

Friday  
March  
1  
2019

**AIM**

- What are colligative properties? – How to use Table H

**YOYO**

- Work on the 6 questions on the back of yesterday's sheet

**AGENDA**

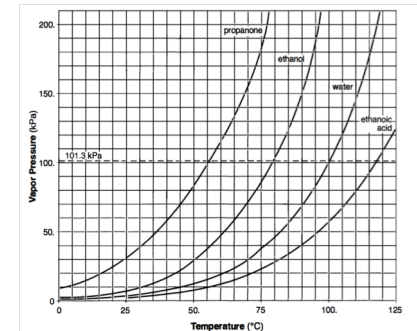
- YOYO
- Colligative Properties Questions
- Table H Reading/Questions
- Practice Test

**HOMEWORK**

- Review Book \$ Due TODAY
- Castle Learning – due Mon. 3/4
- Unit 7 Test – Tuesday 3/5
- Unit 7 HW Packet – due Wed. 3/6

## Vapor Pressure and Table H

- Table H can be used to find:
  - Vapor pressures at specific temperatures
  - Boiling Point
    - When vapor pressure = atmospheric pressure
    - Water boils at 100 C @ 1 atm or 101.3 kPa



## Important Relationships

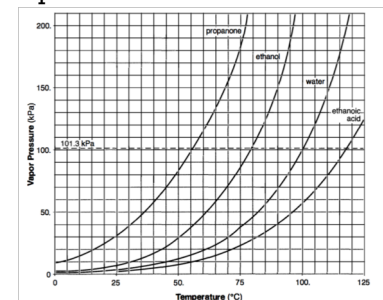


- **BP = Boiling Point**
  - High BP = a lot of energy is needed to "break up the party" and become a gas/vapor
  - Low BP = less energy is needed to "break up the party" and become a gas/vapor
- **VP = Vapor Pressure**
  - High VP = substance becomes a vapor very easily
  - Low VP = substance stays a liquid easier
- **Volatile = how likely something is to turn into a vapor**
  - Highly volatile = becomes a vapor very easily
  - Non/low volatile = stays a liquid easier
- **IMF = Intermolecular Forces**
  - Strong IMF = the molecules interact with each other a lot, and it takes a lot of energy to "break up the party"
  - Weak IMF = the molecules DON'T interact with each other a lot, and it takes little energy to "break up the party"

## Table H Practice Question 1

Which liquid has the lowest vapor pressure at 65 C?

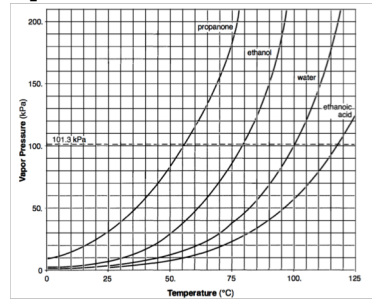
- Ethanoic acid
- Ethanol
- Propanone
- Water



### Table H Practice Question 1

Which liquid has the lowest vapor pressure at 65 C?

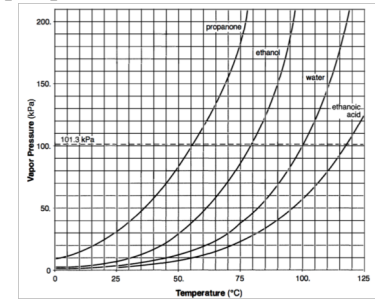
- Ethanoic acid
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- Water



### Table H Practice Question 2

Which liquid has the highest vapor pressure at 75C?

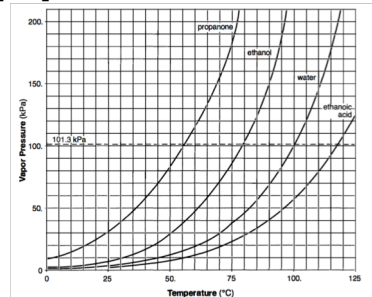
- Ethanoic acid
- Ethanol
- Propanone
- Water



### Table H Practice Question 2

Which liquid has the highest vapor pressure at 75C?

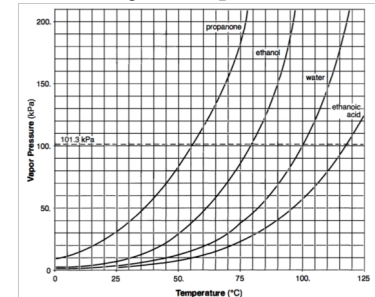
- Ethanoic acid
- Ethanol
- Propanone
- Water



### Table H Practice Question 3

Based on Table H, which sample has the highest vapor pressure?

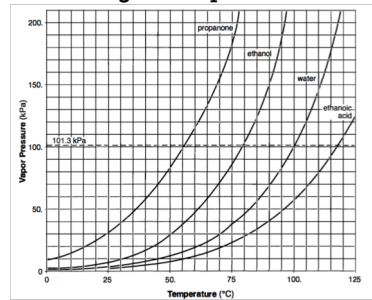
- Water at 20 C
- Water at 80 C
- Ethanol at 50 C
- Ethanol at 65 C



### Table H Practice Question 3

Based on Table H, which sample has the highest vapor pressure?

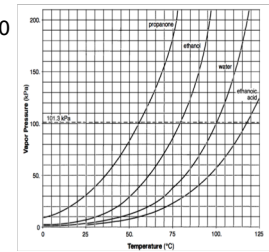
- Water at 20 C
- Water at 80 C
- Ethanol at 50 C
- Ethanol at 65 C



### Table H Practice Question 4

Using your knowledge of chemistry and the information in Reference Table H, which statement concerning propanone and water at 50 C is true?

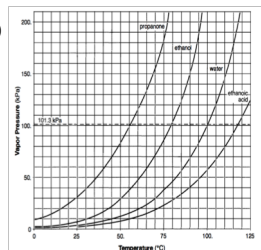
- Propanone has a higher vapor pressure and stronger intermolecular forces than water
- Propanone has a higher vapor pressure and weaker intermolecular forces than water
- Propanone has lower vapor pressure and stronger intermolecular forces than water
- Propanone has a lower vapor pressure and weaker intermolecular forces than water



### Table H Practice Question 4

Using your knowledge of chemistry and the information in Reference Table H, which statement concerning propanone and water at 50 C is true?

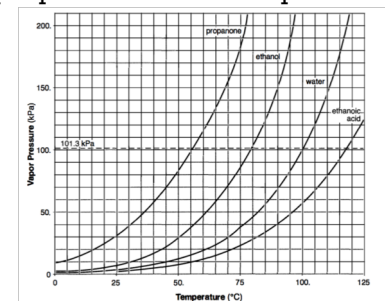
- Propanone has a higher vapor pressure and stronger intermolecular forces than water
- Propanone has a higher vapor pressure and weaker intermolecular forces than water
- Propanone has lower vapor pressure and stronger intermolecular forces than water
- Propanone has a lower vapor pressure and weaker intermolecular forces than water



### Table H Practice Question 5

At which temperature is the vapor pressure of ethanol equal to 80 kPa?

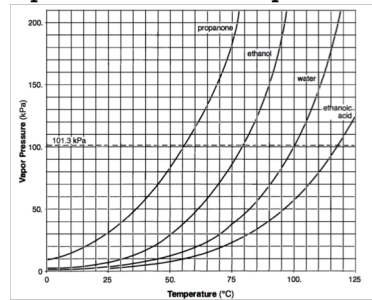
- 48 C
- 73 C
- 80 C
- 101 C



### Table H Practice Question 5

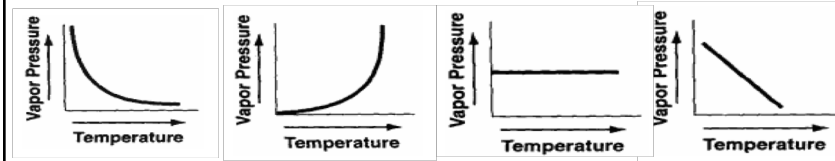
At which temperature is the vapor pressure of ethanol equal to 80 kPa?

- a. 48 C
- b. 73 C
- c. 80 C
- d. 101 C



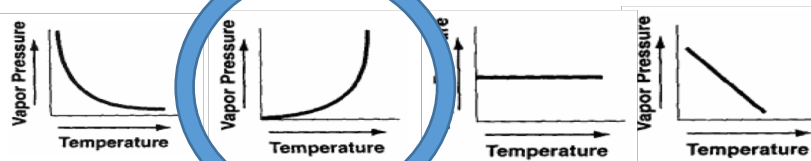
### Table H Practice Question 6

Which graph best represents the variation in vapor pressure of water as temperature increases?



### Table H Practice Question 6

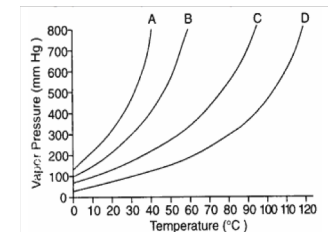
Which graph best represents the variation in vapor pressure of water as temperature increases?



### Table H Practice Question 7

The graph below represents the vapor pressure curves of four liquids. Which liquid has the highest normal boiling point?

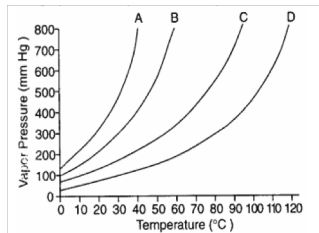
- a. A
- b. B
- c. C
- d. D



### Table H Practice Question 7

The graph below represents the vapor pressure curves of four liquids. Which liquid has the highest normal boiling point.

- a. A
- b. B
- c. C
- d. D



### Practice Test Time!

- Take a practice test and review sheet and start working on it.
- The key and explanations will be posted sometime this weekend

