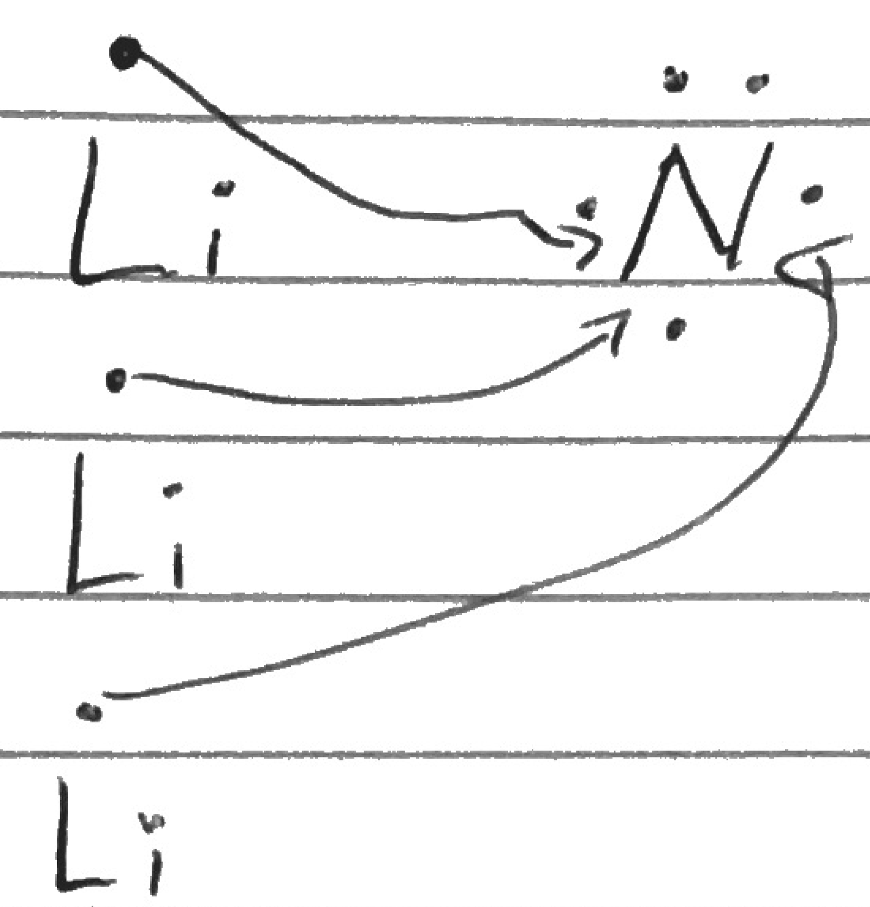
Objective 1:

1. a. 

b. $3Li^+$ and N^{3-}

c. Li_3N
lithium nitride

d. Ionic Compound therefore:
Crystalline solids
high melting points
melted or dissolved will conduct

2.

KBr	potassium bromide
CaS	calcium sulfide
Na_3N	sodium nitride
$CoCl_2$	cobalt (II) chloride
AgF	silver fluoride
MnO_2	manganese (IV) oxide
Sn_3P_4	tin (IV) phosphide
LiH	lithium hydride

3. a. Be_3N_2 e. $MgBr_2$
b. Hg_2O f. Ti_3As_4
c. $SrSe$ g. Ga_4C_3
d. ZnI_2 h. CdO

4. a. ammonium acetate
b. lead (II) oxalate
c. potassium hydroxide
d. beryllium chlorite
e. magnesium phosphate

5. a. $In(BrO_3)_3$ do not need to memorize bromate
b. $V(NO_2)_3$
c. $LiMnO_4$
d. $Al_2(SO_4)_3$
e. $CsCN$

Objective 2:

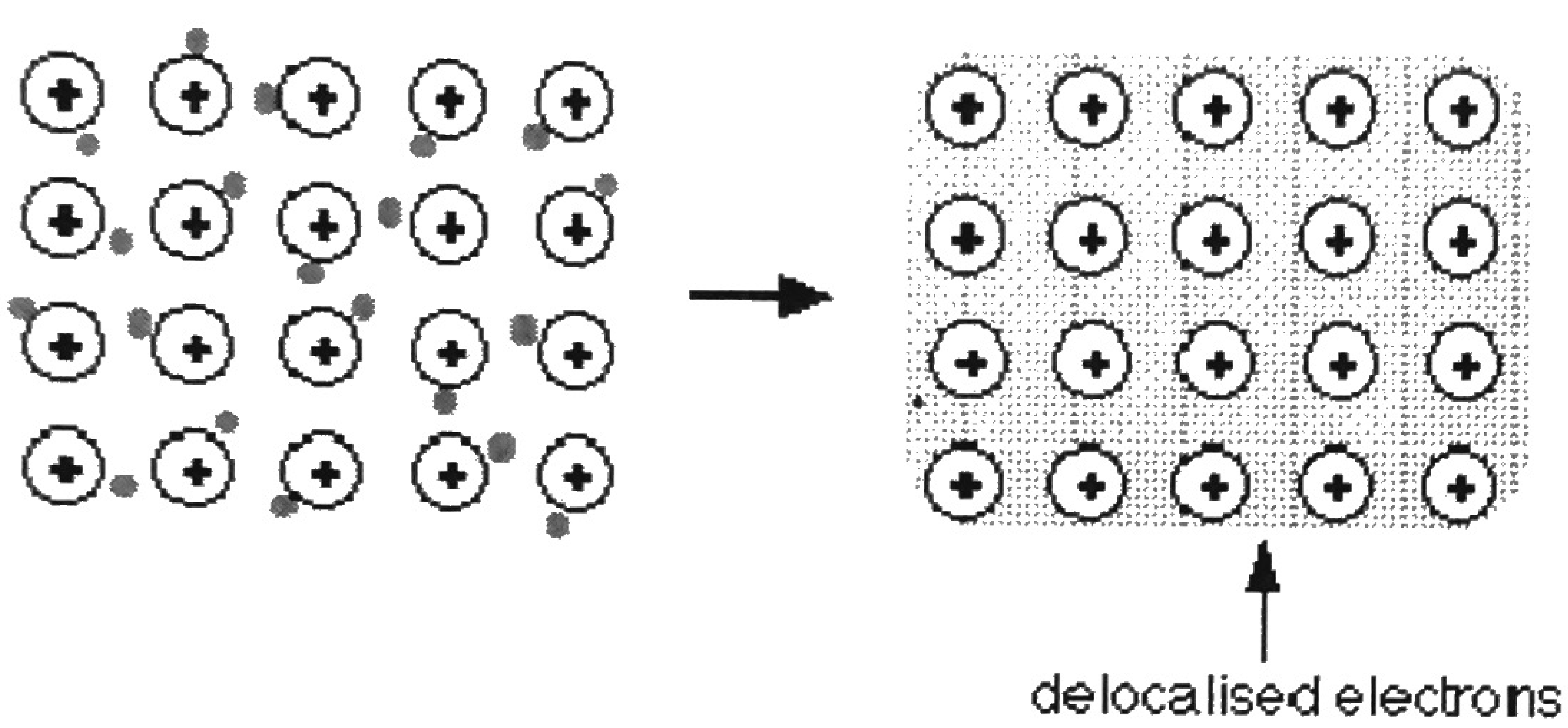
1. Metallic bonding- the force of attraction that holds metals together; it consists of the attraction of free-floating valence electrons for positively charged metal ions

Formula unit- the lowest whole- number ratio of ions in an ionic compound; in magnesium chloride, the ratio of magnesium ions to chloride ions is 1:2 and the formula unit is $MgCl_2$

Malleability- Capable of being shaped or formed, as by hammering or pressure

Ductility- Easily drawn into wire

2. The electrons can move freely within these molecular orbitals, and so each electron becomes detached from its parent atom. The electrons are said to be delocalized. The metal is held together by the strong forces of attraction between the positive nuclei and the delocalized electrons.

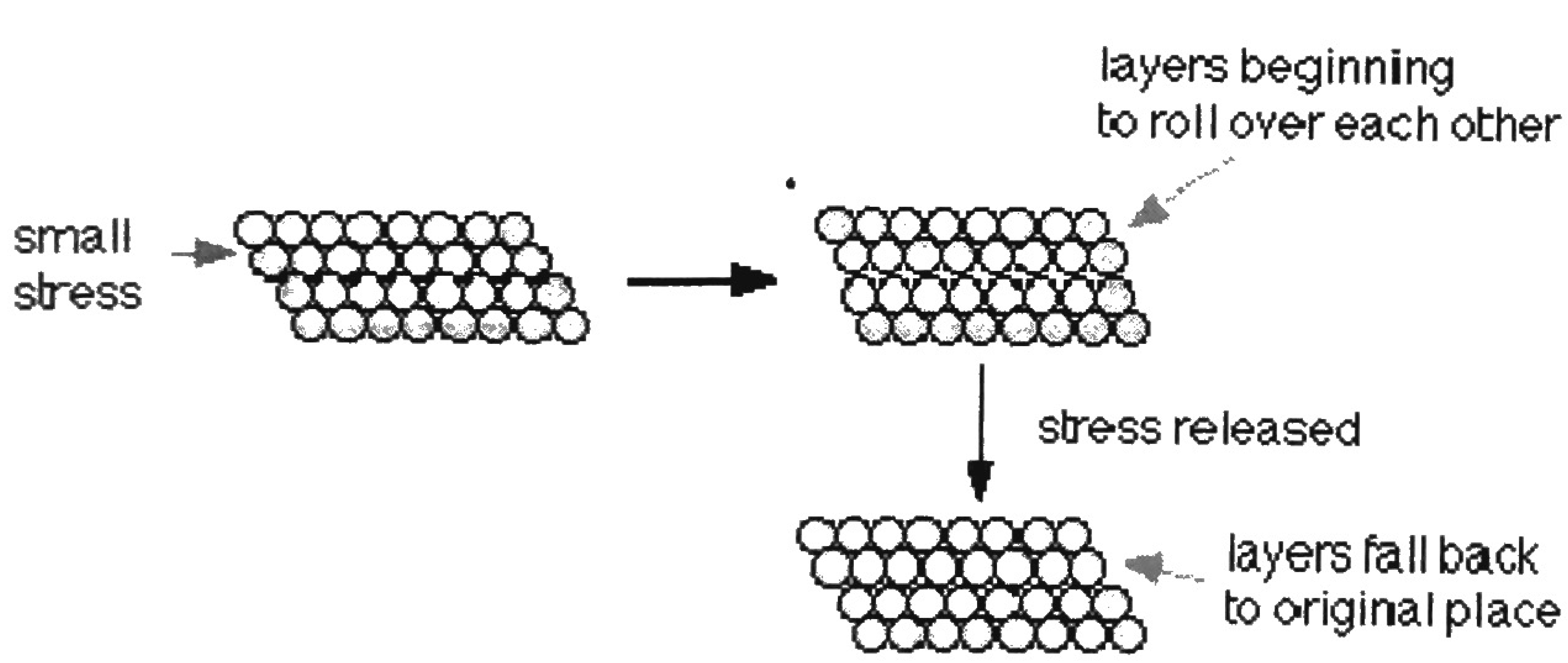


3. Metals are malleable and ductile because of their free electrons. Ionic Compounds are not, they are brittle solids.

4. Malleability and ductility

Metals are described as malleable (can be beaten into sheets) and ductile (can be pulled out into wires). This is because of the ability of the atoms to roll over each other into new positions without breaking the metallic bond because of their free electrons.

If a small stress is put onto the metal, the layers of atoms will start to roll over each other. If the stress is released again, they will fall back to their original positions. Under these circumstances, the metal is said to be elastic.



If a larger stress is put on, the atoms roll over each other into a new position, and the metal is permanently changed.