

Answer each question (as if this were a quiz). It's graded for a classwork even though it feels like a quiz. You should be able to do all of these. Put answers on the answer sheet.

1. Show the dissociation of solid aluminum chlorate into water.
2. Explain why aluminum chlorate is an electrolyte, or is not an electrolyte.
3. Determine the number of grams of ammonium chloride that saturates 100 mL solution at 303 Kelvin.
4. Determine the number of grams of potassium chloride that saturates a 425 mL solution at 43°C.
5. If you have a saturated 100 mL solution of potassium nitrate at 60°C but then cool it down to 20°C, tell exactly what happens? (this is math and words)
  
6. If you have a 100 mL saturated solution of sodium nitrate at 35°C, and you warm it up to 63°C, is it still saturated? Explain, don't say yes or no.
7. Draw the dissociation of 1 formula unit of lithium carbonate into water, with the at least 9 water molecules that are properly oriented to each of the ions.
8. Water has a low vapor pressure. What is vapor pressure? Why does water have low vapor pressure?
9. Ice can float on liquid water (ex: Titanic, the movie). Why is this possible (don't just say ice has a lower density than liquid water, tell WHY water has a lower density than liquid water.
10. What is a homogeneous solution? Why won't oil and water mix into a homogeneous solution? What does like dissolves like mean?
  
11. Is barium chromate an electrolyte? If yes, draw a smiley face next to your one word answer. If no, use at least one complete sentence to tell why it isn't.
12. Is sodium acetate an electrolyte? No smiley faces here, explain your answer.
13. Skip this one.
14. Sodium acetate is the ionic compound that is in the reusable handwarmers. State the particularly important "one-liner" that explains how these hand warmers work.
15. Soap is a surfactant. Explain how soap breaks the strong hydrogen bonding at the surface of water.
16. 325 grams of steam at 373 Kelvin condenses onto your kitchen window, then cools down to the room temperature of 23°C. What formula or formulas do you need to use to figure this out? You do NOT have to do the math for this one.



1	
2	
3	
4	
5	
6	

7	
8	
9	
10	
11	

12	
13	
14	
15	
16	