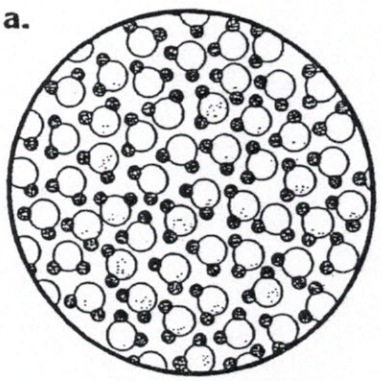
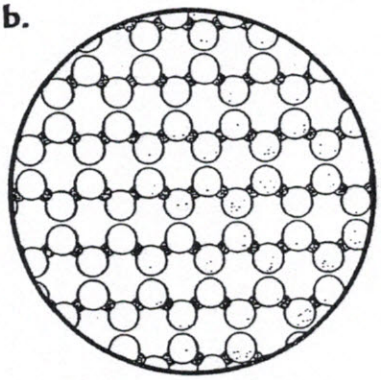
States of Matter

You are already familiar with the most common states of matter: solid, liquid, and gas. For example you can see solid ice and liquid water. You cannot see water vapor, but you can feel it in the air on a humid summer day. How do you think the atoms and molecules are arranged in these different states? Examine the drawings shown below. Then answer the items that follow.

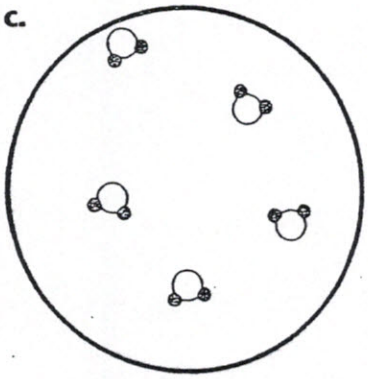
a.



b.



c.



1. Think about the properties of ice. It is somewhat hard and cannot be compressed easily. Which drawing do you think represents a solid? Why?

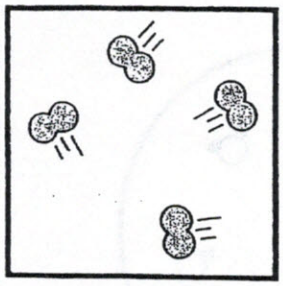
2. Think about the properties of gases. They are not hard, and they can be compressed. Which drawing represents a gas? Why?

3. In which state(s) of matter are the particles touching?

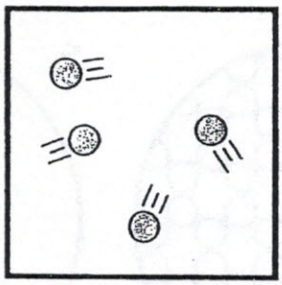
4. In which drawing do you think the particles have the least effect on one another? Why?

The nine drawings below contain different types and numbers of atoms and molecules. From your knowledge of the different classifications of matter, categorize the drawings shown below. Color code as follows: gases - red, liquids - b
solid - green

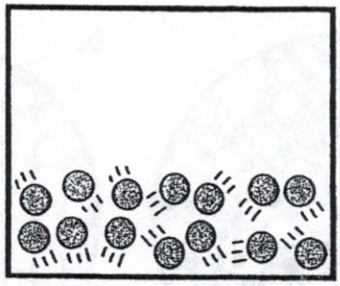
a.



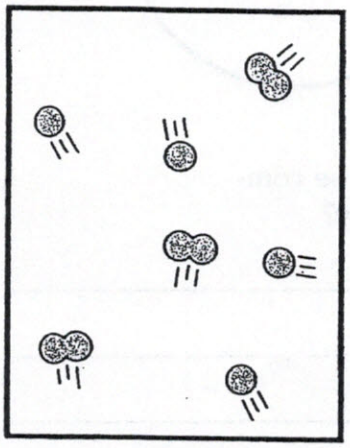
b.



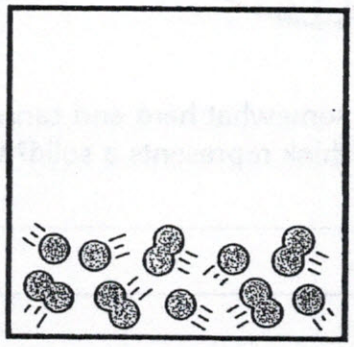
c.



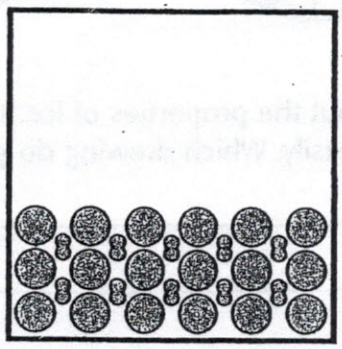
d.



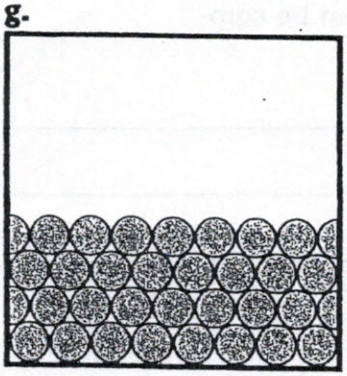
e.



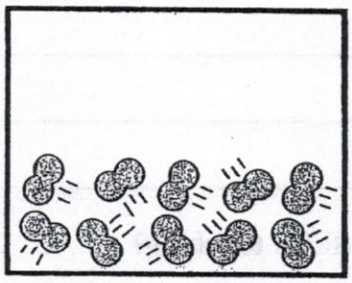
f.



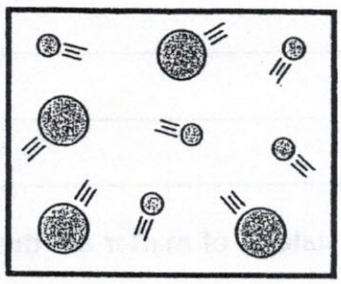
g.



h.



i.



1. Label each diagram as one of more of the following: solid, liquid, gas, atoms only, molecules only, atoms and molecules.

a. _____ d. _____ g. _____

b. _____ e. _____ h. _____

c. _____ f. _____ i. _____

2. Which diagram(s) could be a solution of gases?

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