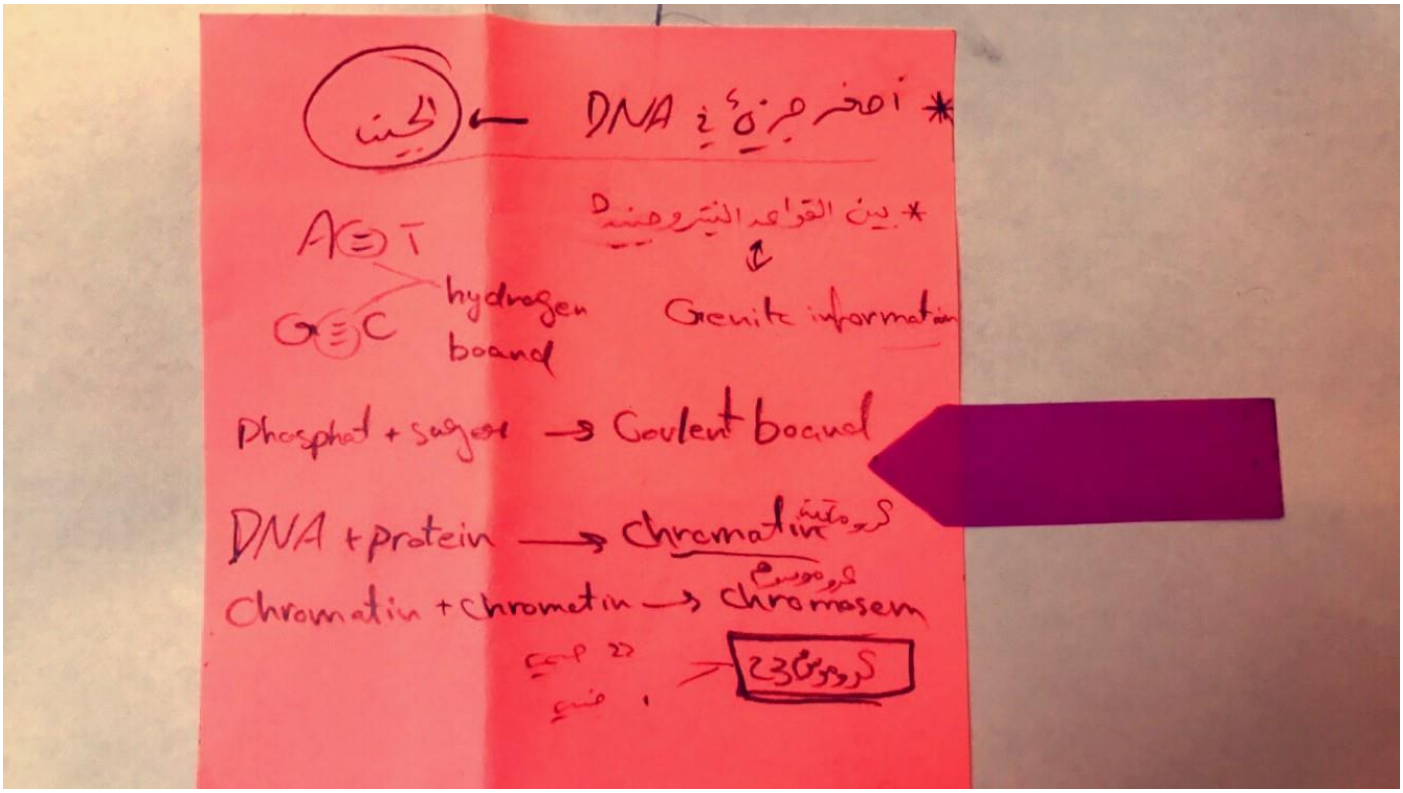
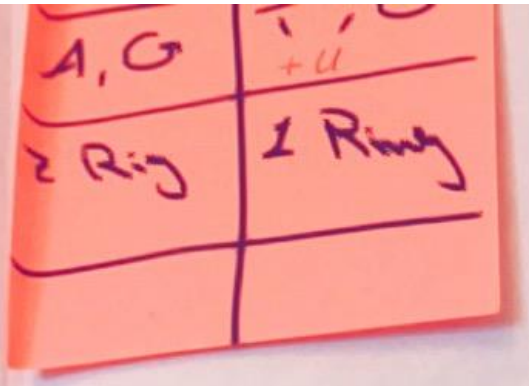

* أصغر جزيء في DNA ← الجين
* بين القواعد النيتروجينية
A ≡ T
G ≡ C
hydrogen boand
Genite information
Phosphat + sugar → Coulent bocuel
DNA + protein → Chromatin
Chromatin + Chromatin → Chromasem
كروموسوم




## ① Replication → 2 direction

DNA → DNA

Semi-Conservative modle.

DNA → Spearted

## ② TranScription → Nuclase

DNA → RNA (mRNA)

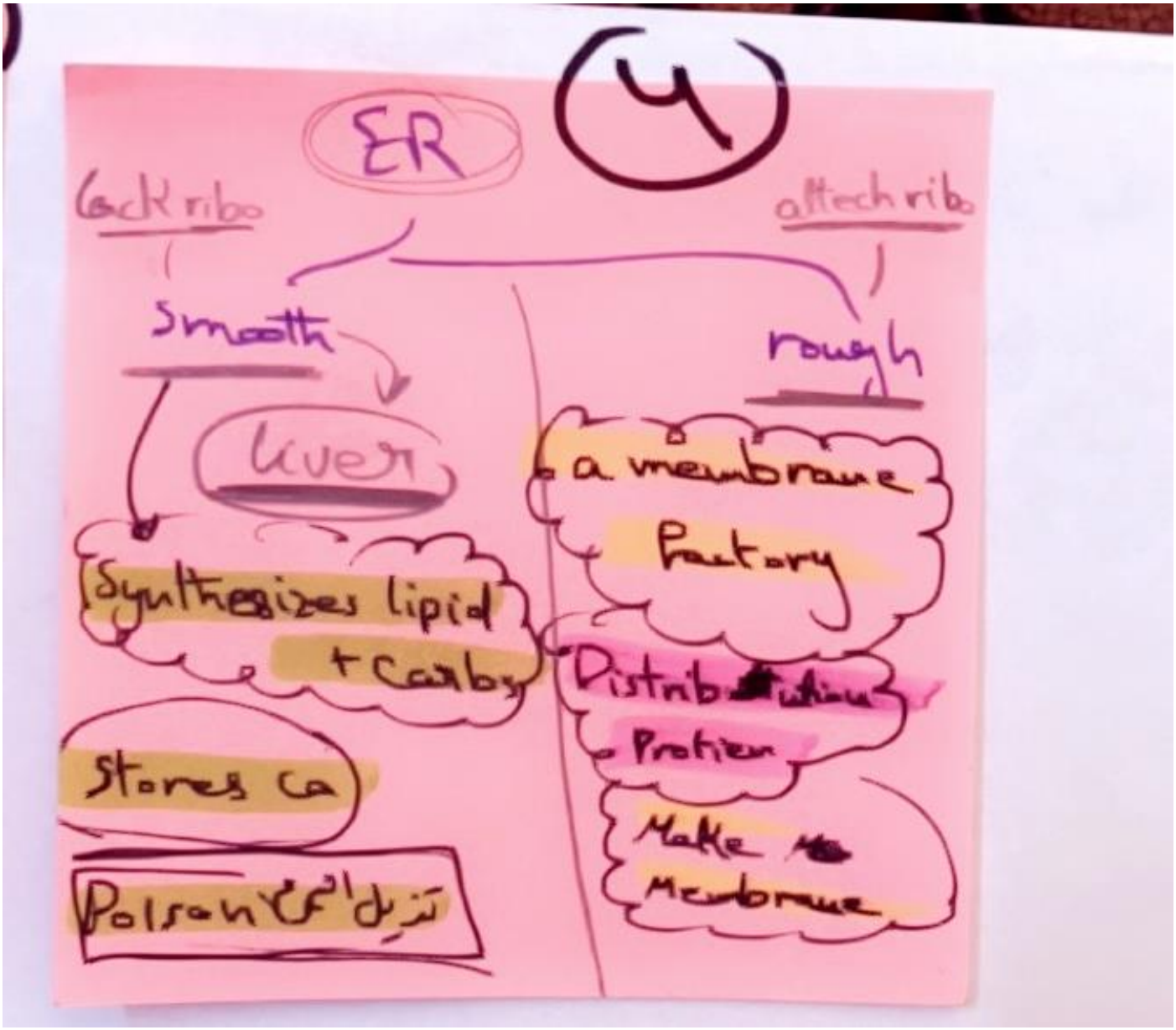
nucleotide language

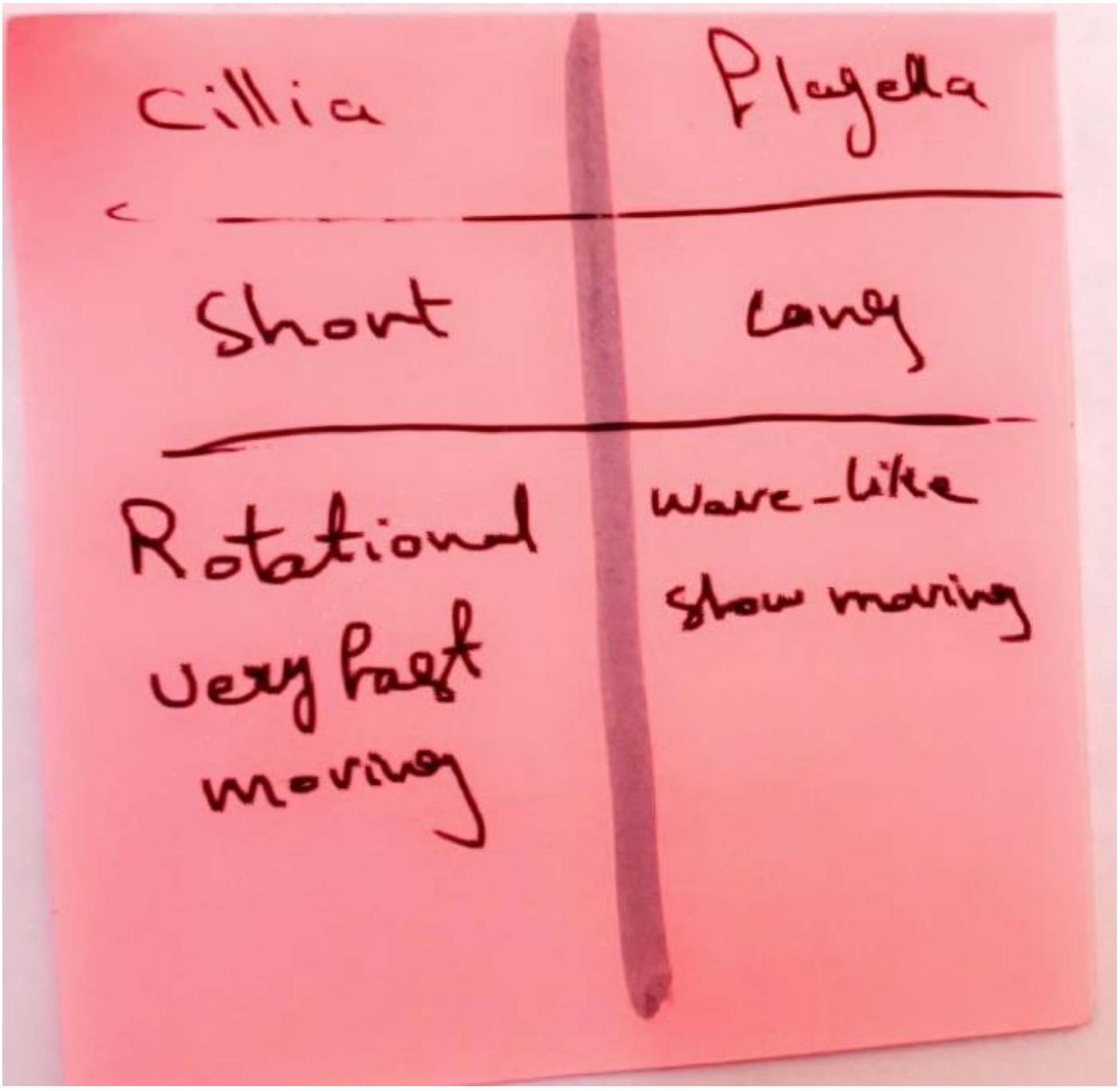
## ③ Translation → occure in Ribosome in Cyt-plasma

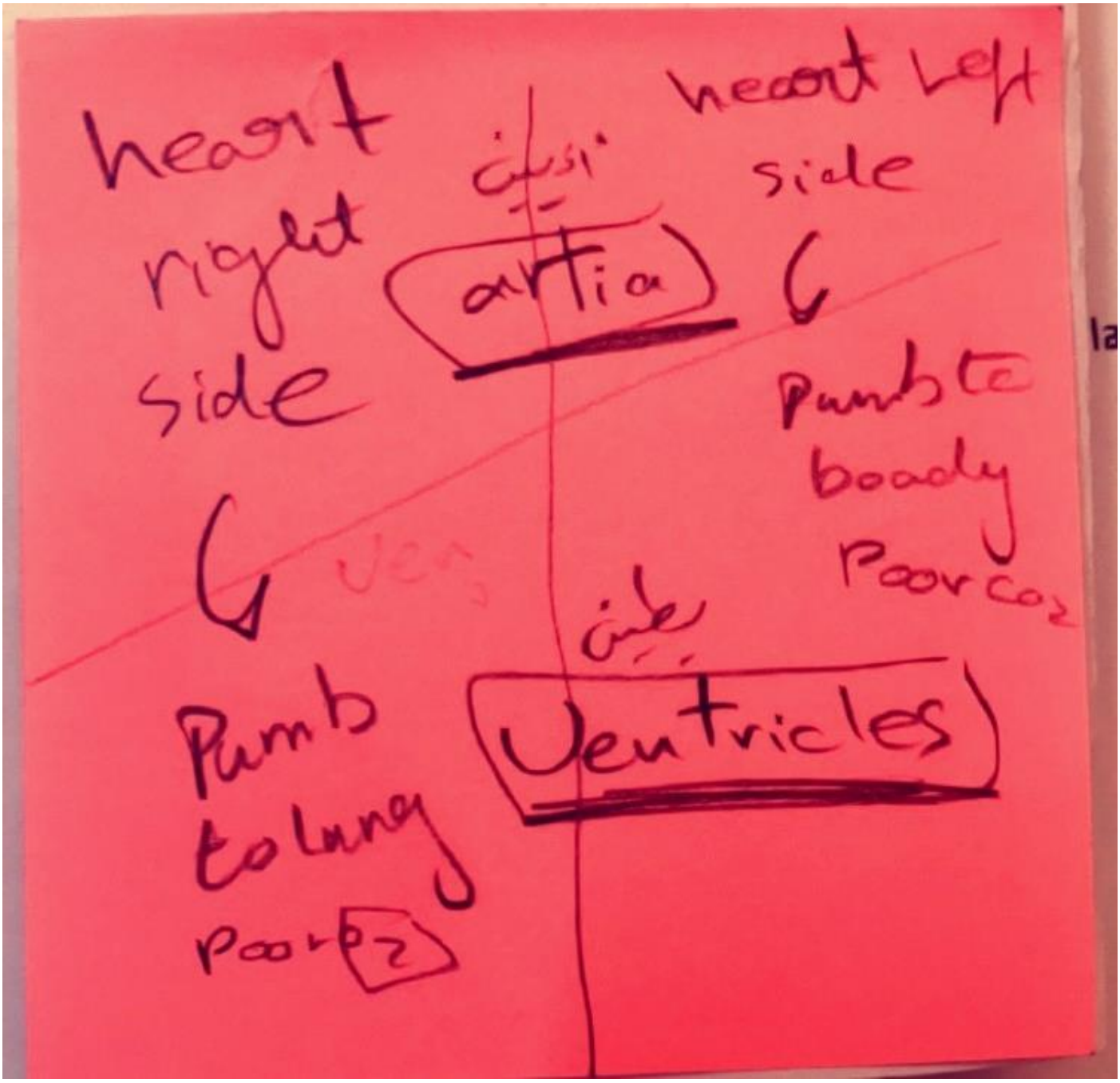
RNA → Protien

Change or Switching

between nucleotide language → Amino Acid language


4
ER
Lack ribo
attach rib
Smooth
rough
liver
a membrane
Factory
Synthesizes lipid
+ Carbs
Distrib
Protien
Stores Ca
Make
Membrane
Poison


Cillia
Flagella
Short
Long
Rotational
very fast
moving
Wave-like
slow moving


heart
right
side
أذين
Atria
heart Left
side
Pumb to
boady
Poor CO2
Pumb
to lung
Poor O2
بطين
Ventricles

respiration by breaking _____.

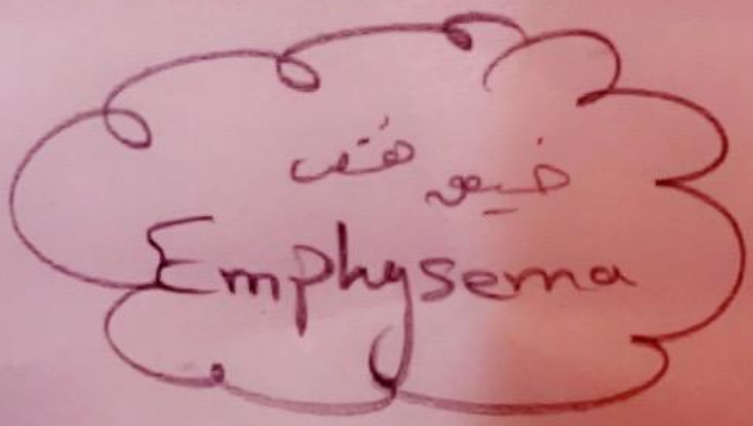
= Lactic Acid

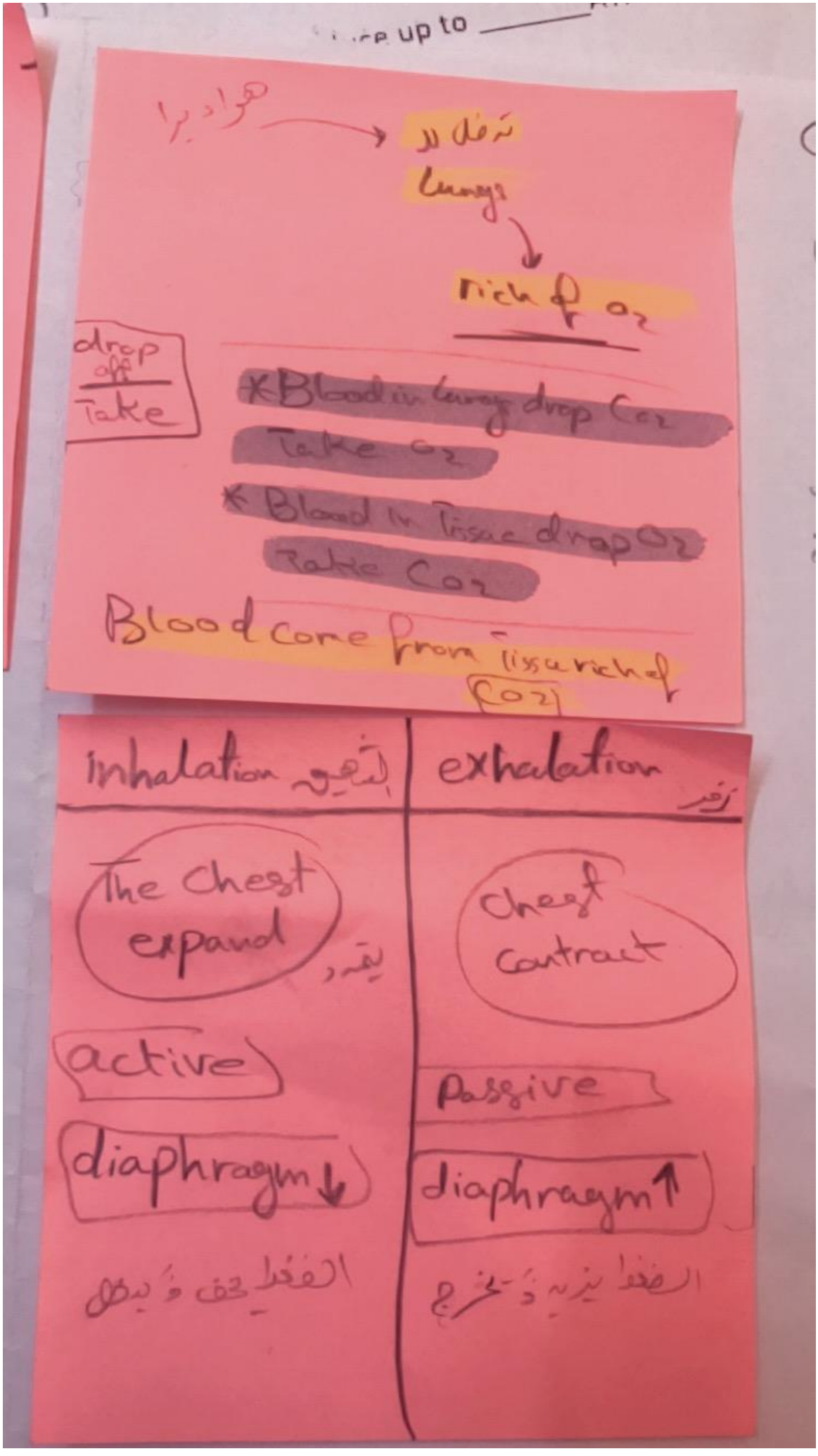
3 Phases to gas exchange

1. Breathing
2. transport
3. take up $O_2$ and release $CO_2$

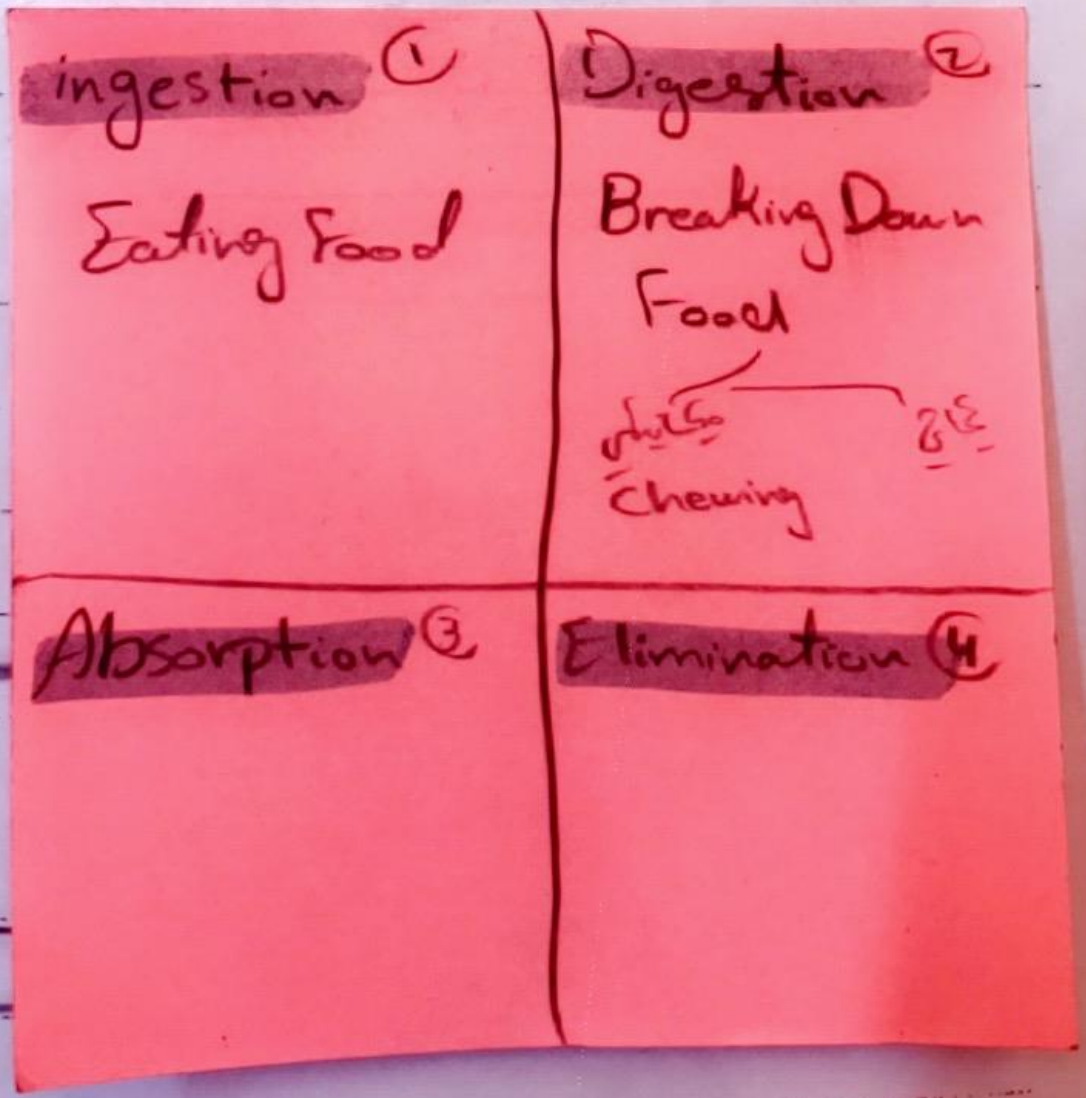
---

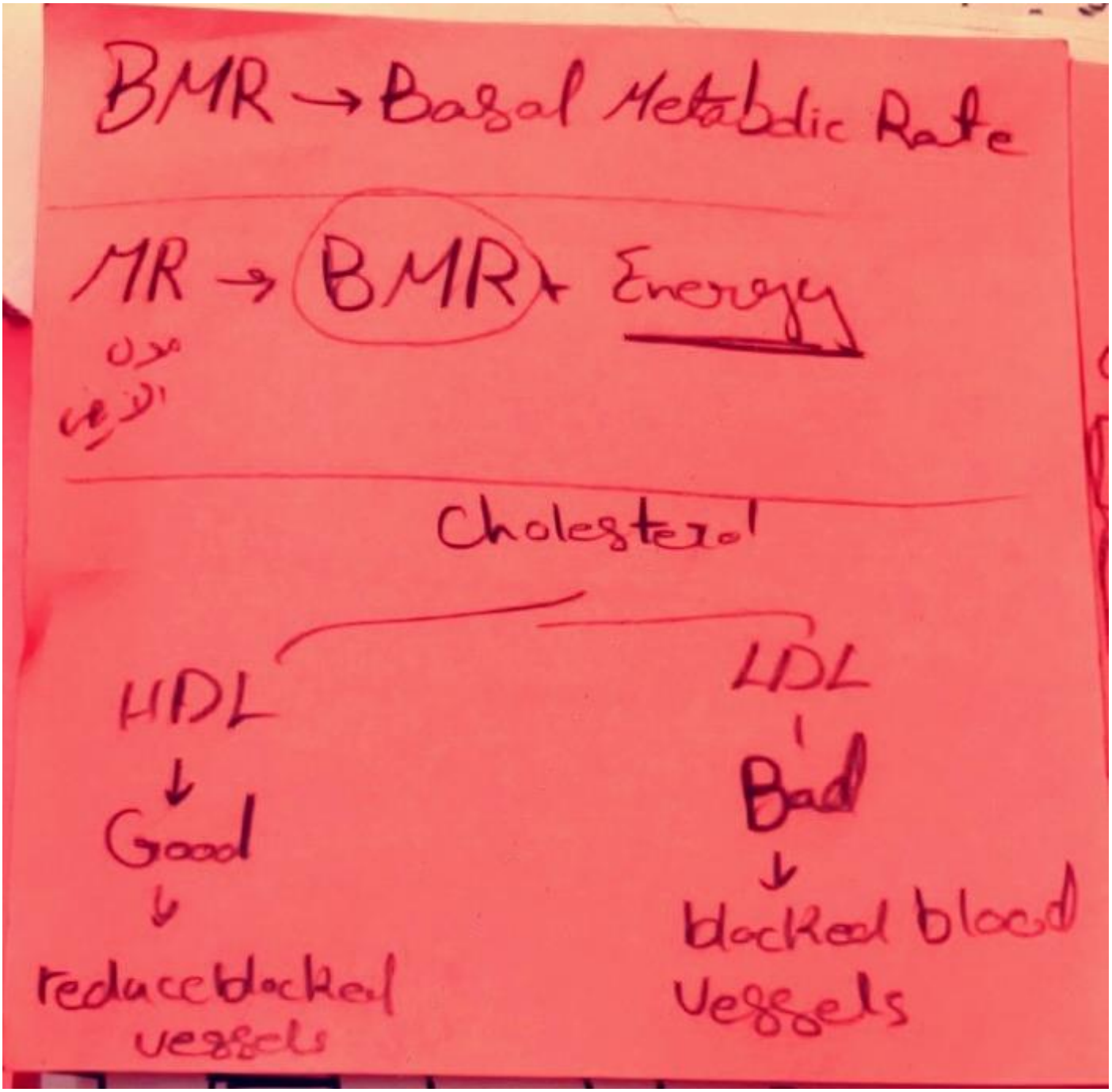
- Earthworm → moist body surface
- gills → fish, amphibians (برمائيات)
- Tracheal System → insect
- Lungs → Mammals, Reptiles (زواحف), tetrapods

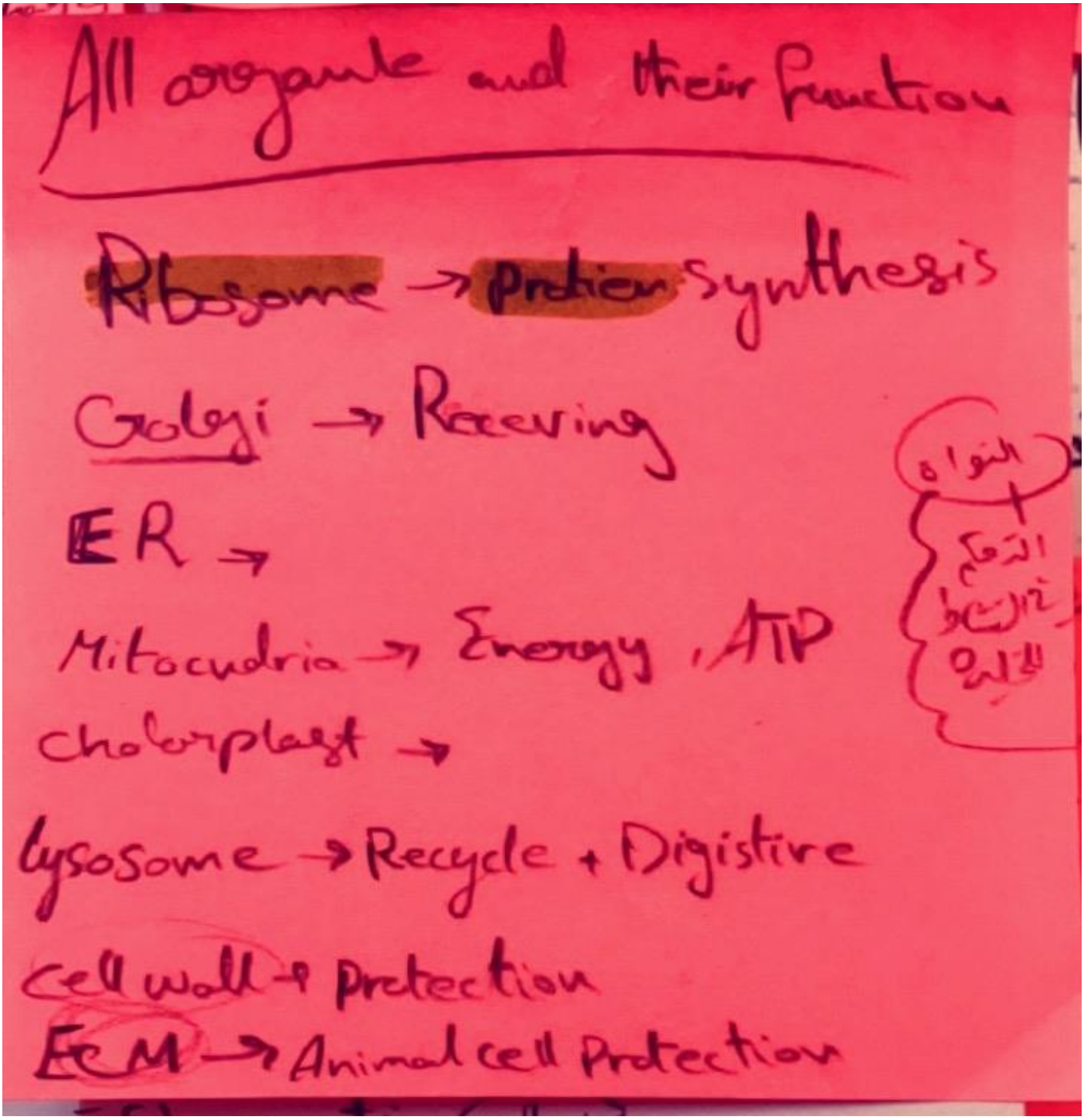



up to
هواء برا
تدخل الـ
Lungs
rich of O2
drop off
Take
*Blood in lungs drop Co2
Take O2
* Blood in Tissue drop O2
Take Co2
Blood come from tissue rich of Co2
inhalation إستنشاق
exhalation زفير
The Chest expand
Chest contract
active
Passive
diaphragm ↓
diaphragm ↑
الضغط يقل ويدخل
الضغط يزيد ويخرج

التغذية


ingestion ①
Eating Food
Digestion ②
Breaking Down Food
مضغ
Chewing
Absorption ③
Elimination ④


BMR → Basal Metabolic Rate
MR → BMR + Energy
Cholesterol
HDL
Good
reduce blocked vessels
LDL
Bad
blocked blood vessels




لا تنسوني من دعائكم ١ أختكم زينب جدو