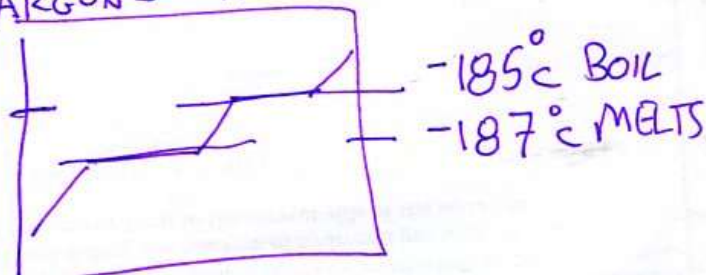
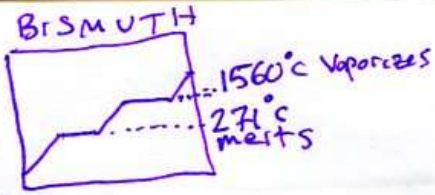


Quiz Tomorrow Includes Movie Notes
BIG TEST A WEEK FROM TODAY

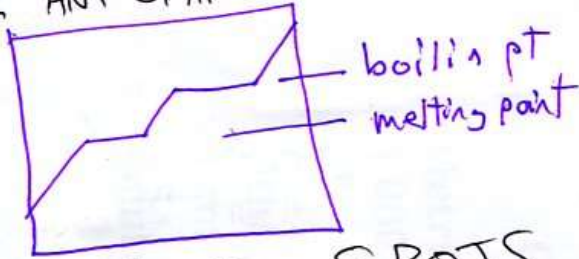
PURPOSE: WHAT DO THE
FLAT SPOTS TELL US?

ARGON'S DATA





FOR ANY GRAPH OF TEMPERATURE



THE FLAT SPOTS
SHOW THE MP and B.P.

WHAT DO YOU REMEMBER?

FAHRENHEIT

CELSIUS

LAVOISIER

RUMFORD

FARADAY

ONNES

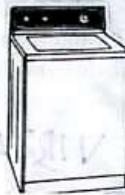
BOSE

°C VAPORIZING
104°c
solid
melt

Contrast particles gaining E_m versus gaining E_{ph}

East.H.S. ©LEM|s+ry

visit <http://genost.weebly.com>

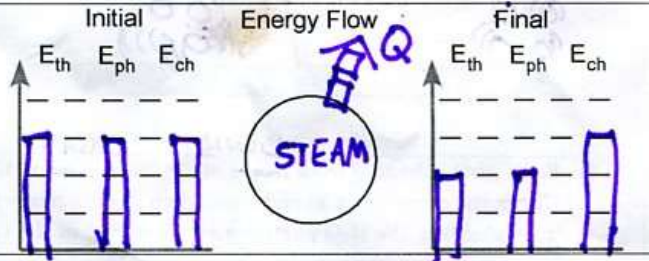


Name _____

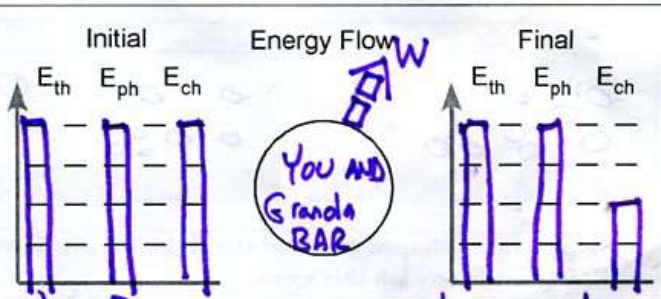
Date **ANSWERS**

This Friday is a tiny quiz
Thursday Nov 11 is a big Test
Friday Nov 12 there is no school for students

1. Draw the energy diagram for a puff of steam (H_2O gas) changing into condensation on a soda can.



2. Draw the energy diagram for you, running to catch the bus, using the calories from a granola bar you ate at lunchtime.
3. Name a food that is healthy but tastes terrible: **cheesecake**



Food turns to feces, a new chemical.

4. Define kinetic energy **The energy of movement.**
5. Define potential energy **Hidden energy.**
6. Decide which kind of energy was increased in each case.

Object	Type of energy that was added
a mousetrap has been set by pulling back the spring	<input type="checkbox"/> kinetic <input checked="" type="checkbox"/> potential
a book is moved from the floor up to a tabletop	<input type="checkbox"/> kinetic <input checked="" type="checkbox"/> potential
When something gains E_{th}	<input checked="" type="checkbox"/> kinetic <input type="checkbox"/> potential

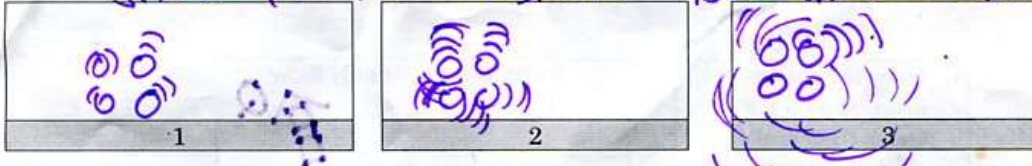
Object	Type of energy that was added
cold tea was heated to hot tea	<input checked="" type="checkbox"/> kinetic <input type="checkbox"/> potential
solid iron at its m.p. was heated until it was liquid at the same temperature	<input type="checkbox"/> kinetic <input checked="" type="checkbox"/> potential
When something gains E_{ph}	<input type="checkbox"/> kinetic <input checked="" type="checkbox"/> potential

phase changes are potential energy

7. Some H₂O is heated from -20°C to -°10C (note the negative signs). Check the correct box at right and then draw a particle 'movie' of how the H₂O particles are changing in the three squares as time goes on.

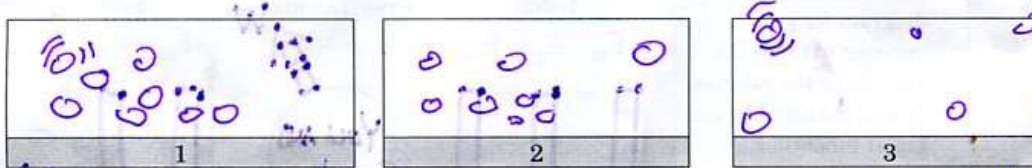
Most of the added energy is going in and being stored as
 kinetic energy
 potential energy

SHOW FASTER VIBRATION BUT SAME SEPERATION

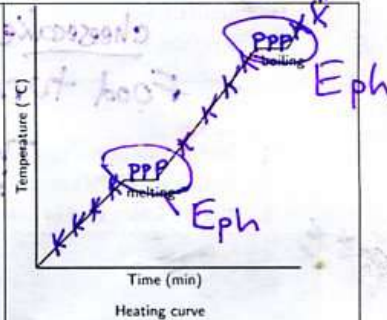


8. Some H₂O is heated from liquid at 100°C to solid at 100°C. Check the correct box at right and then draw a particle 'movie' of how the H₂O particles are changing in the three squares as time goes on.

Most of the added energy is going in and being stored as
 kinetic energy
 potential energy



The ramp-shaped graph at the right is a preview of our Friday lab this week. This graph shows the temperature of a block of titanium as it is heated from solid, to liquid, and finally to gas.



9. Put little K's all along the line of this graph if it is a time when the titanium is gaining mostly kinetic energy
10. Put little P's all along the line of this graph if it is a time when the titanium is gaining mostly potential energy
11. Draw a circle around the part of the graph where you think E_{th} is increasing. Label it E_{th}
12. Draw a circle around the part of the graph where you think E_{ph} is increasing. Label it E_{ph}

13. A bike tire contains 8.38×10^{24} air molecules at 2.00 atm. When you filled it in the morning the air was 12°C and the pressure was 3.5×10^5 Pa. By nighttime, the temperature of the tire is 0°C. What is the new pressure of the tire?

COLDER, SO MUST SHRINK. LITTLE NUMBER MUST GO ON TOP.

$$2.00 \text{ atm} \times \left(\frac{273 \text{ K}}{285 \text{ K}} \right) = 1.92 \text{ atm}$$

$$3.5 \times 10^5 \text{ Pa} \times \left(\frac{273 \text{ K}}{285 \text{ K}} \right) = 3.4 \times 10^5 \text{ Pa}$$