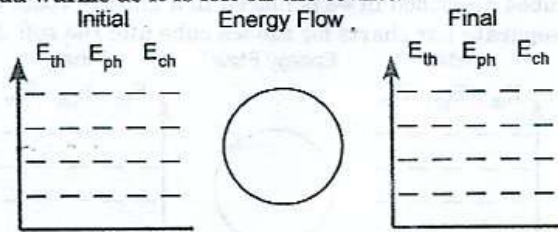


In words and/or drawings describe how the arrangement and motion of the molecules change from the initial to the final state:

*initial:*  
fast vibrations of liquid

*final:*  
slower vibrations of liquid

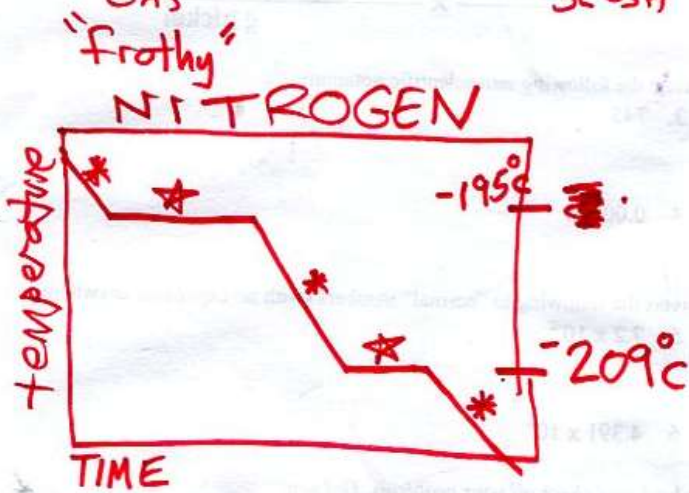
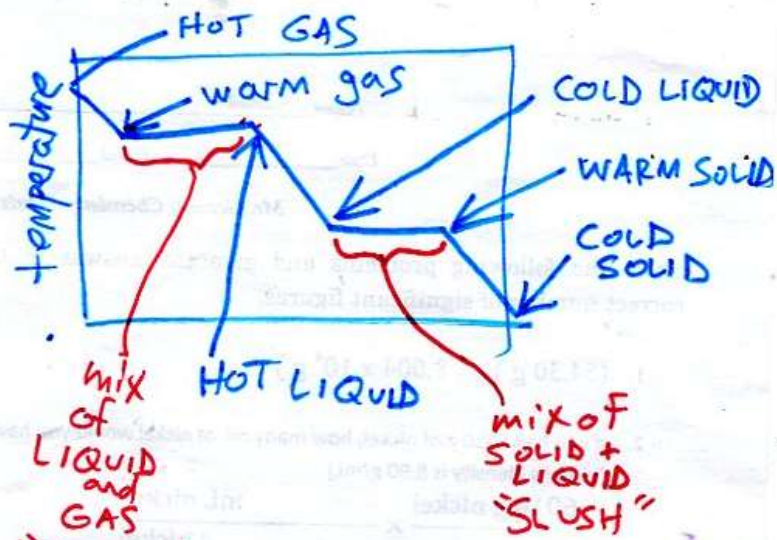
2. A can of cold soda warms as it is left on the counter.



In words and/or drawings describe how the arrangement and motion of the molecules change from the initial to the final state:

*initial:* \_\_\_\_\_

*final:* \_\_\_\_\_



\* at these times, adding energy makes nitrogen vibrate faster

★ at these times, added energy is only used to change phase and increase separation.