NOW TRY IN ENGLISH CLIL

Gas

A gas is one of the four main phases of matter (after solid and liquid); it is subjected to increasingly higher temperatures.
Thus, as energy in the form of heat is added, a solid (e.g. ice) will first melt to become a liquid (e.g. water), which will then boil or evaporate to become a gas (e.g. water vapor).
In some circumstances, a solid can directly turn into a gas: this is called sublimation.
If the gas is further heated, its atoms or molecules can become (wholly or partially) ionized, turning the gas into a plasma.
In the gas phase, the atoms or molecules constituting the matter basically move independently, with no forces keeping them together or pushing them apart.
The particles move in random directions, at high speeds, whose range is dependent on the temperature.
Therefore, the gas phase is a completely disordered state.
The thermodynamic state of a gas is characterized by its volume, its temperature, which is determined by the average velocity or kinetic energy of the molecules, and its pressure, which is determined by the average velocity and density or number of molecules. These variables are related by the fundamental gas laws, which state that the pressure in an ideal gas is proportional to its temperature and number of molecules, but inversely proportional to its volume.
Like liquids and plasmas, gases are fluids: they have the ability to flow and do not tend to return to their former configuration after deformation, although they do have viscosity. Unlike liquids, however, unconstrained gases do not occupy a fixed volume, but expand to fill whatever space they can occupy. The kinetic energy per molecule in a gas is the second greatest of the states of matter (after plasma). Because of this high kinetic energy, gas atoms and molecules tend to bounce off of any containing surface and off one another, the more powerfully as the kinetic energy is increased.
Gas particles are normally well separated, as opposed to liquid particles, which are in contact. A material particle (say a dust mote) in a gas moves in Brownian Motion. Since it is at the limit of (or beyond) current technology to observe individual gas particles (atoms or molecules), only theoretical calculations give suggestions as to how they move, but their motion is different from Brownian Motion. The reason is that Brownian Motion involves a smooth drag due to the frictional force of many gas molecules, punctuated by violent collisions of an individual (or several) gas molecule(s) with the particle. The particle (generally consisting of millions or billions of atoms) thus moves in a jagged course, yet not so jagged as we would expect to find if we could examine an individual gas molecule.

(Adapted from Wikipedia)

Glossary

To melt	Fondere
Random	Casuale
Brownian motion	Moto browniano
To bounce	Rimbalzare
Dust mote	Particelle di polvere
Smooth drag	Trascinamento omogeneo
To flow	Fluire
Jagged	Frastagliato

Robert Boyle's biography

The Honourable Robert Boyle (January 25, 1627 - December 30, 1691) was an Irish natural philosopher, noted for his work in physics and chemistry.
Although his research and personal philosophy clearly has its roots in the alchemical tradition, he is largely regarded today as the first modern chemist.
Among his works The Sceptical Chymist is seen as a cornerstone book in the field of chemistry. He was born at Lismore Castle, in the province of Munster, Ireland.
While still a child he learned to speak Latin, Greek and French, and he was only eight years old when he was sent to Eton College.
After spending over three years at the college, he went to travel abroad with a French tutor. Nearly two years were passed in Geneva; visiting Italy in 1641, he remained during the winter of that year in Florence, studying Galileo Galilei's theories.
Returning to England he began a series of experiments on the properties of air, and he enunciated the law that the volume of a gas varies inversely as the pressure.
His health became still worse in 1691, and his death occurred on December 30.

Practise

Match the words in table A with the English equivalent in table B. Use a dictionary if needed.

Table A

A	Solido
B	Liquido
C	Gassoso
D	Covalente
E	Ionico
F	Viscosità
G	Tensione di vapore
H	Tensione superficiale

Table B

1	Surface tension
2	Capillarity
3	Covalent
4	Diamond
5	Malleable
6	Steam pressure
7	Ionic
8	Chemical bond

I	Vapore
J	Isotermo
K	Amorfo
L	Isobaro
M	Isocoro
N	Diamante
O	Legame chimico
P	Duttile
Q	Malleabile
R	Capillarità
S	Volume
T	Zero assoluto

9	Viscosity
10	Ductile
11	Solid
12	Absolute zero
13	Amorphous
14	Isotherm
15	Liquid
16	Isobaric
17	Volume
18	Steam
19	Gaseous
20	Isochore

Keys

Match the words in table A with the English equivalent in table B. Use a dictionary if needed.

Table A	Table B
A	11
B	15
C	19
D	3
E	7
F	9
G	6
H	1
I	18
J	14
K	13
L	16
M	20
N	4
O	8
P	10
Q	5
R	2
S	17
T	12