

1. Kinetic molecular theory (KMT)
What is the principle upon which the kinetic molecular theory is based?
2. In your own words, summarize each of the 5 assumptions of the KMT.
3. Nature of gases: For each of the following, describe a situation of which you are familiar that illustrates each of the following physical properties of gases:
Expansion
Low density
Compressibility
Diffusion
4. Ideal gas: What are the two properties of an *ideal* gas (a concept, an ideal gas does not really exist) that make them different from gases that do exist on earth (*real* gases) ?
 - a. the individual particles of an ideal gas take up no _____
 - b. the particles of an ideal gas have no _____ for one another.
5. Real gases behave most like an ideal gas when their molecules are: _____
and their shape and electronegativity differences make them _____,
which makes their IMF's very weak.
6. Real gases will deviate from ideal behavior the most when the physical conditions in their environment are: high _____ and low _____.

Explain why:
7. Liquids are often described as *non-compressible fluids*. Please explain what this means and why liquids can behave this way.
8. What is the difference between *evaporation vs boiling*
9. Freezing and melting of a pure substance occur at the same temperature.
What is the difference between the two?

What occurs on the molecular level when each of them occur?
10. a. Describe the difference between solids that are crystalline vs amorphous.

b. give examples of each