

NAME: _____ Section: _____

Subject(s) of video(s): phase change, energy of phase change, melting, crystallizationPurpose(s) of video(s): take notes, record facts from observations, think-pair-share, assemble a conceptEZSnips video: *melting:* <http://youtu.be/im5Pz-2a4cc>YouTube video: *solidification:* <https://www.youtube.com/watch?v=9JUYPv7oLwU>

Melting and crystallization are opposite processes in a change of *phase*. In melting, material in the solid phase changes to a liquid phase. In crystallization, material in a liquid phase changes to a solid phase. Watch and listen carefully, take good notes, address the issues, then discuss with your peers.

Training Video: Melting of ice cube.

1. What is the temperature at which ice melts?

°C _____ °F _____

2. As the solid ice melts to liquid water, energy is

- a) absorbed by the solid ice
(then proceed to #3), or
b) emitted by the solid ice
(then proceed to #4).

3. If 2a), where did the energy to melt the solid ice come from?

4. If 2b), where did the energy emitted by the solid ice as it melts go to?

5. At the end of the melting process, all the solid ice has been transformed into the liquid phase. What do you think the temperature of the water is as the last molecule of ice has melted? Explain.

6. At the beginning of the video, what is the highest (maximum) temperature of the ice? Design an experiment to "prove" your answer.

_____ Explain.

Assessment video: solidification of magma

7. What is a temperature at which fluid magma solidifies? (You may search for answer.)

°C _____ °F _____

8. As the fluid magma solidifies to solid rock, energy is

- a) absorbed by the fluid magma,
(then proceed to #9), or
b) emitted by the fluid magma
(then proceed to #10).

9. If 8a), where did the energy to solidify the fluid magma come from?

10. If 8b), where did the energy to solidify the fluid magma go to?

11. At the end of the melting process, all the fluid magma has been transformed into the solid phase. What do you think the temperature of the lava is as the last molecule of fluid has solidified? Explain.

12. At the beginning of the video, what is the lowest (minimum) temperature of the fluid magma? Design an experiment to "prove" your answer.

_____ Explain.