Quiz Review – Topical Questions

Kinetic Theory of Matter

Expansion and Contraction – Solids, Liquids, Gases

States of Matter

Phase Changes

Distillation

Water Properties

Kinetic Theory

1. The kinetic theory of matter states that the higher the temperature, the faster the _____

A. Particles that make up a substance move
B. Bonds between atoms break down
C. Molecules of gas rush together
D. Lighter particles within a substance clump together

Kinetic Theory

2. The kinetic theory of matter helps to explain the differences between

_____

A. temperature of objects.
B. particles of only a gas.
C. types of motion.
D. states of matter.

Kinetic Theory

3. Which of the following is not a statement regarding the Kinetic Molecular Theory of Matter?

A. all matter is made of particles called atoms

B. the particles that make up matter are always in motion

C. forces of attraction do not influence KE

Expansion and Contraction

4. What happened on a molecular level to the atoms in the heated metal ball so that it no longer fit through the ring?

A. the atoms were rearranged

B. a phase change occurred

C. the atoms spread out

D. the atoms chemical properties were changed

Expansion and Contraction

5. Once cooled by the water, what occurred that now allowed the ball to fit once again through the ring?

A. KE increased & matter expanded
B. KE increased & matter contracted
C. KE decreased & matter expanded
D. KE decreased & matter contracted

Expansion and Contraction

6. If exposed to heat most liquids tend to do this_____.

A. expand

B. contract

C. stay the same

D. cannot be determined

Expansion and Contraction

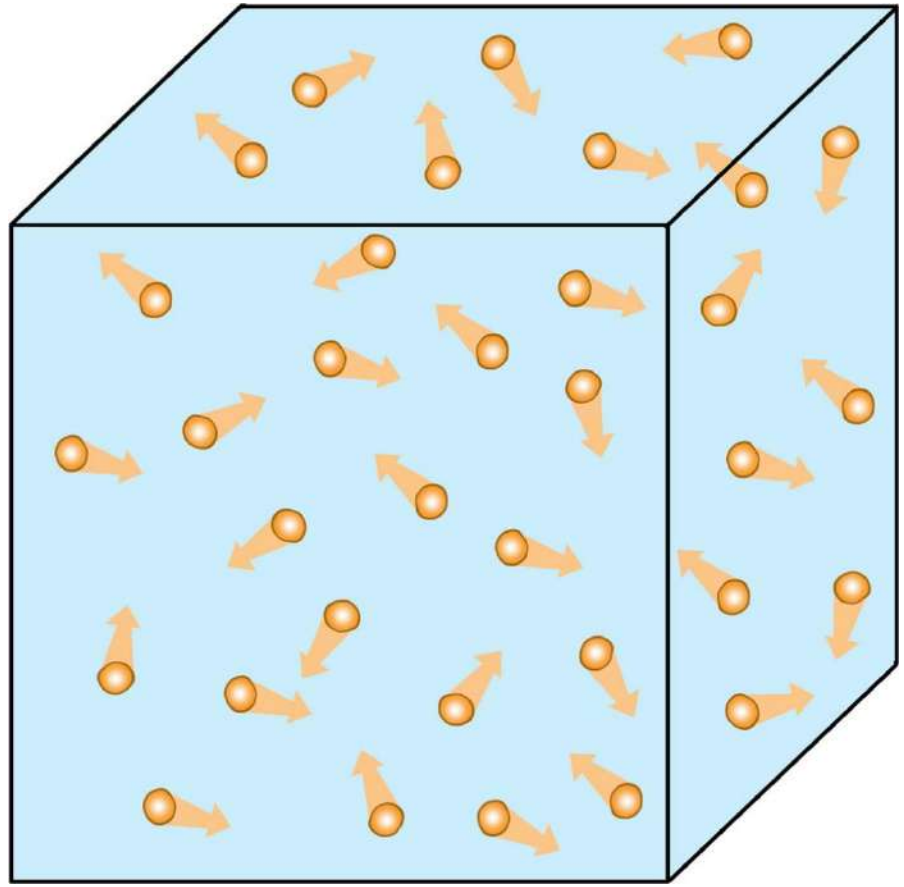
7. A combination of increased pressure and cooling temperatures will have this effect on a gas.

A. expand

B. contract

C. stay the same

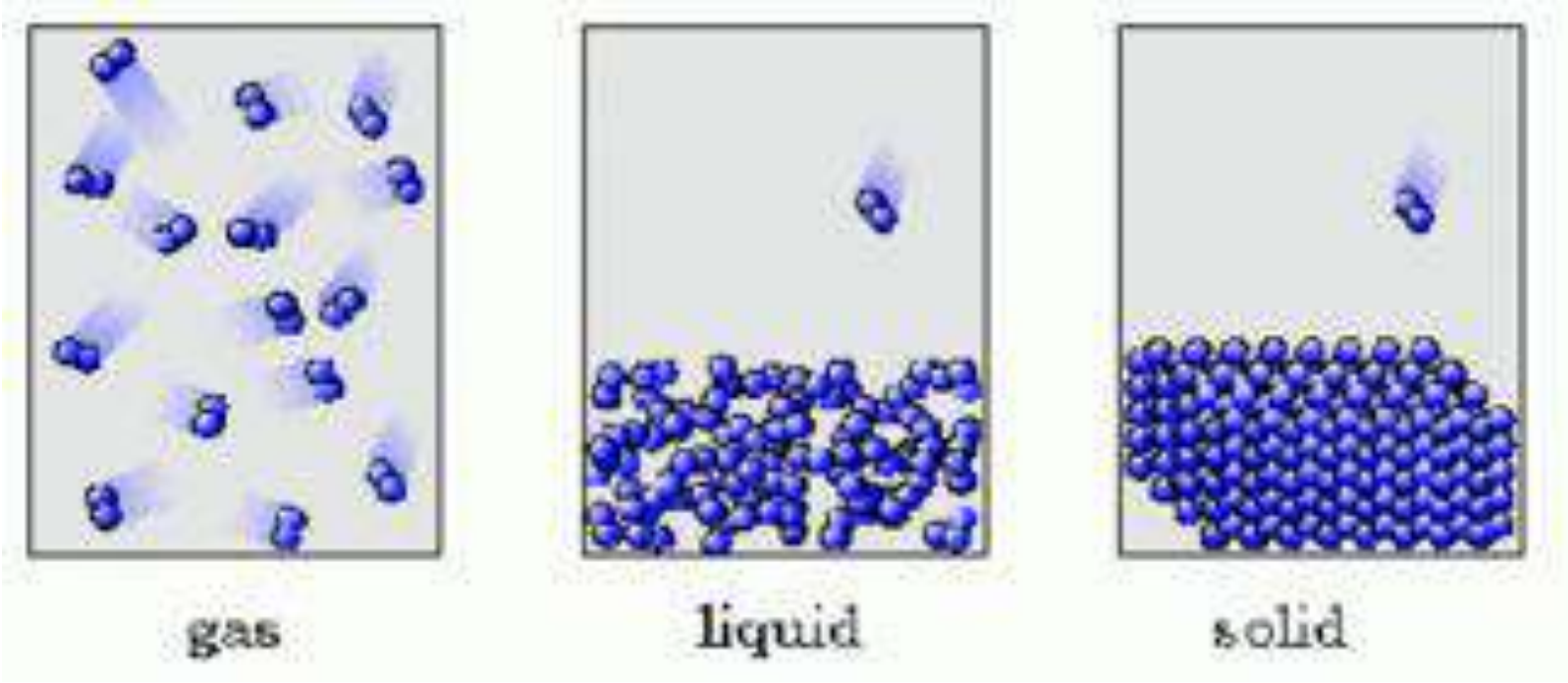
D. cannot be determined



States of Matter

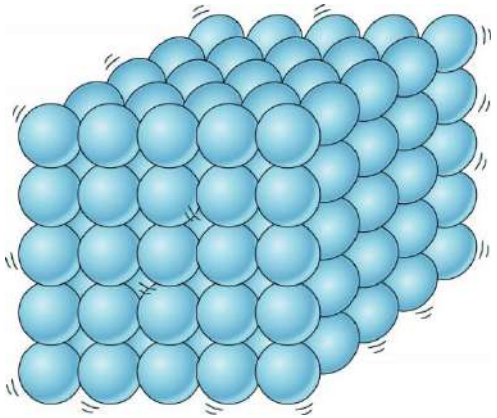
8. Matter that has a definite shape and definite volume is a _____

A. gas
B. liquid
C. solid
D. plasma



States of Matter

9. Which of the following best describes a solid?



A. particles can move past one another yet are still packed together

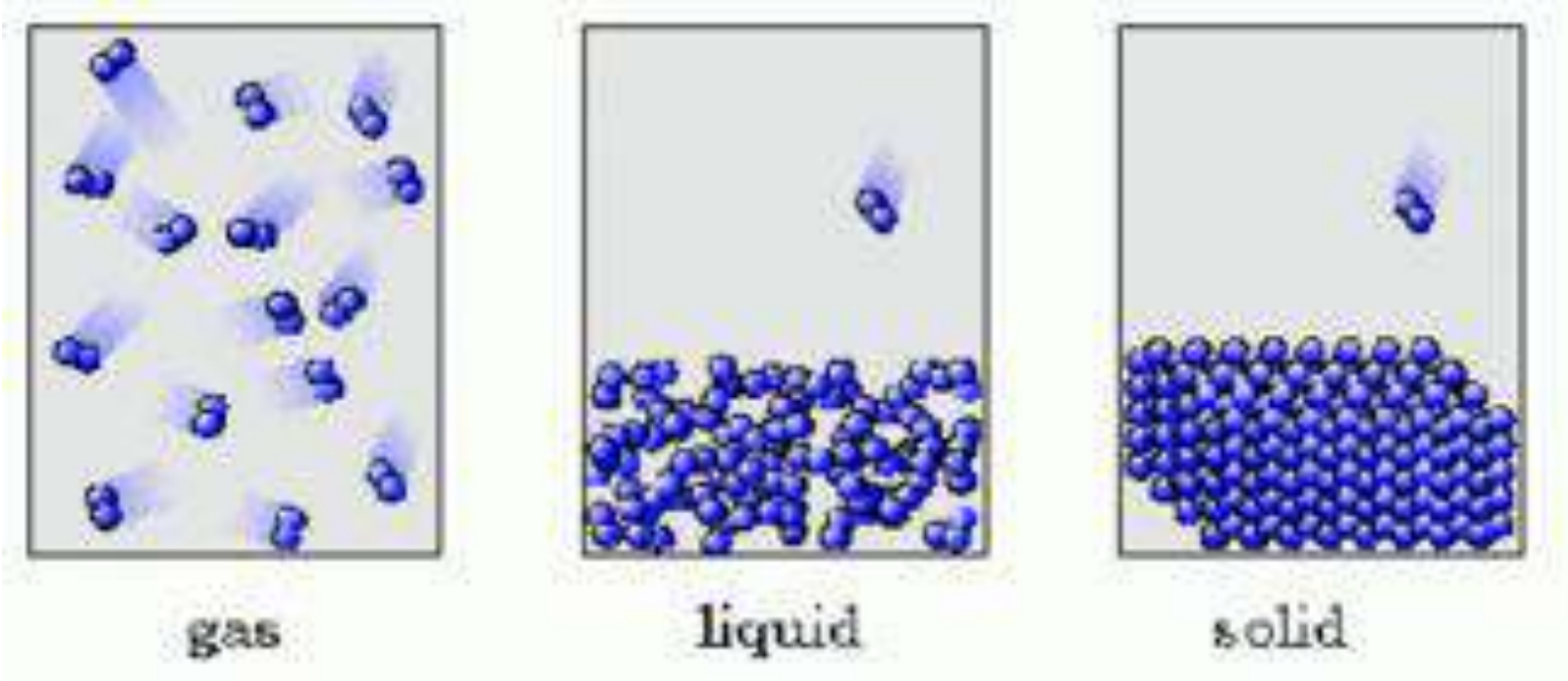
B. the particles are in rigid fixed positions

C. the particles move freely and fill the volume of nearly any space

States of Matter

10. Matter that has a definite volume but not a definite shape is a _____

A. gas
B. liquid
C. solid
D. plasma



States of Matter

11. The removal of heat and the resulting release of energy from matter causes ……

A. particles to speed up, rebound further away while forces of attraction lessen.

B. particles to move freely, while filling the volume of space around them.

C. particles to slow down, rebound closer together and forces of attraction to gain.

States of Matter

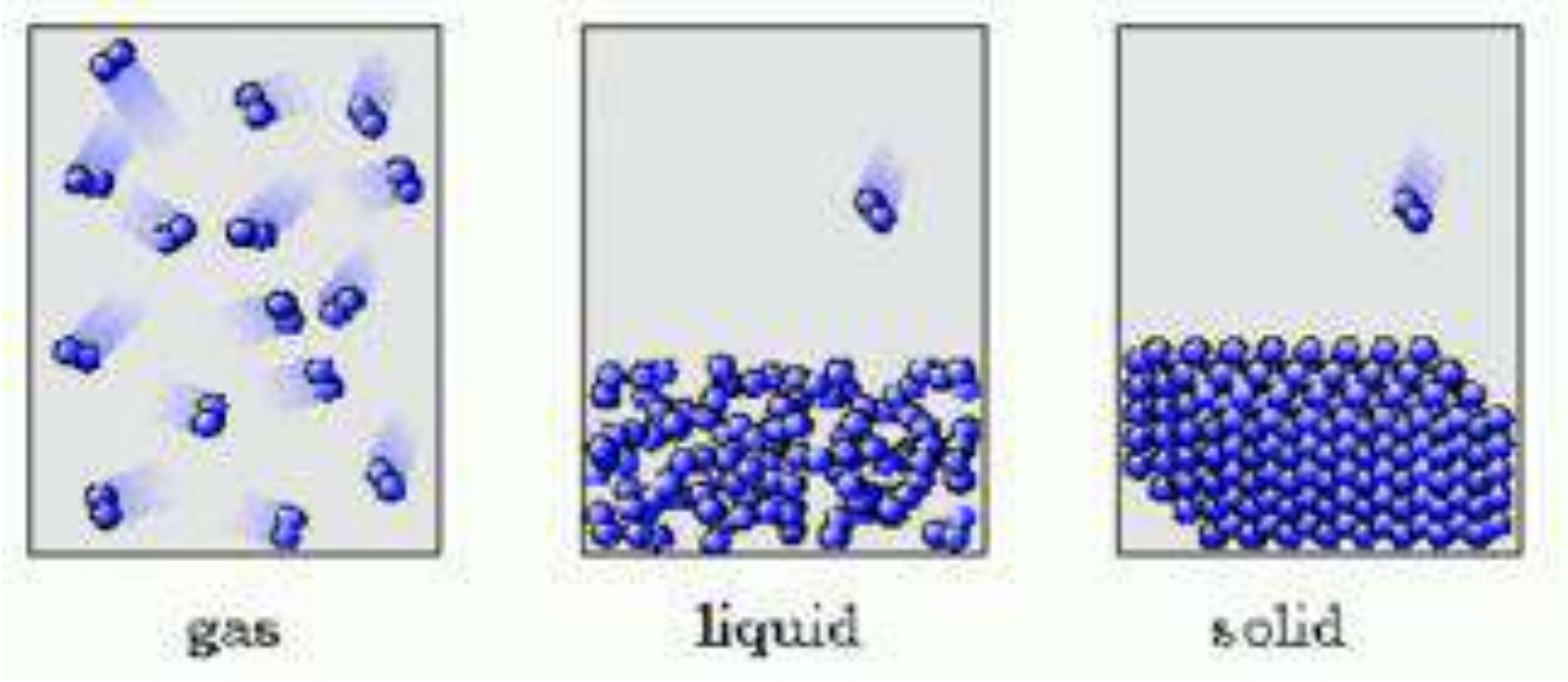
12. Matter that has a no definite volume and no definite shape is a _____

A. gas

B. liquid

C. solid

D. plasma



States of Matter

13. When fluids are subjected to increases in pressure they tend to do this.

A. evaporate

B. contract

C. expand

D. solidify

Phase Change

14. Condensation is the phase change in which a substance changes from _____.

A. solid to liquid
B. liquid to gas
C. gas to liquid
D. liquid to solid

Phase Change

15. When ice melts to form liquid, energy is …..

A. created
B. released
C. absorbed
D. destroyed

Phase Change

16. The temperature at which a solid becomes a liquid is called_____.

A. evaporation
B. condensation
C. freezing
D. melting
E. boiling
F. sublimation
G. deposition
H. vaporization

Phase Change

17. Connect the phase changes that occur at the same temperatures with a line ----------

condensation	melting
sublimation	boiling
freezing	evaporation

Phase Change

18. Which of the following phase changes requires the addition of energy? Energy is absorbed by the matter.

A. condensation
B. vaporization
C. deposition
D. freezing

Phase Change

19. The temperature at which a gas becomes a liquid is called_____.

A. evaporation point
B. freezing point
C. melting point
D. condensation point

Phase Change

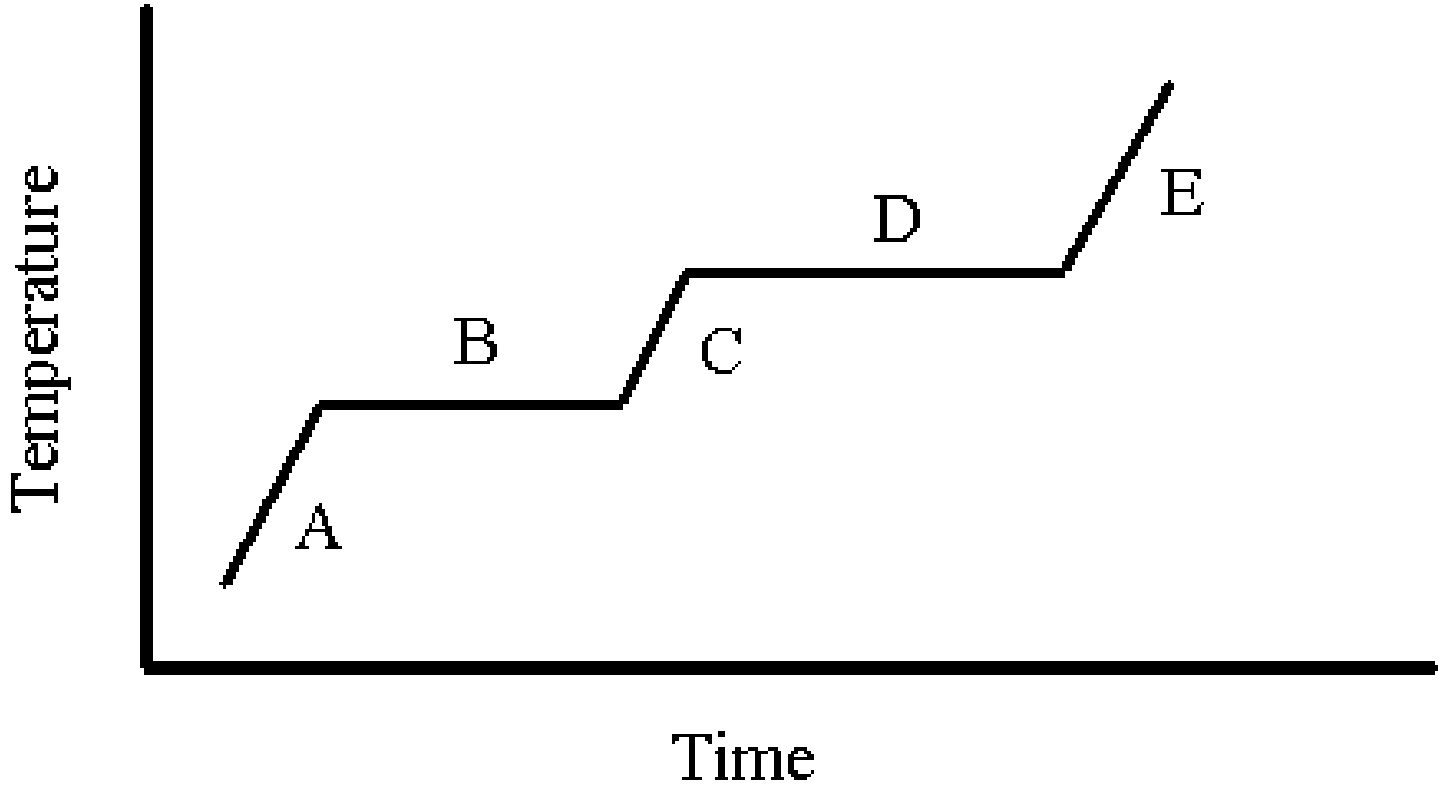
20. Which of the following phase changes requires the removal of energy? This is energy released by the matter. (select all that apply)

A. evaporation
B. condensation
C. freezing (solidification)
D. melting

Phase Change – graphs

21. What is occurring at positions B & D here?

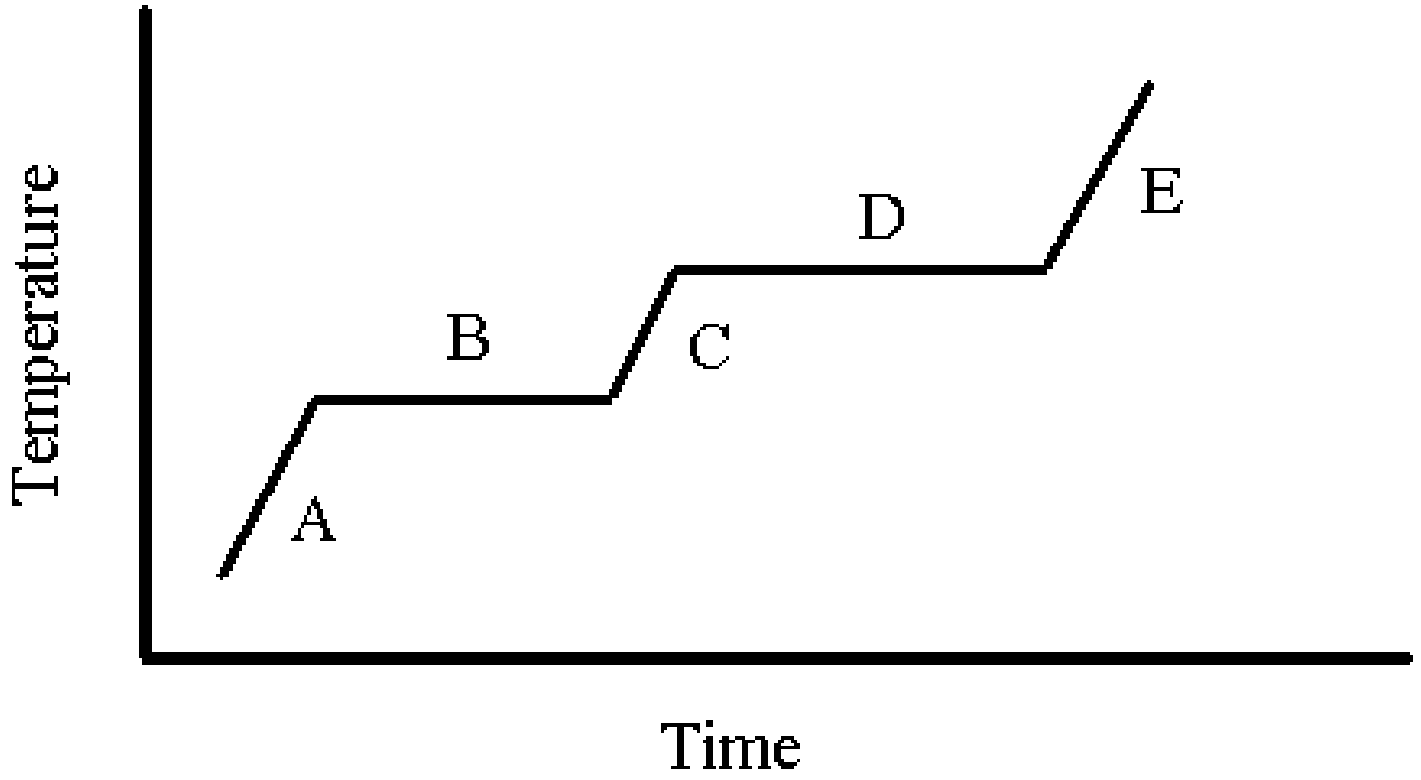
A. solid state
B. kinetic theory
C. gaseous state
D. phase change



Phase Change – graphs

22. What is occurring at positions C here?

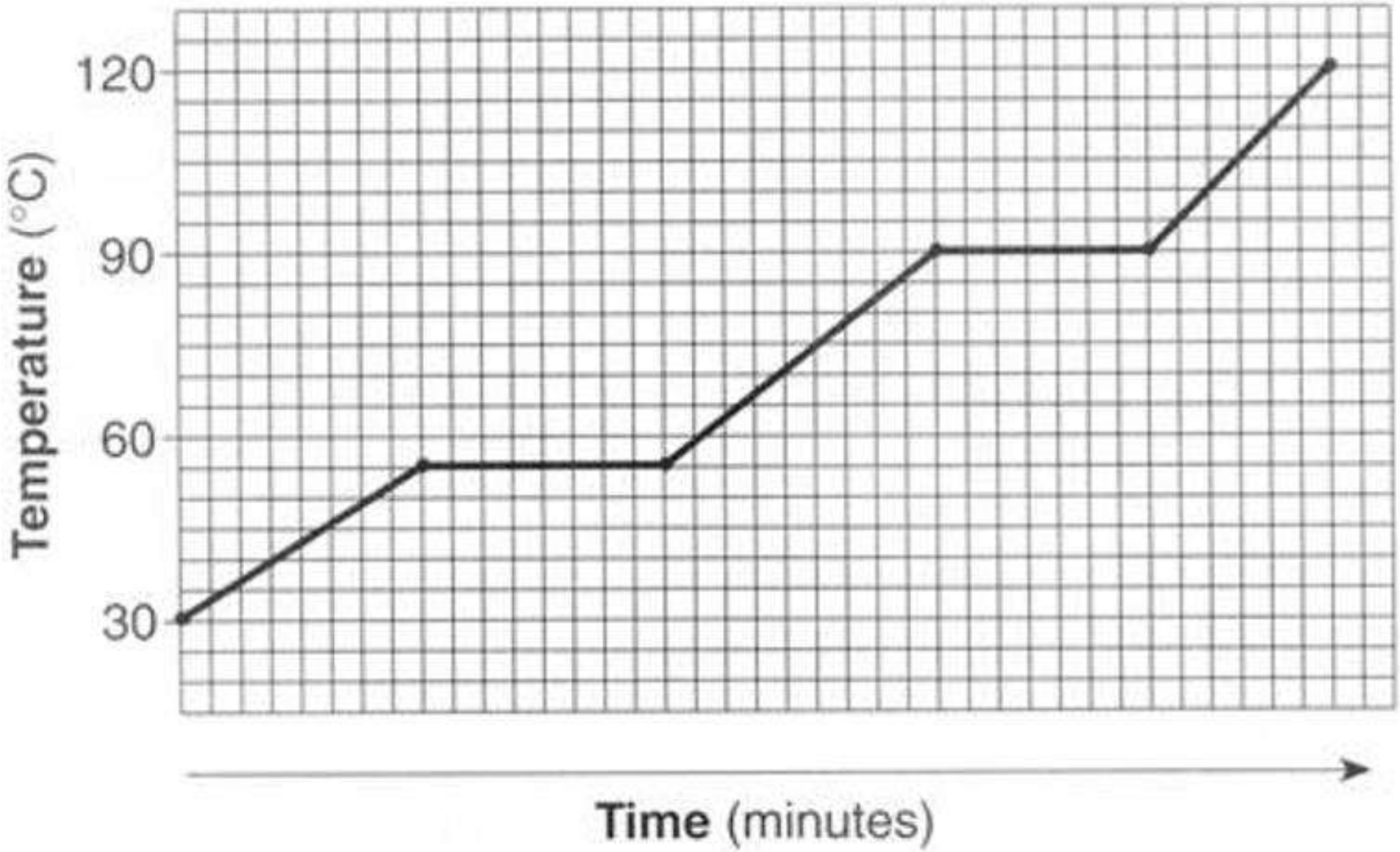
A. solid state
B. gas expanding
C. liquid state
D. gas contracting



Phase Change – graphs

23. At approximately what temperature does this substance freeze?

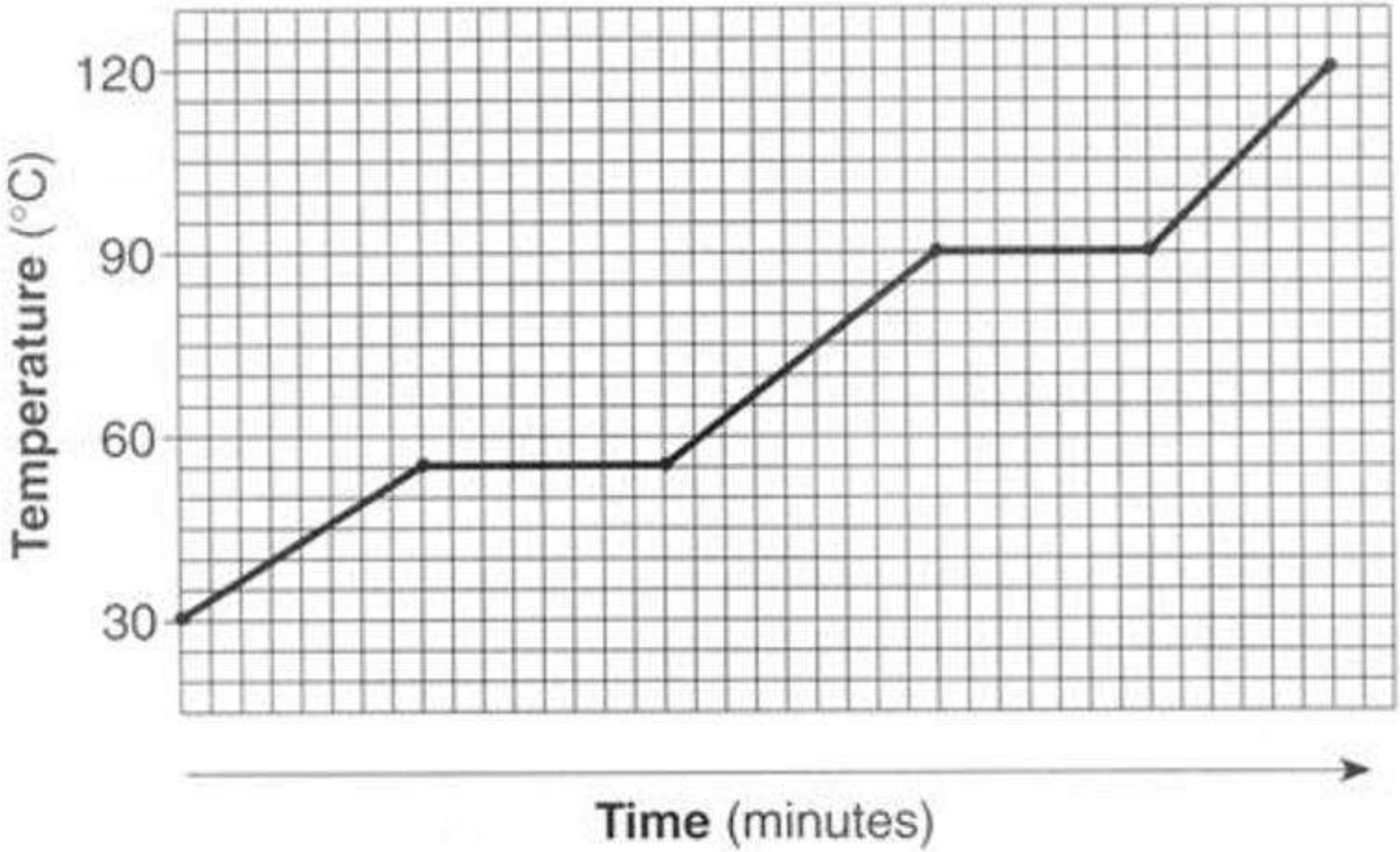
_____



Phase Change – graphs

24. At approximately what temperature does this substance condense?

_____

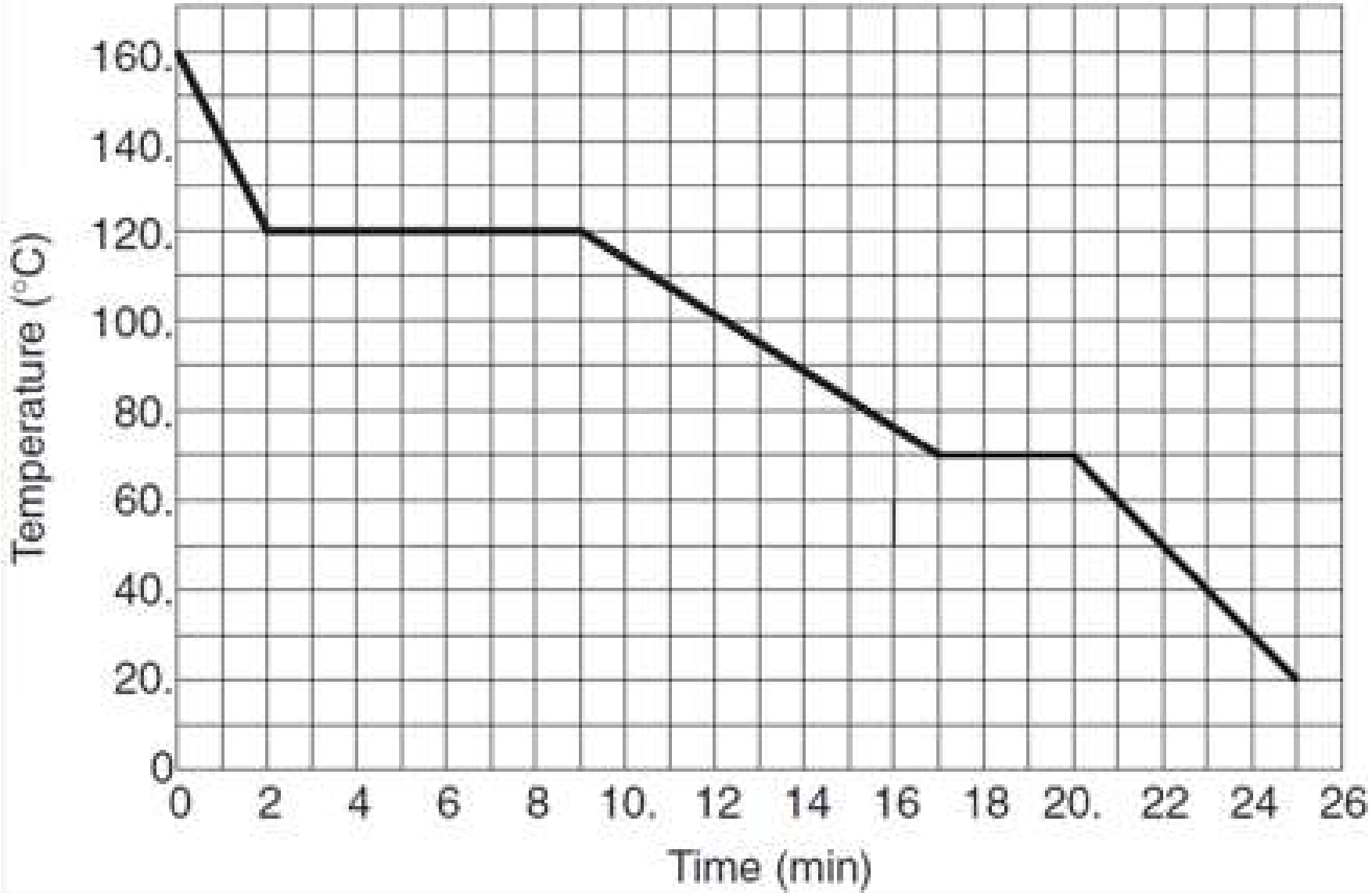


Phase Change – graphs

25. What two phase changes are this substance going through?

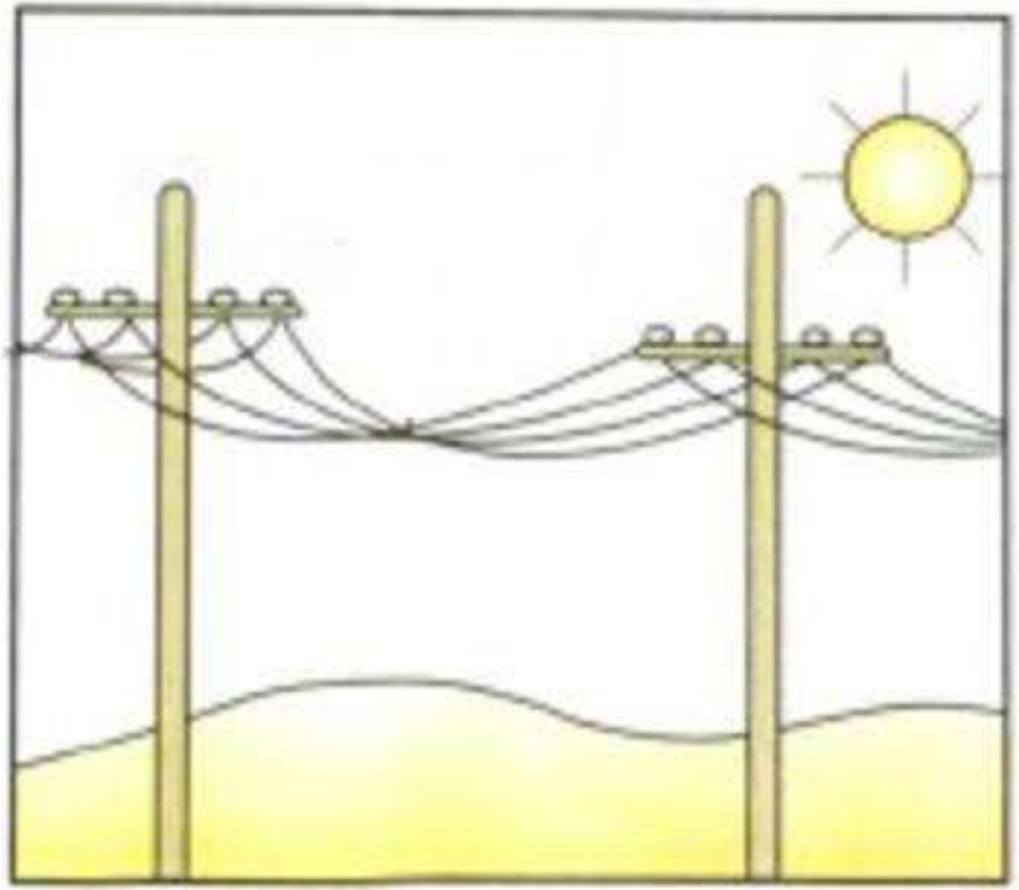
_____

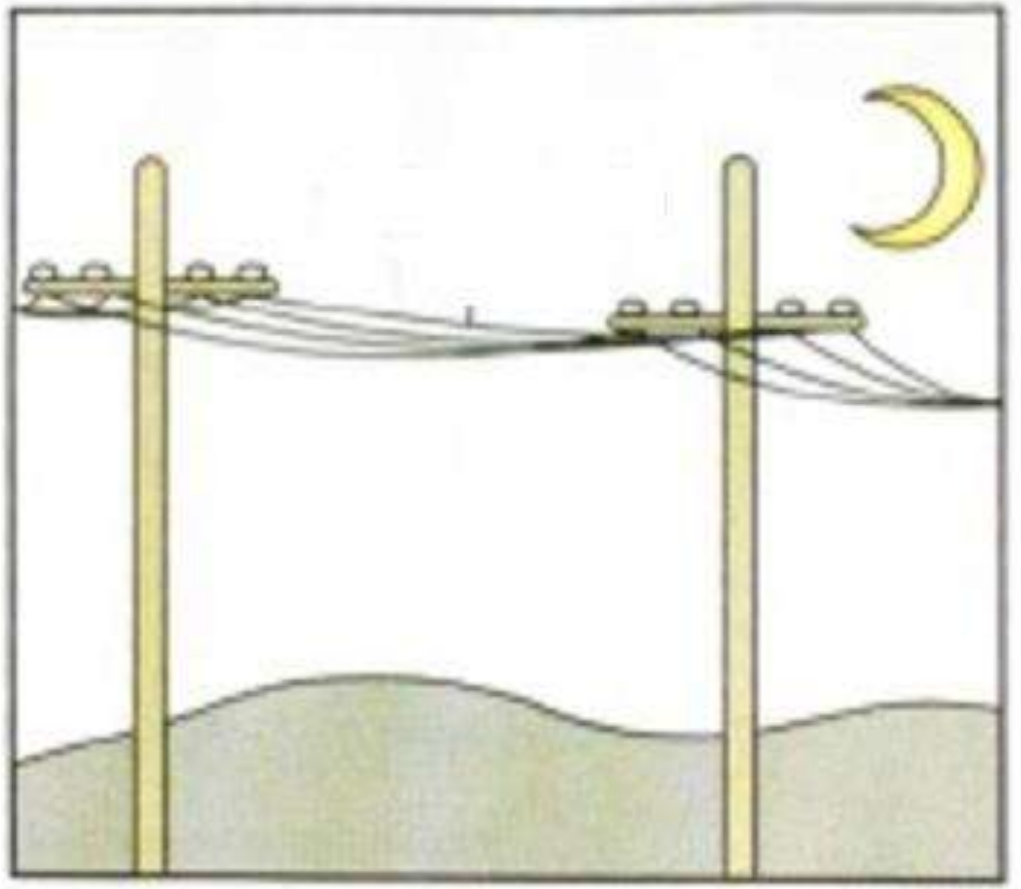
_____



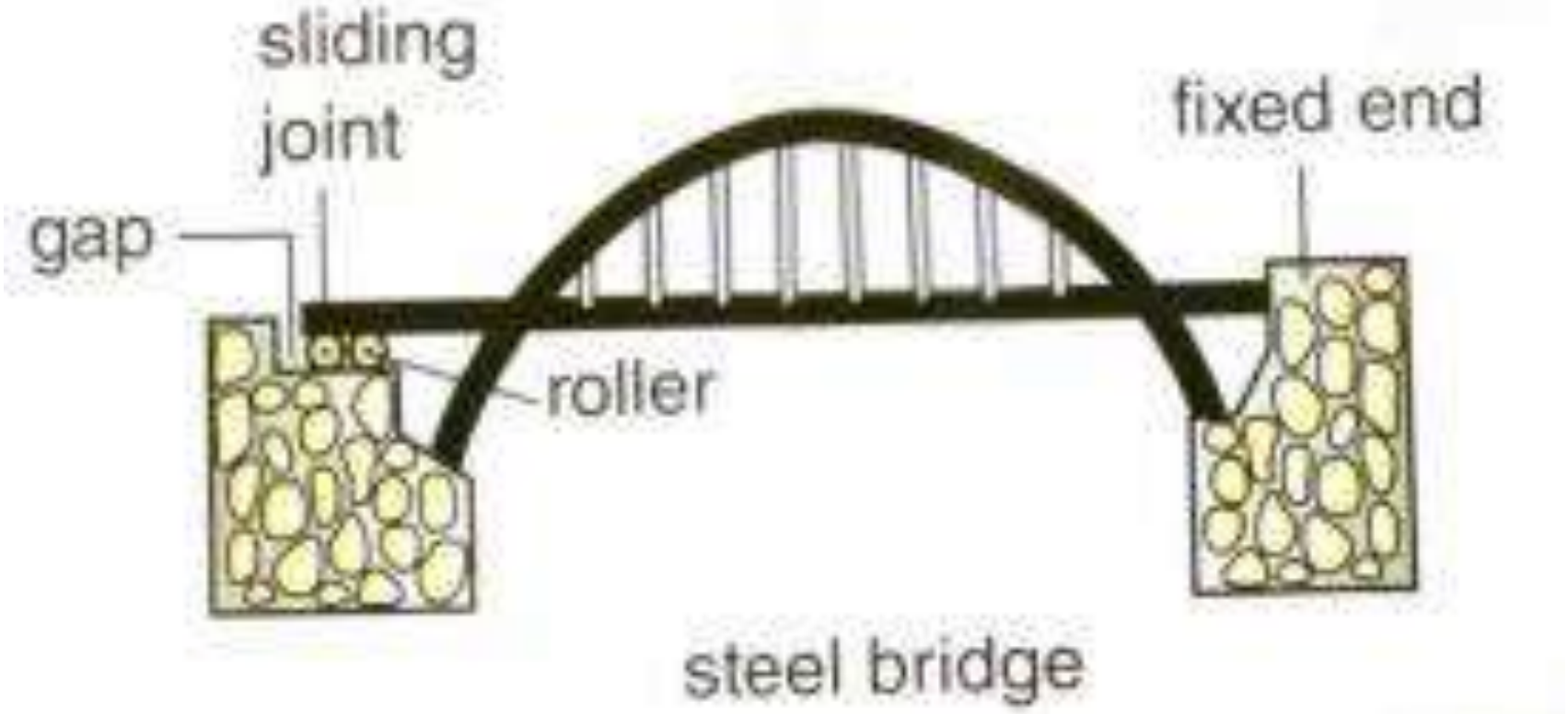
26. What property of matter (studied in class) is being depicted in the image below?

_____ _____



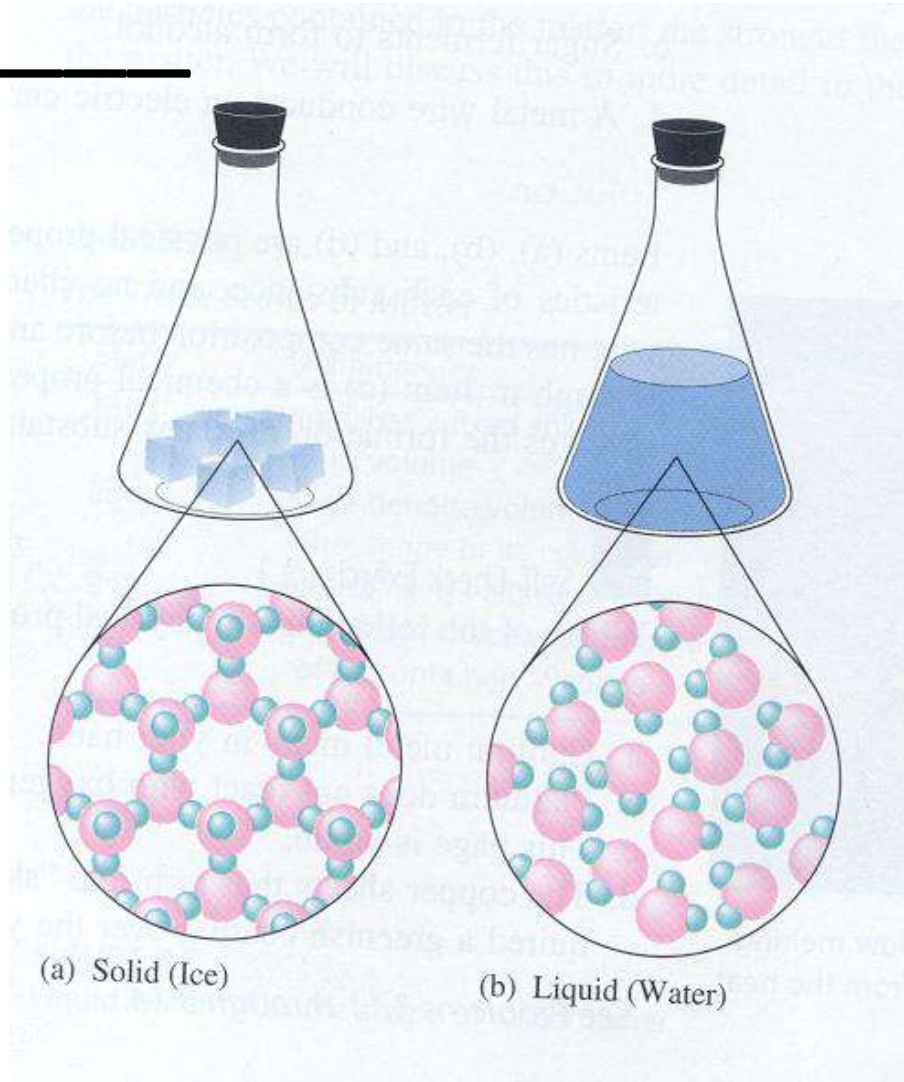


27. This another example of the previous phenomena which bride architects must account for. _____



28. During the process of freezing or solidifying the vast majority of substances on earth contract & increase density. Water is an exception and does this _____

A. contract & decrease density
B. contract & increase density
C. expand & decrease density
D. expand & increase density

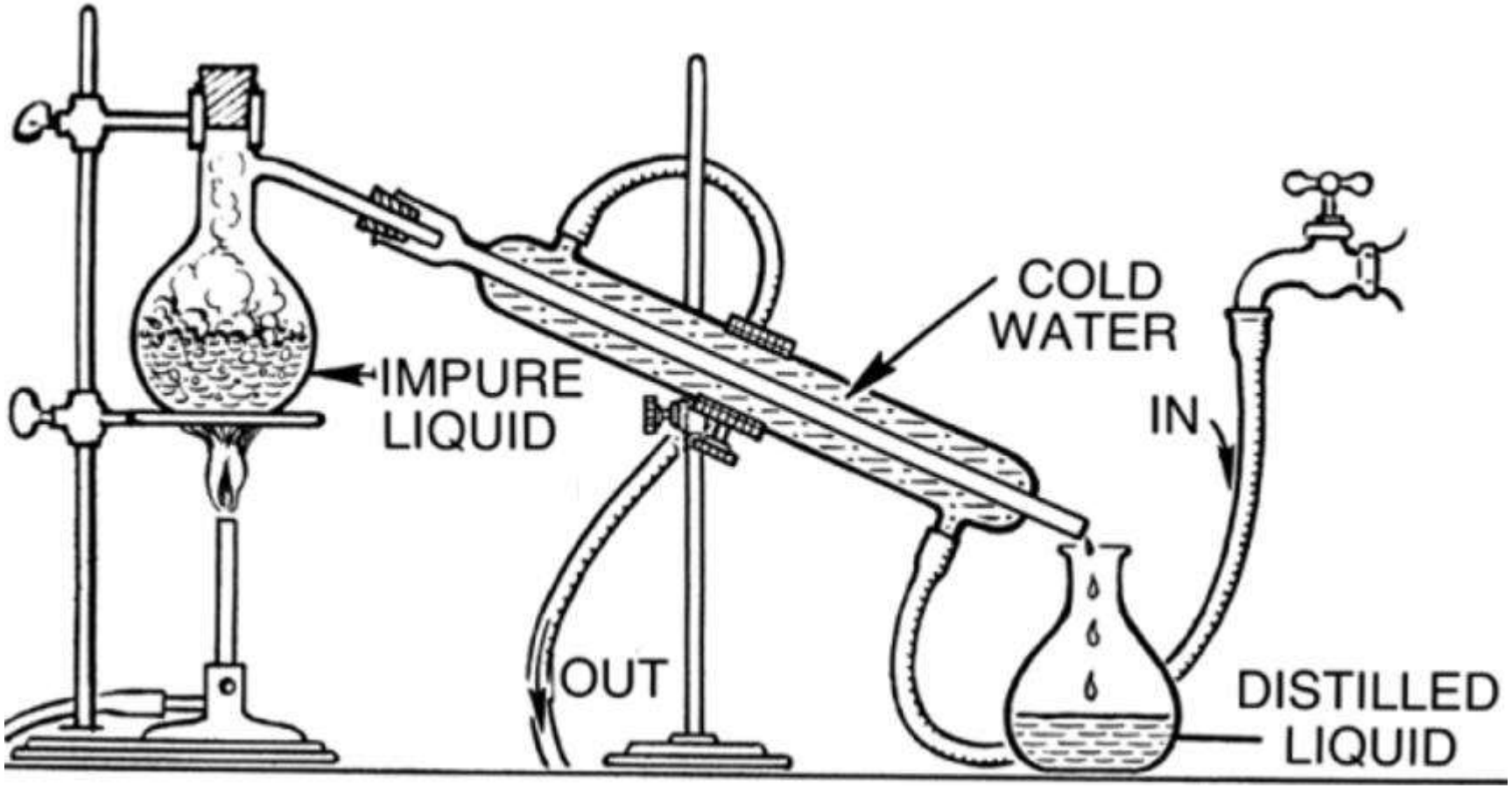


Distillation

29. The process of distillation takes advantage of what two phase changes of matter.

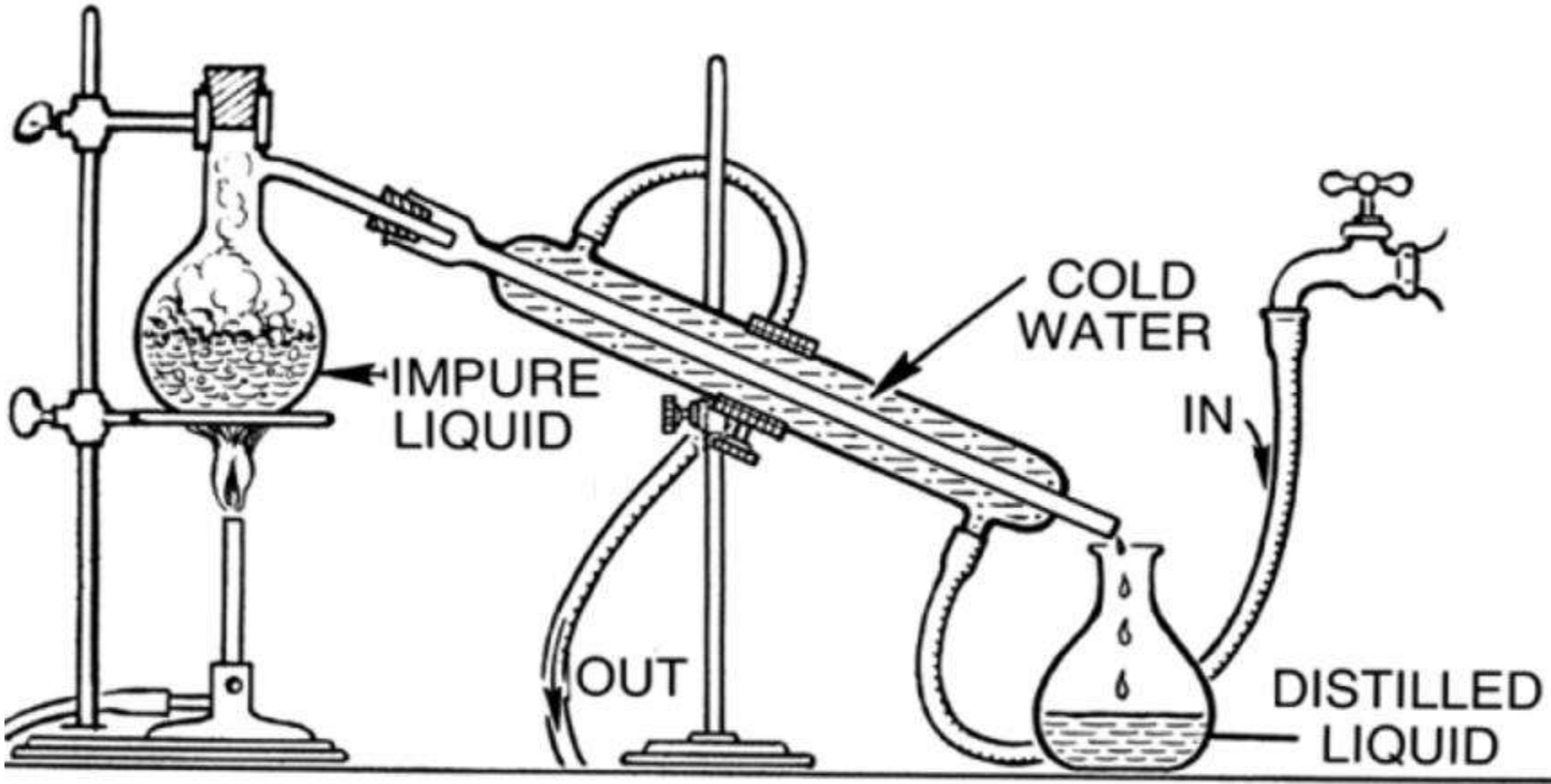
_____

_____



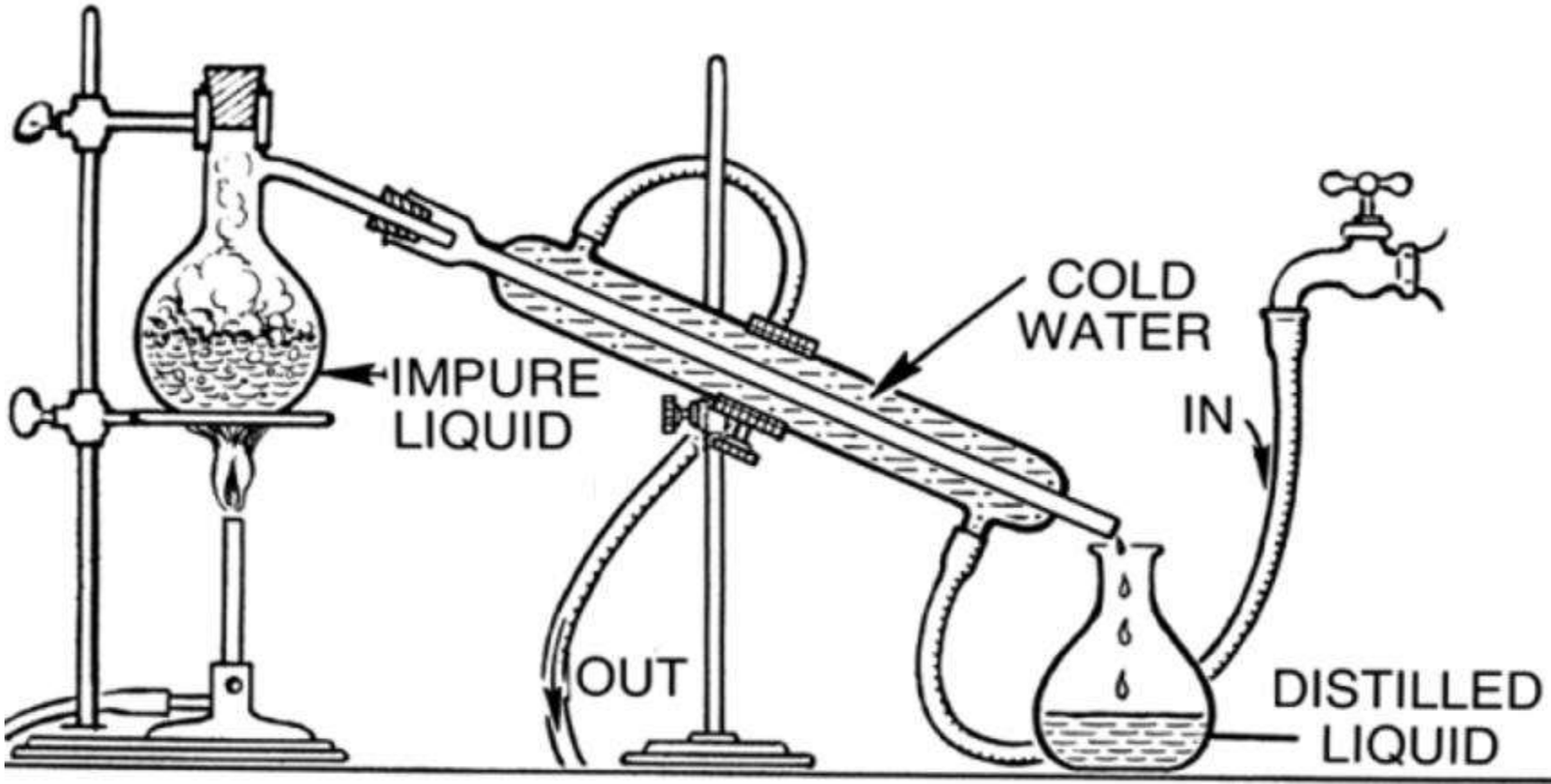
Distillation

30. How can we accelerate the process of distillation in the boiling flask? _____temp. &/or _____pressure



Distillation

31. How can we accelerate the process of distillation in the condenser? _____temp. &/or _____pressure

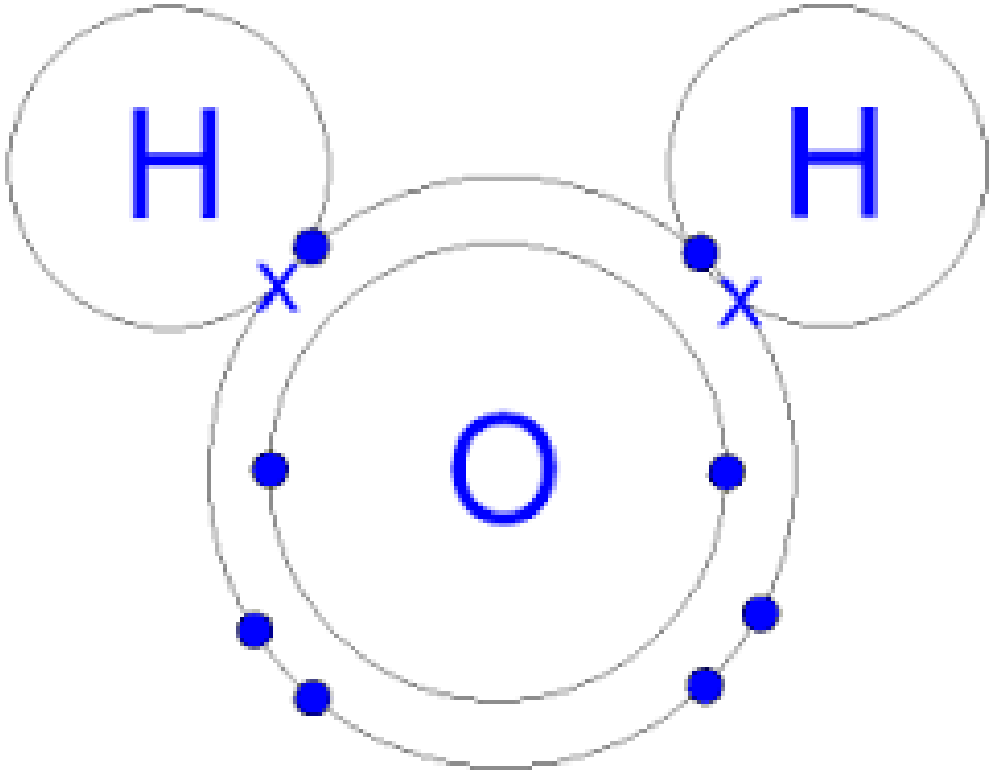


Water Properties

32. Label the charges on the water molecule.

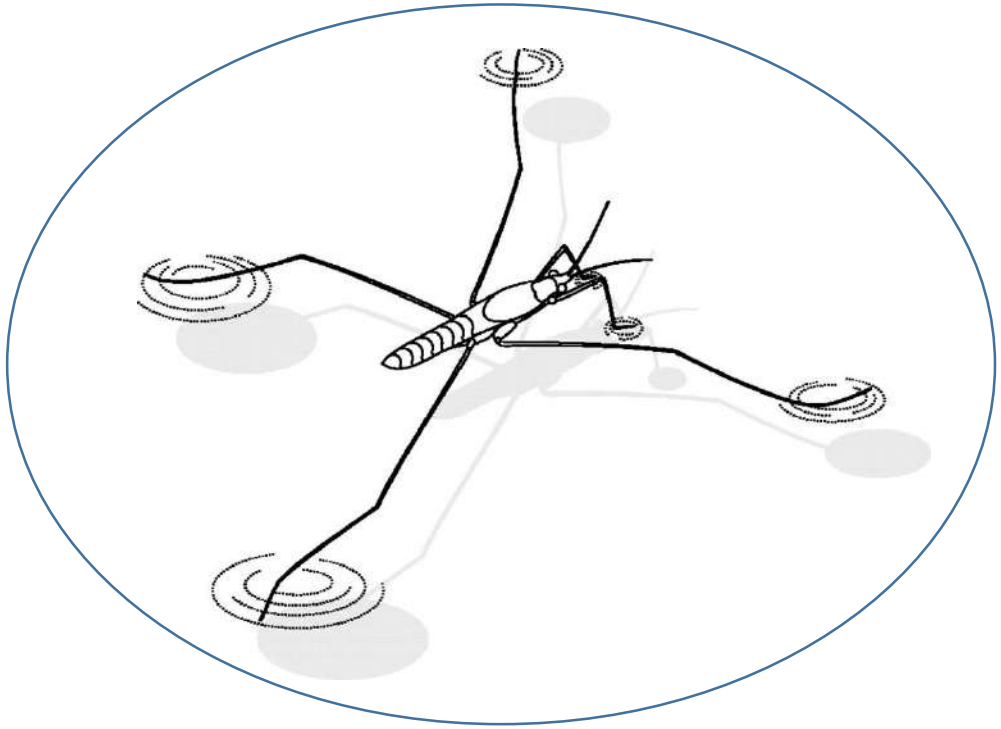
This positive/ negative arrangement is called…

A. Hydrophilic
B. Hydrophobic
C. Solvent
D. Polarity



Water Properties

33. A surfactant polluting a pond could negatively impact the water strider in this way.



A. evaporate water
B. depolarize the water
C. Break surface tension
D. Create cohesion on the striders feet

Water Properties

34. When water sticks to other substances it is referred to as **adhesion**.

What is the term for when water sticks to other water molecules?

_____