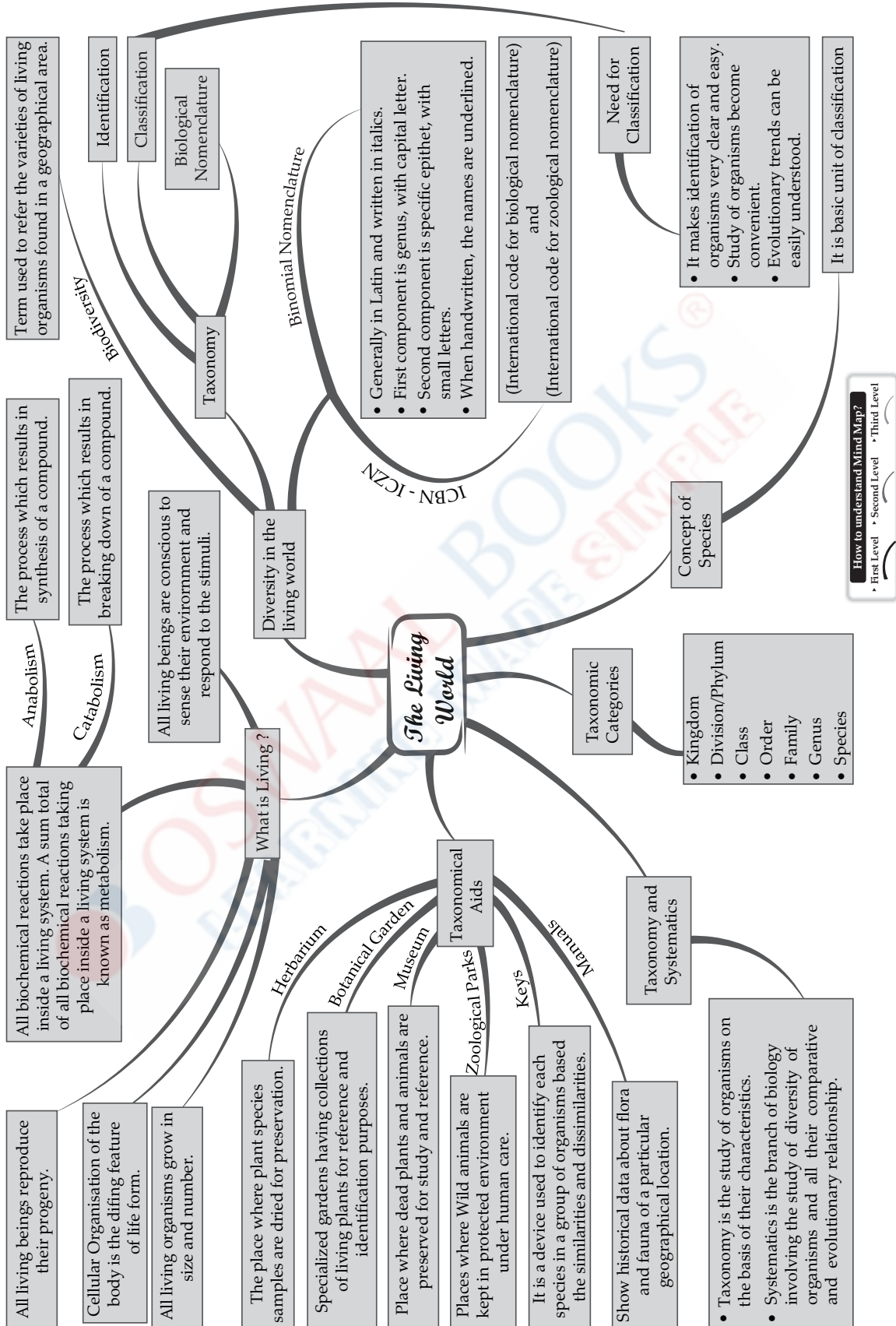


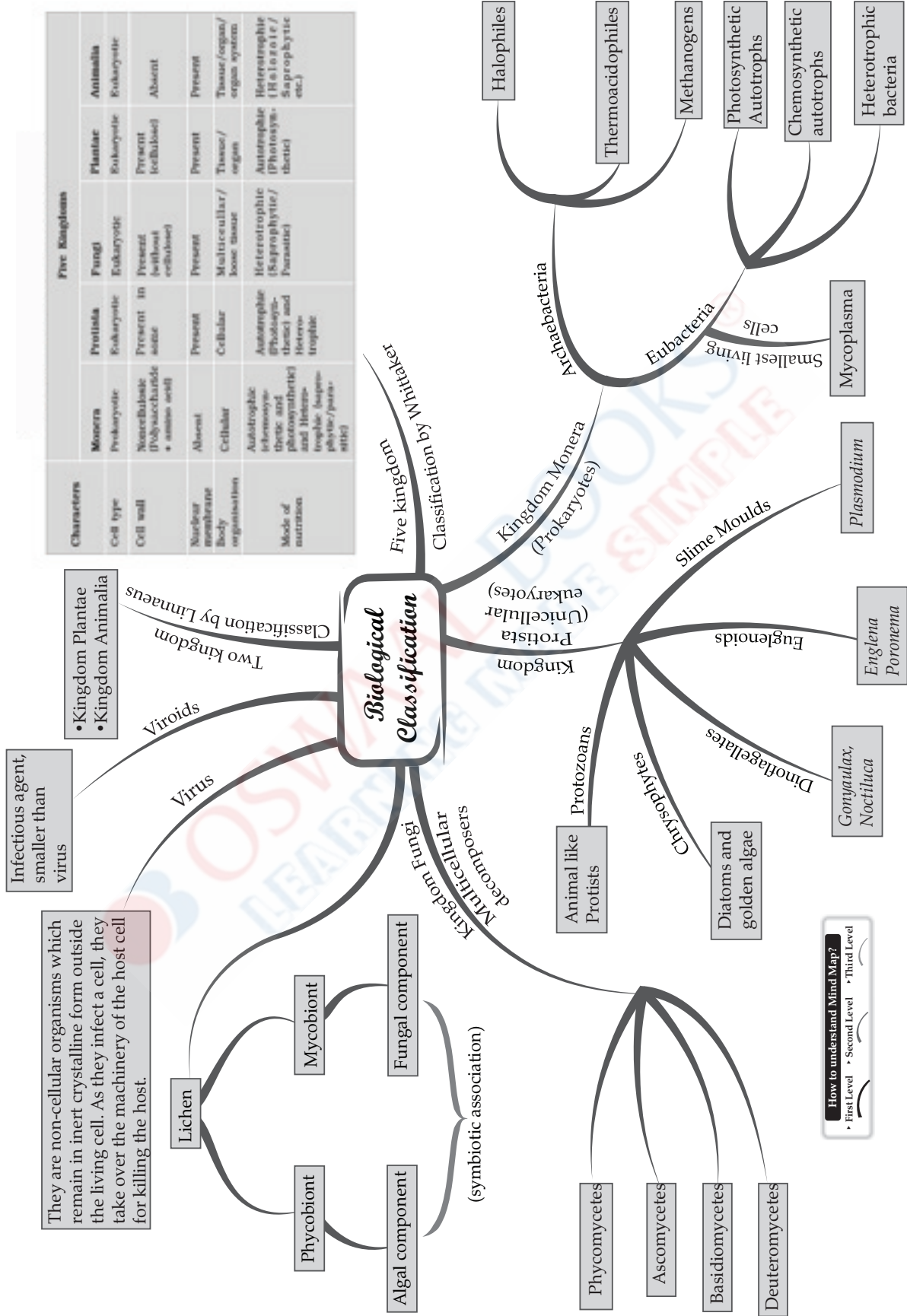
**What are Associations?**

It's a technique connecting the core concept at the Centre to related concepts or ideas. Associations spreading out straight from the core concept are the First Level of Association. Then we have a Second Level of Association emitting from the first level and the chronology continues. The thickest line is the First Level of Association and the lines keep getting thinner as we move to the subsequent levels of association. This is exactly how the brain functions, therefore these Mind Maps. Associations are one powerful memory aid connecting seemingly unrelated concepts, hence strengthening memory.

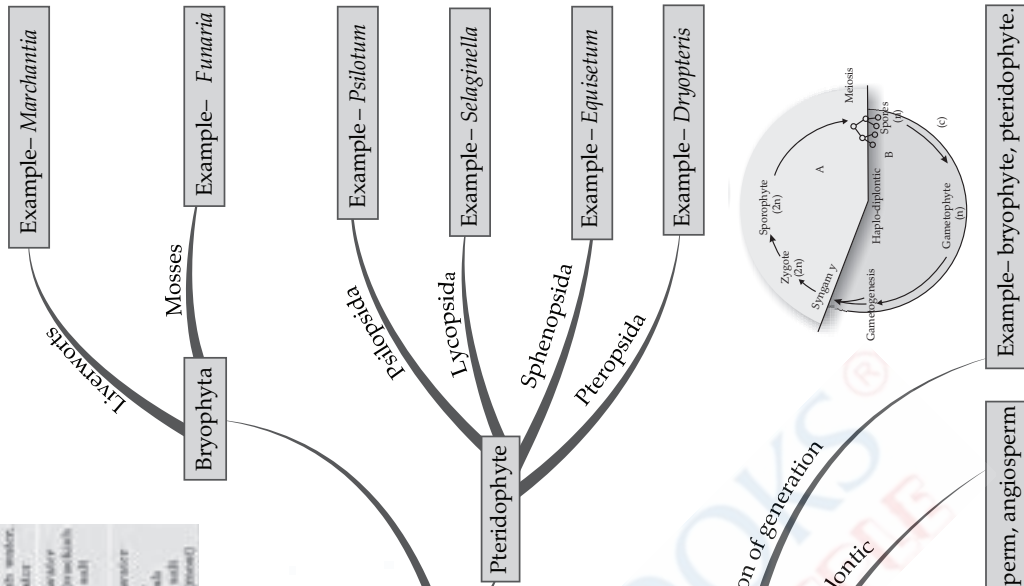
# BIOLOGY



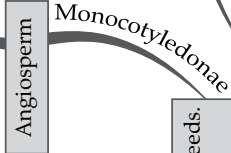
**How to understand Mind Map?**  
 • First Level • Second Level • Third Level



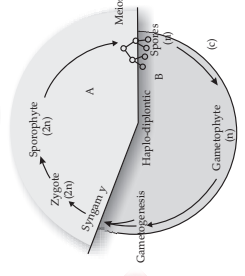
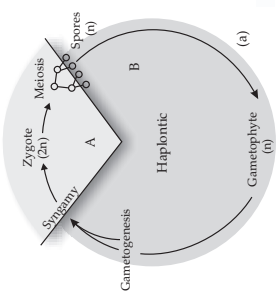
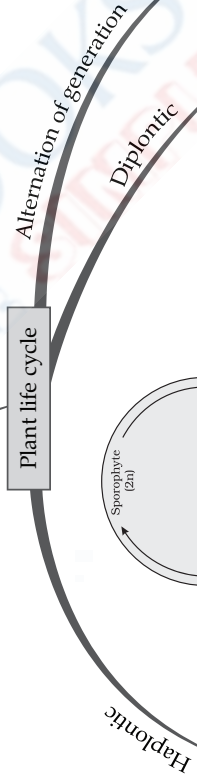
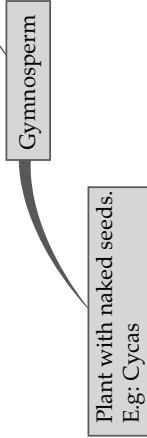
Classes	Common Name	Major Pigments	Stored Food	Cell Wall	Flagellar Number and Position of Isthmopsis	Habitat
Chlorophyceae	Green algae	Chlorophyll a, b	Starch	Cellulose	2-8, equal, apical	Fresh water, brackish water, salt water
Phaeophyceae	Brown algae	Chlorophyll a, b, fucoxanthin	Mannitol, laminarin	Cellulose and algin	2, unequal, lateral	Fresh water (rare) brackish water, salt water
Rhodophyceae	Red algae	Chlorophyll a, d, phycoerythrin	Floridaxanthin	Cellulose, pectin and sulphuric esters	Absent	Fresh water (rare), brackish water, salt water (most)



Has two cotyledons in their seeds.  
E.g: Mustard, Pea, Beans, etc.



Have one cotyledon in their seeds.  
E.g: Grasses, Wheat, Rice, etc.



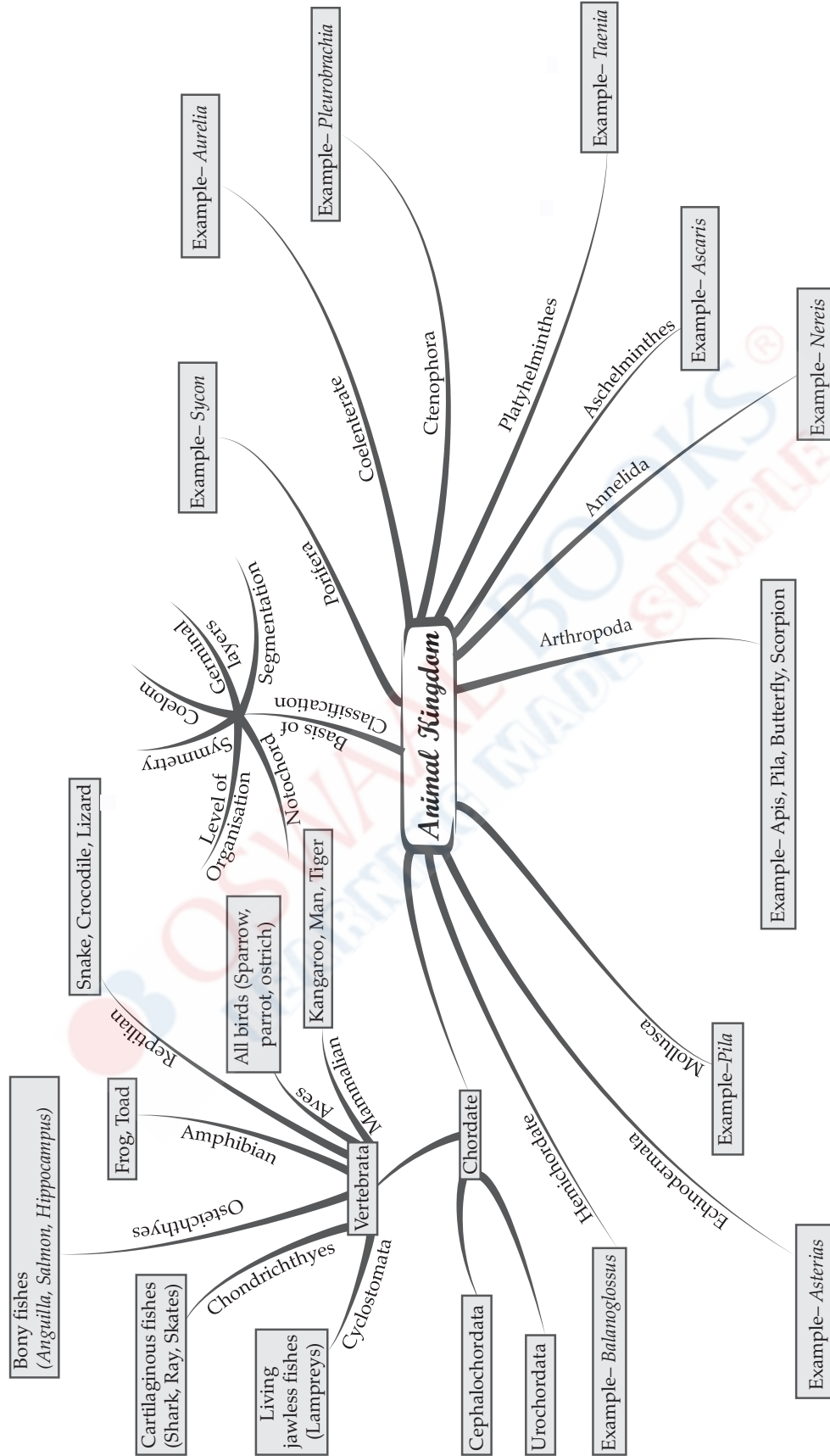
Example- In algae such as *Spirogyra*

Example- bryophyte, pteridophyte.

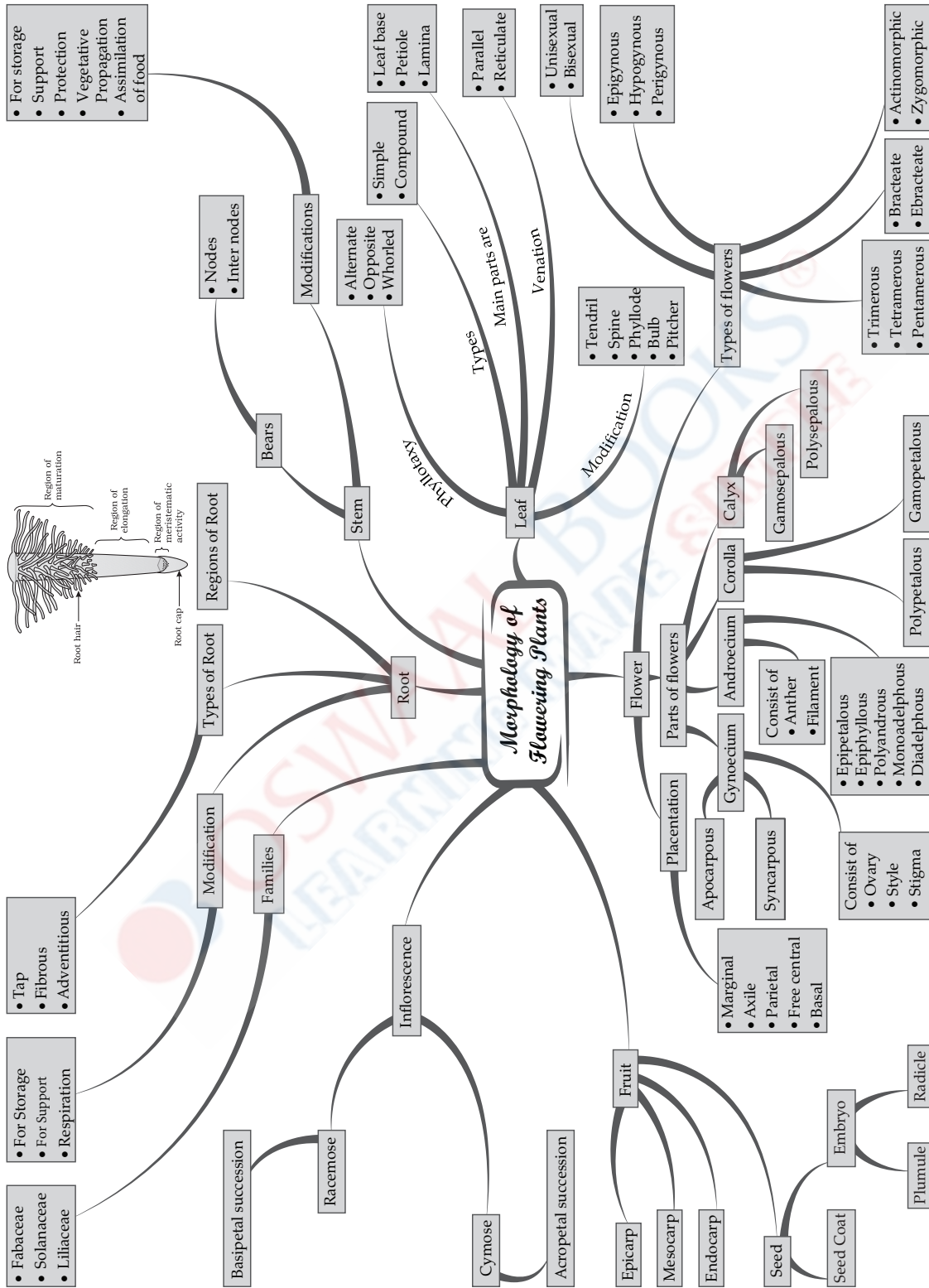
Example- Gymnosperm, angiosperm

**How to understand Mind Map?**

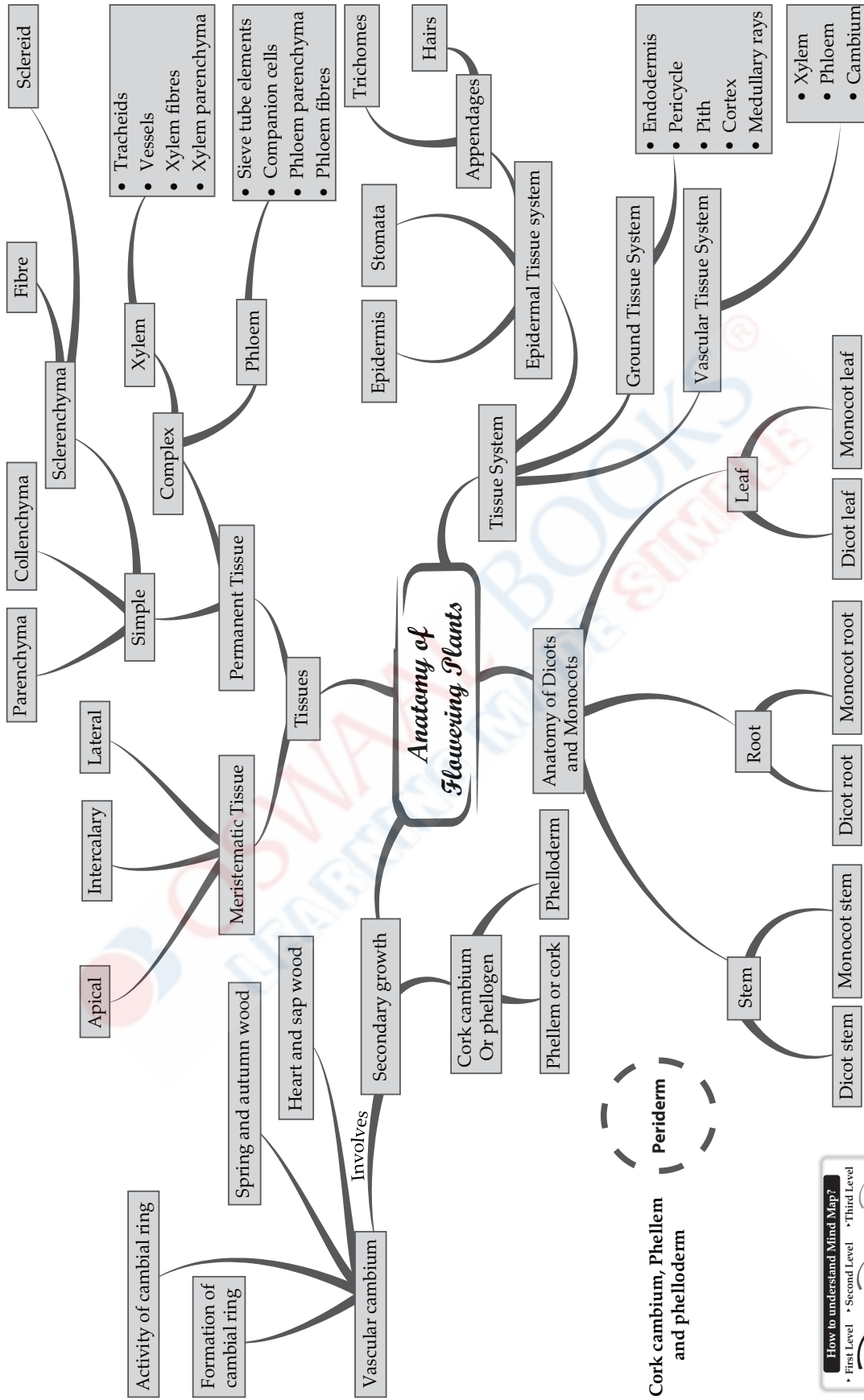
- First Level
- Second Level
- Third Level



How to understand Mind Map?  
 ↳ First Level ↳ Second Level ↳ Third Level



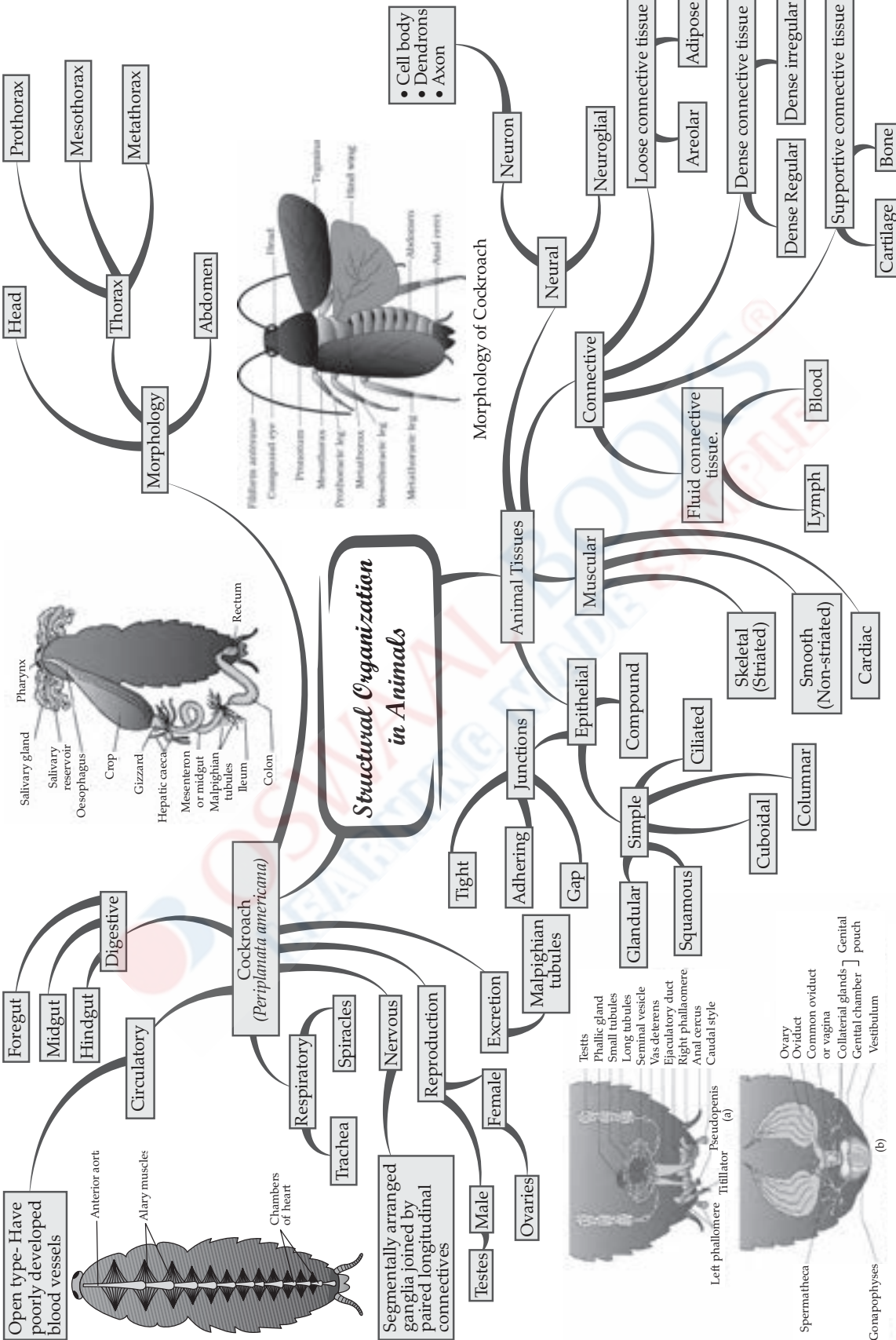
How to understand Mind Map?  
 • First Level • Second Level • Third Level



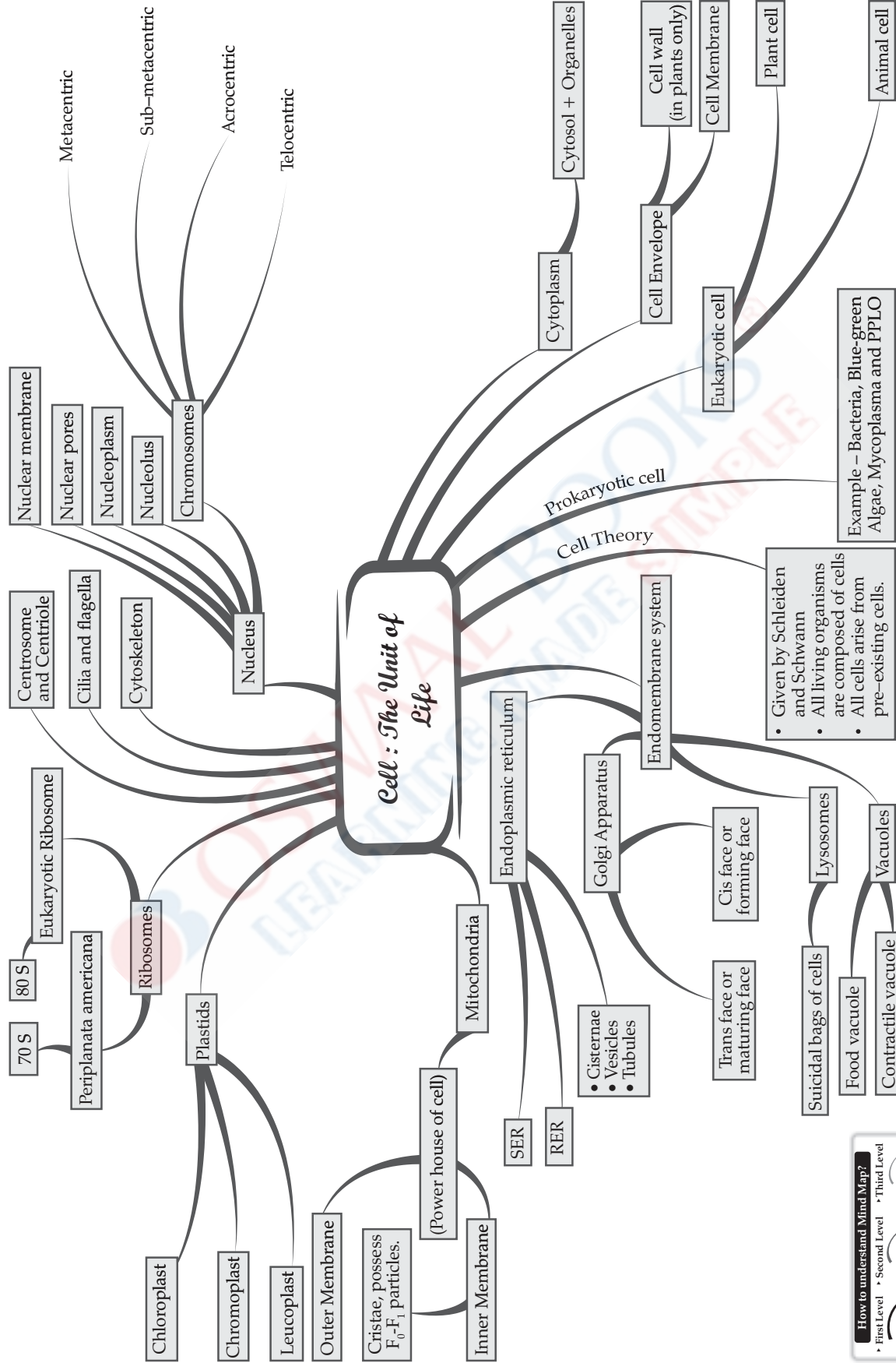
**Periderm**

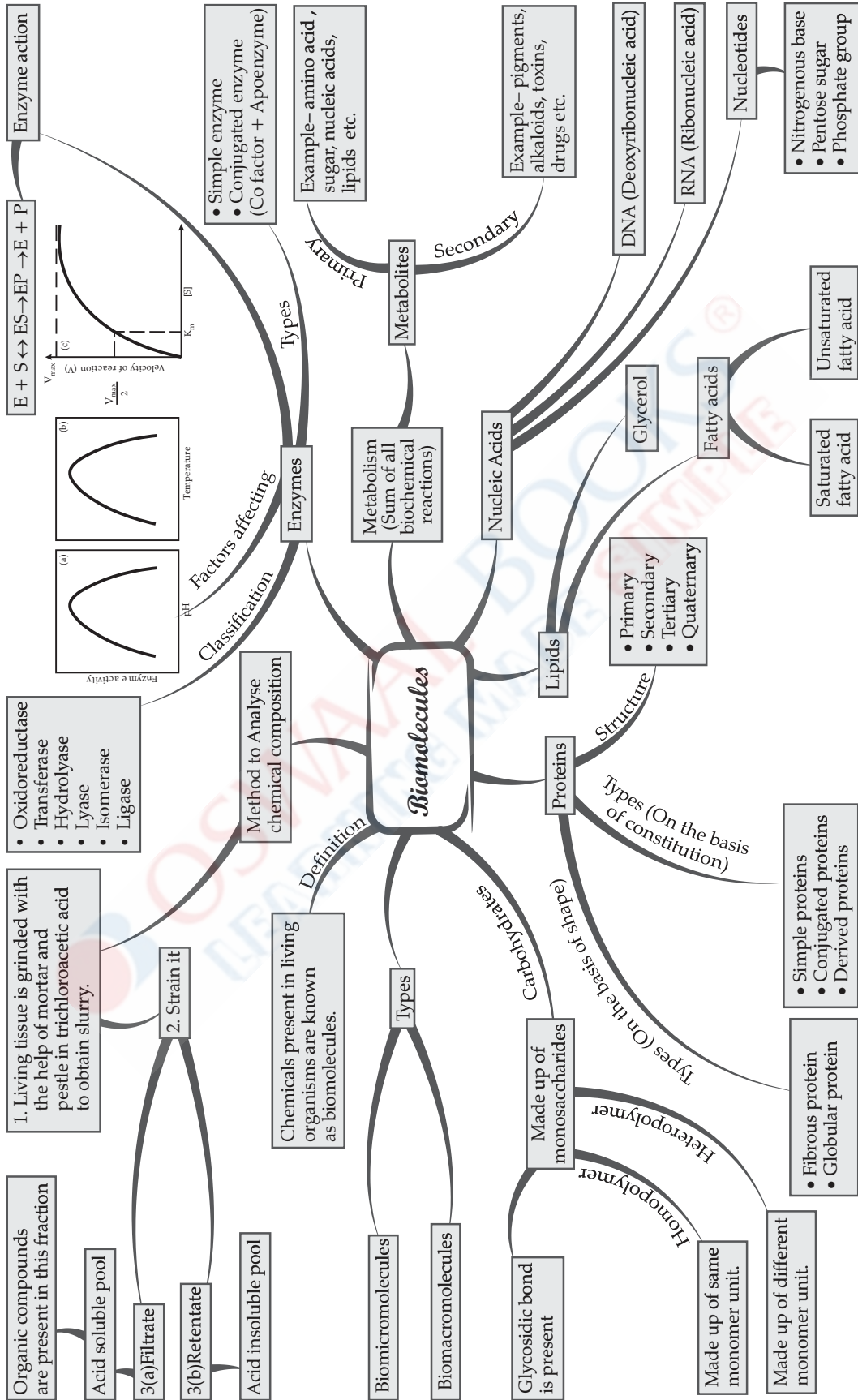
**Cork cambium, Phellogen and phellogen**

How to understand Mind Map?  
 • First Level    • Second Level    • Third Level

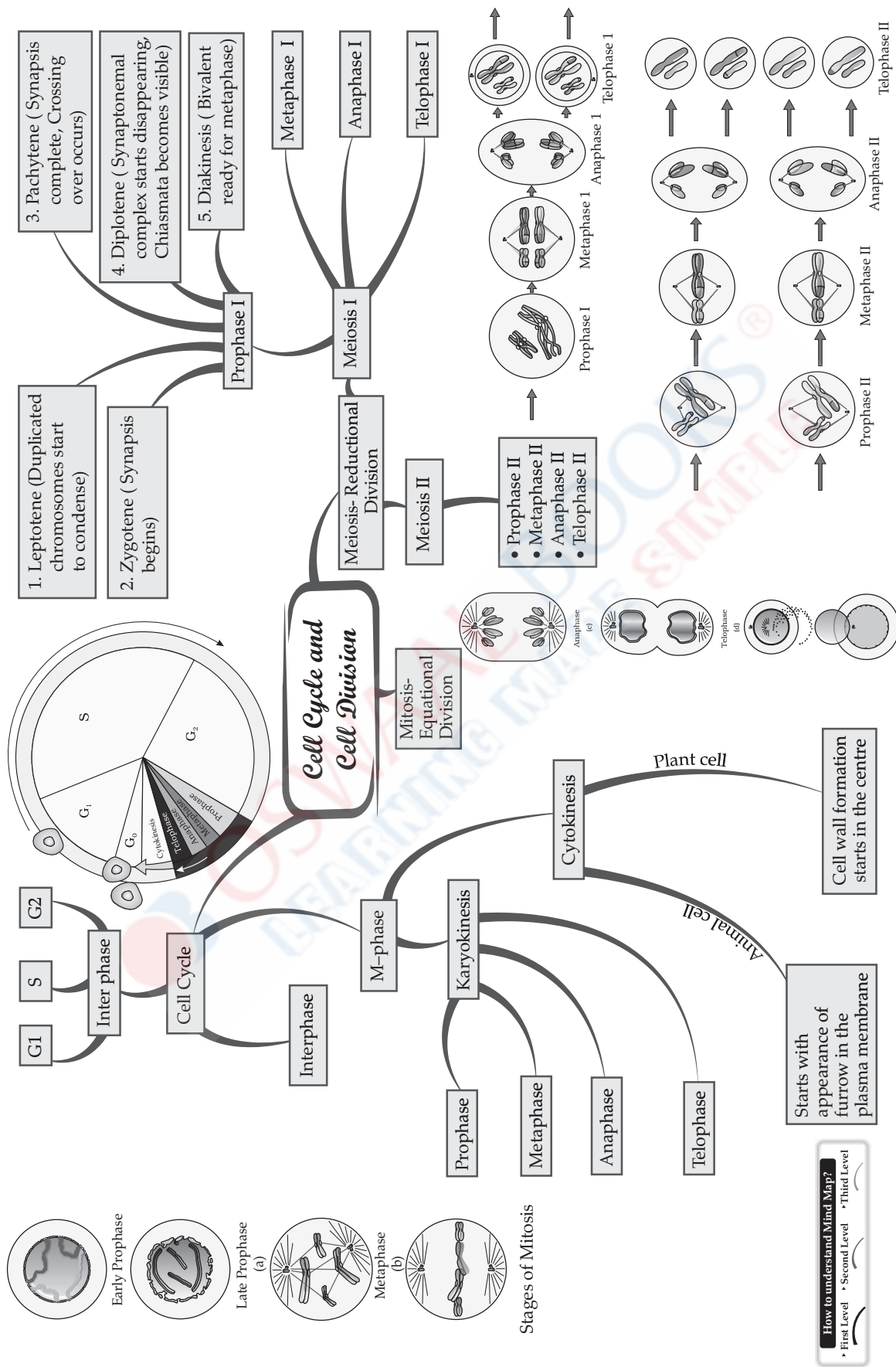


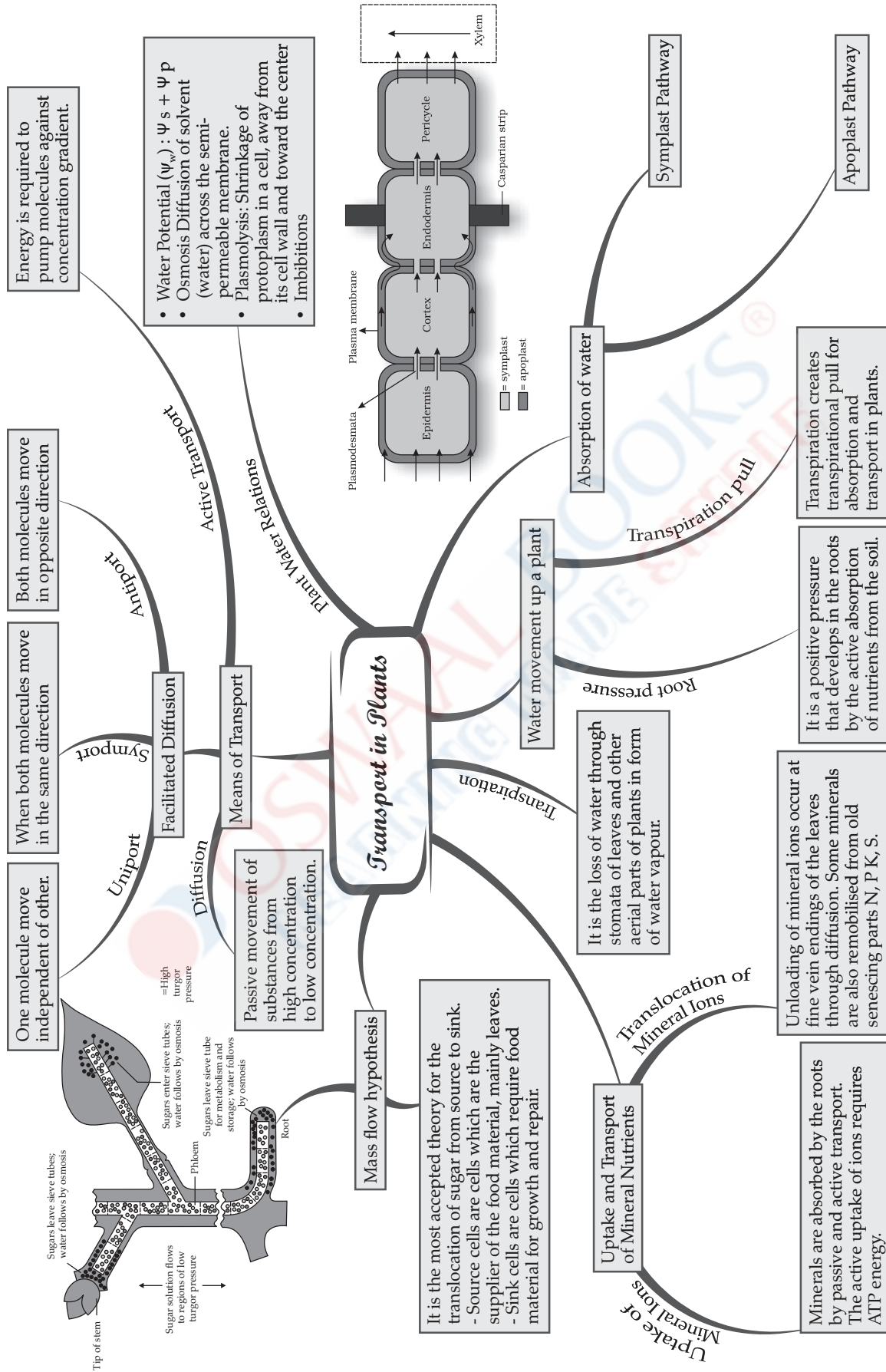




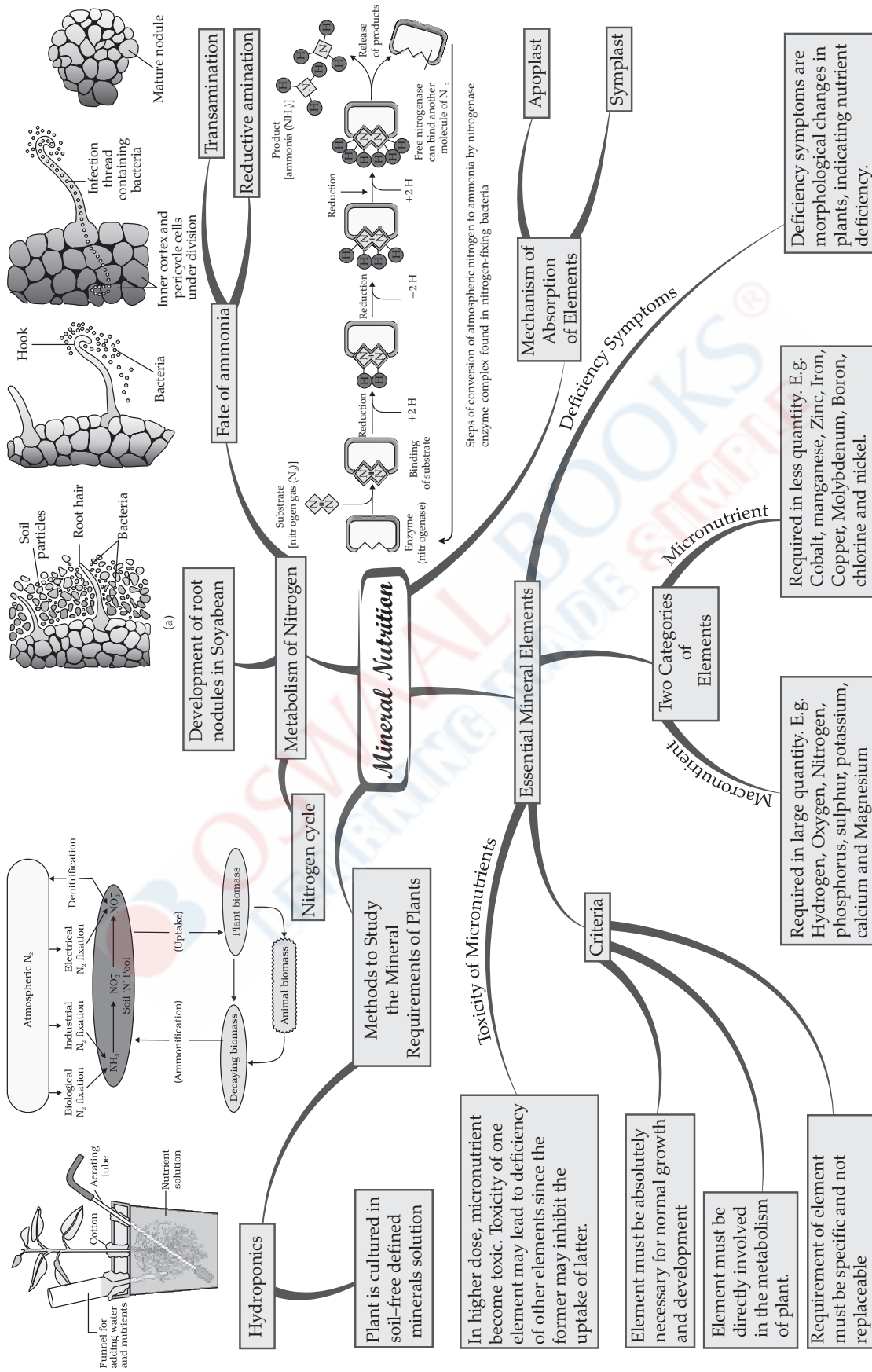


How to understand Mind Map?  
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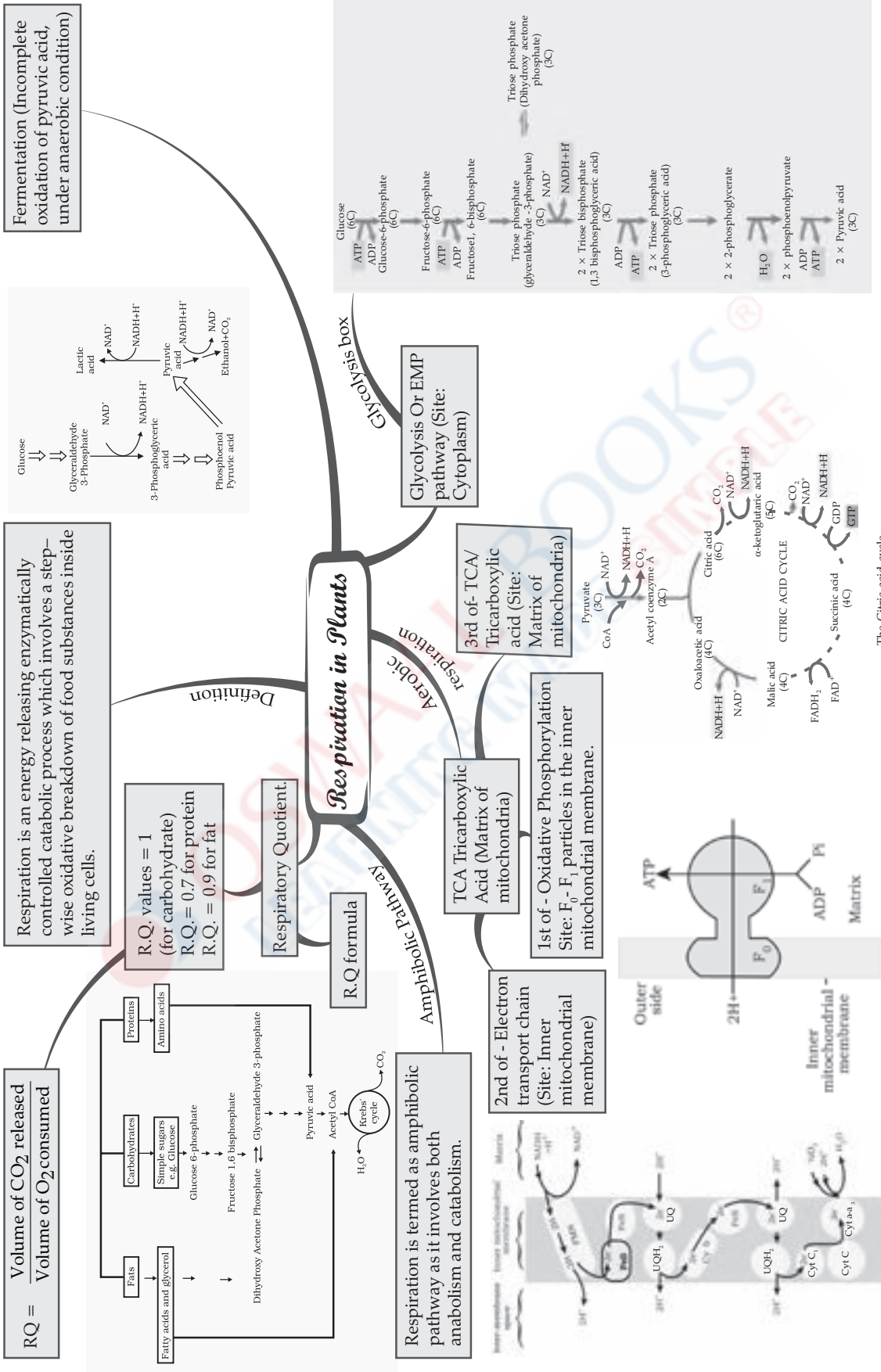


How to understand Mind Map?  
 • First Level • Second Level • Third Level

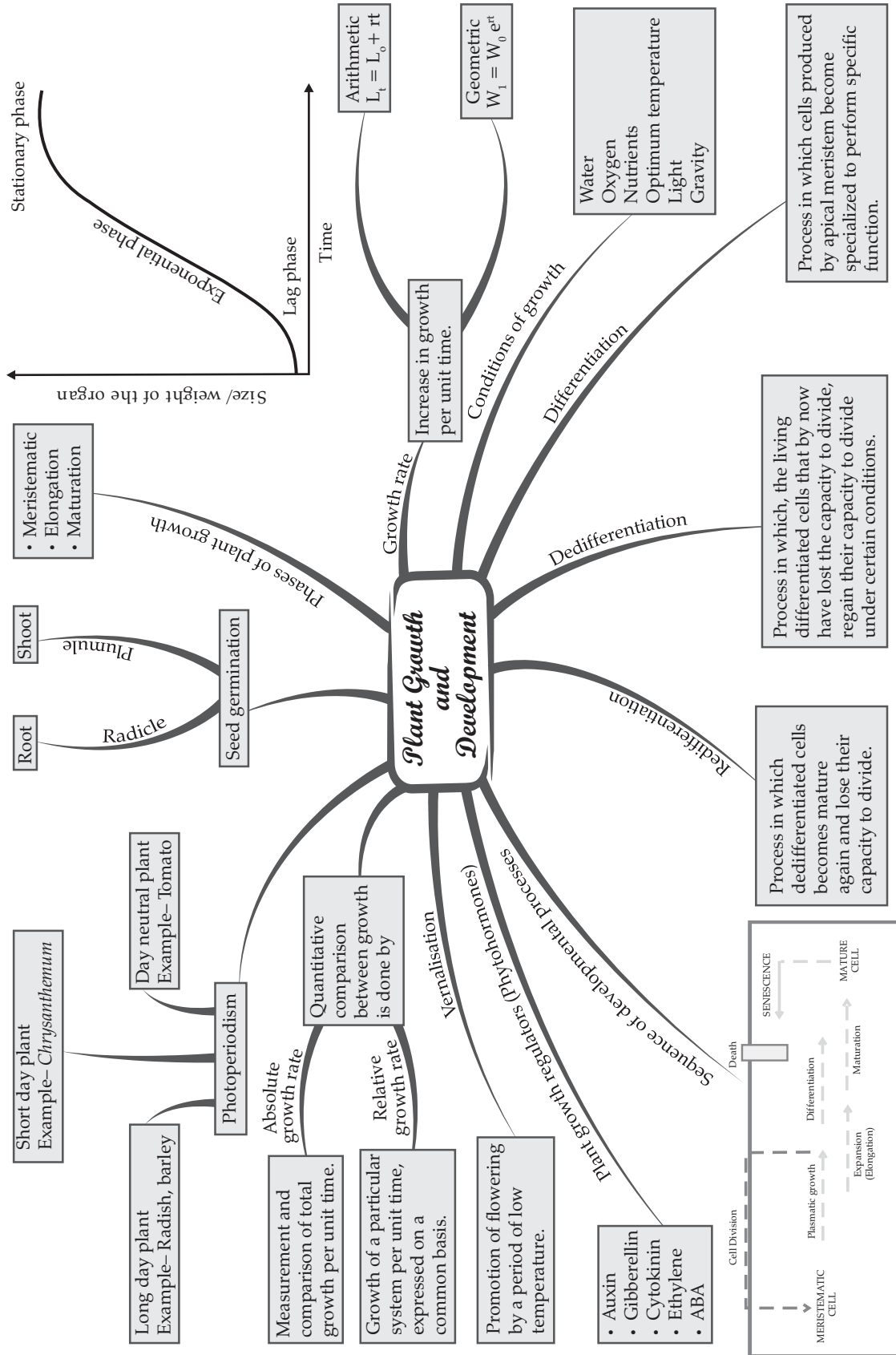


**How to understand Mind Map?**  
 • First Level • Second Level • Third Level



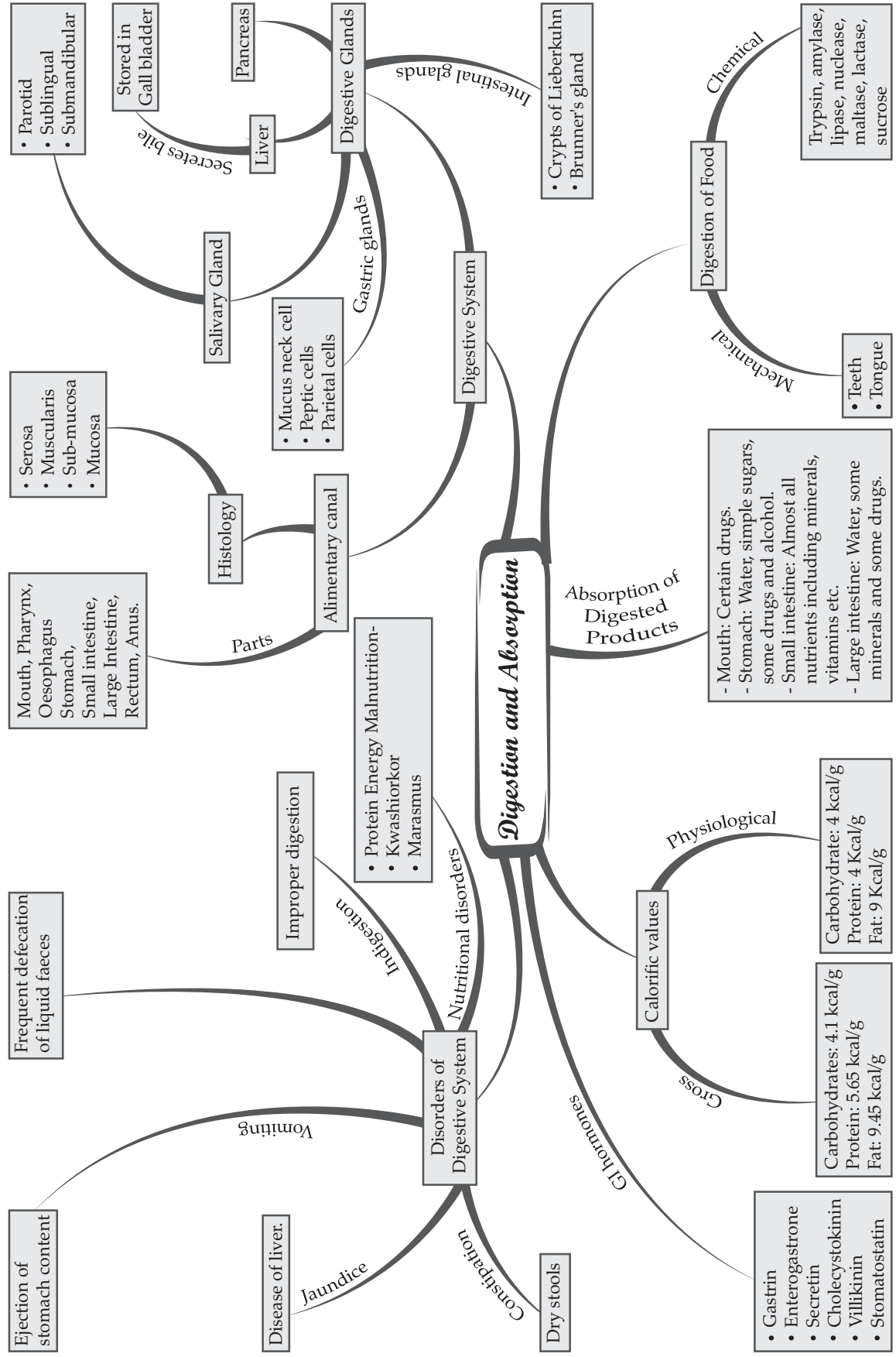


How to understand Mind Map?  
 • First Level • Second Level • Third Level

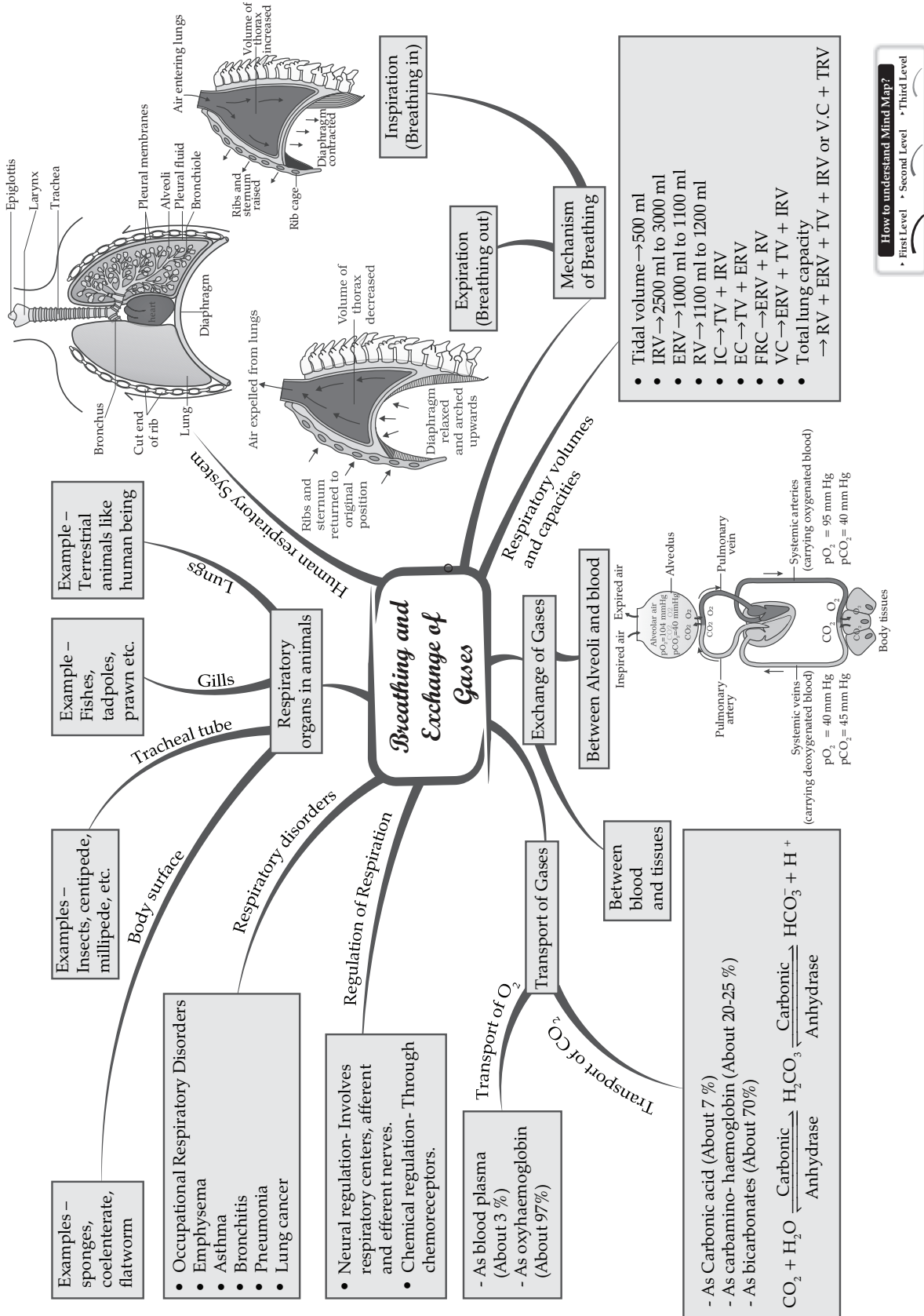


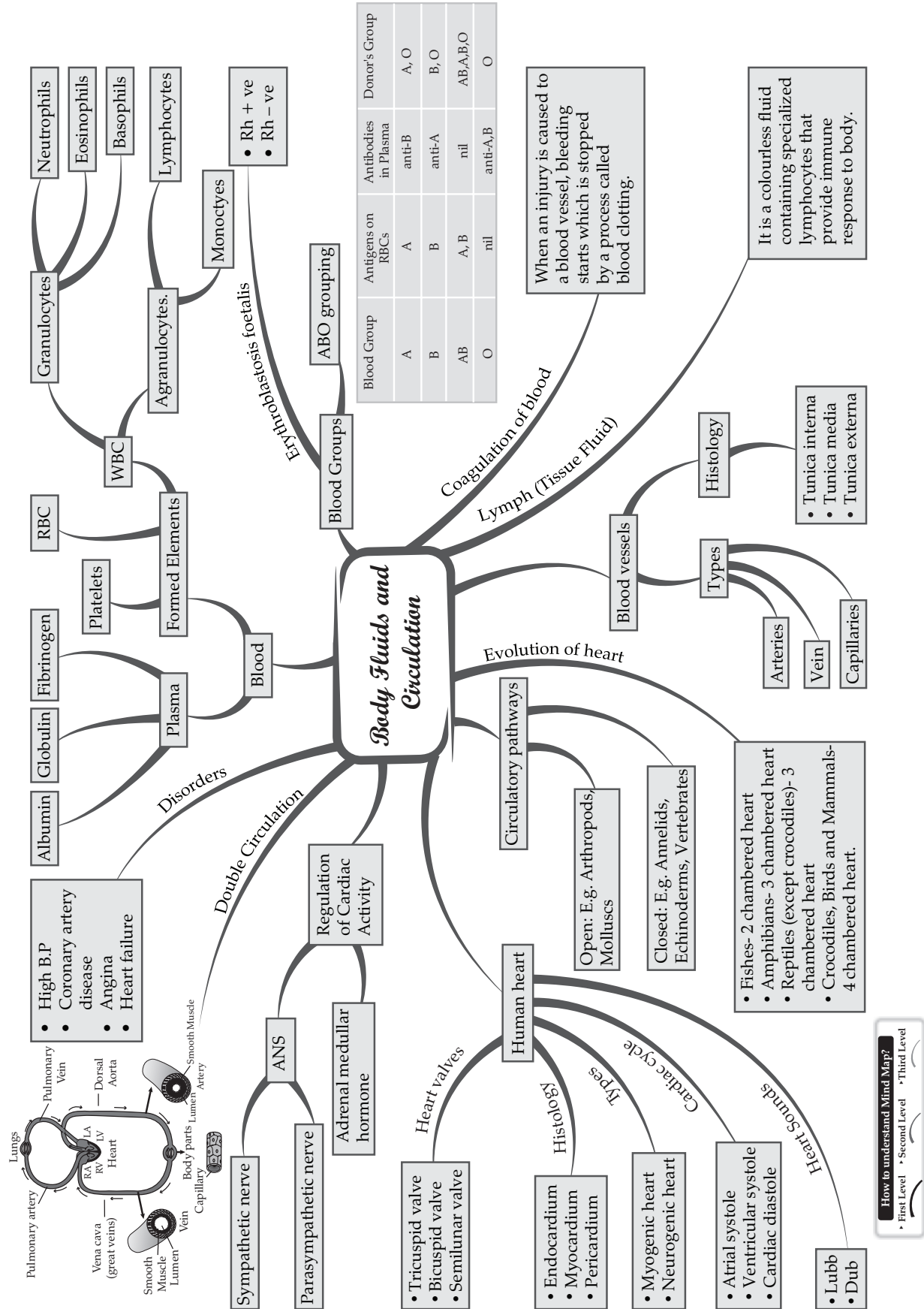
**How to understand Mind Map?**  
 → First Level → Second Level → Third Level



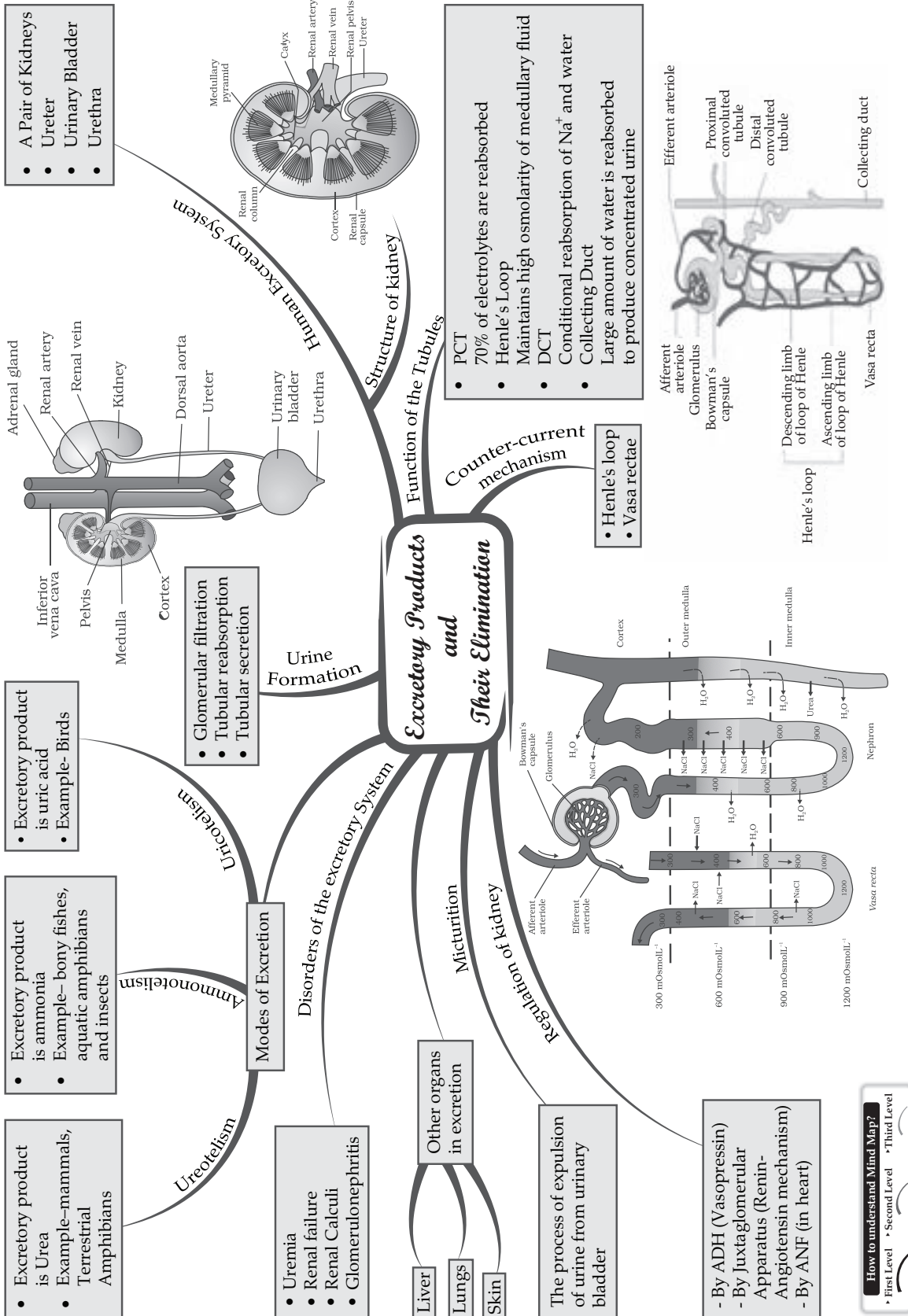


How to understand Mind Map?  
 • First Level • Second Level • Third Level

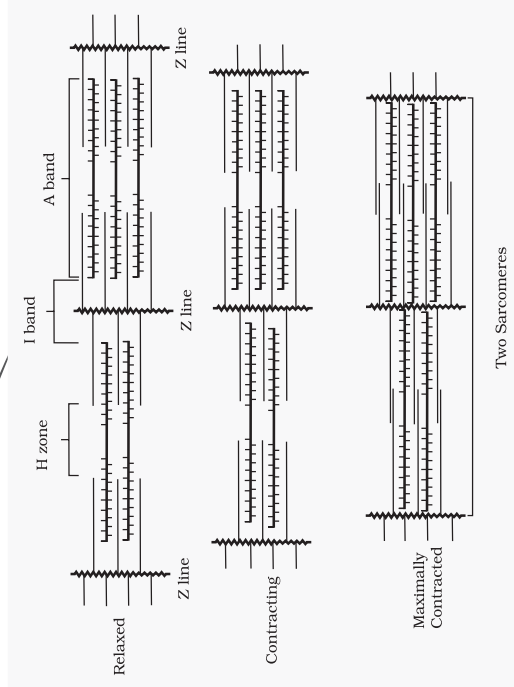
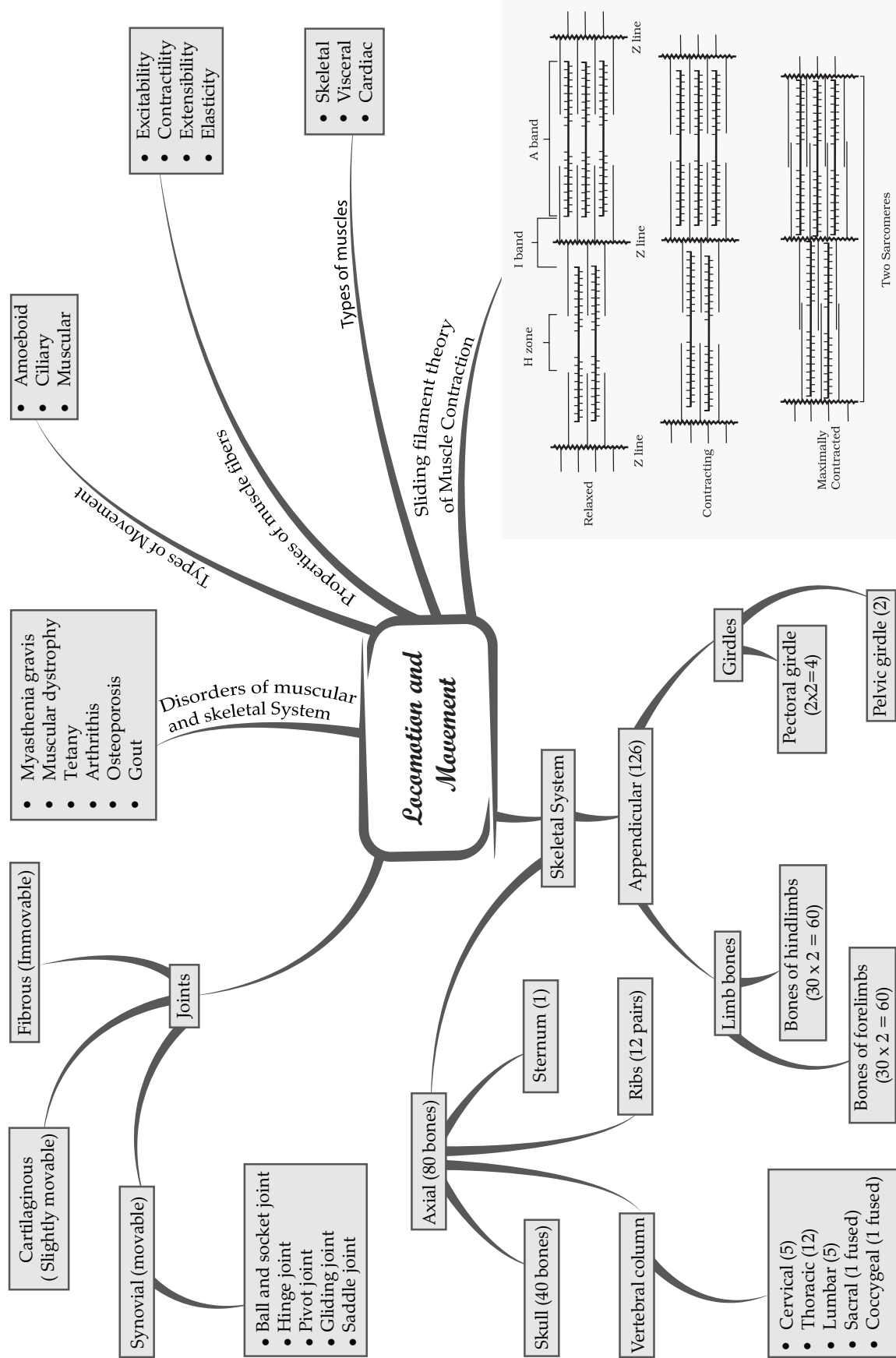




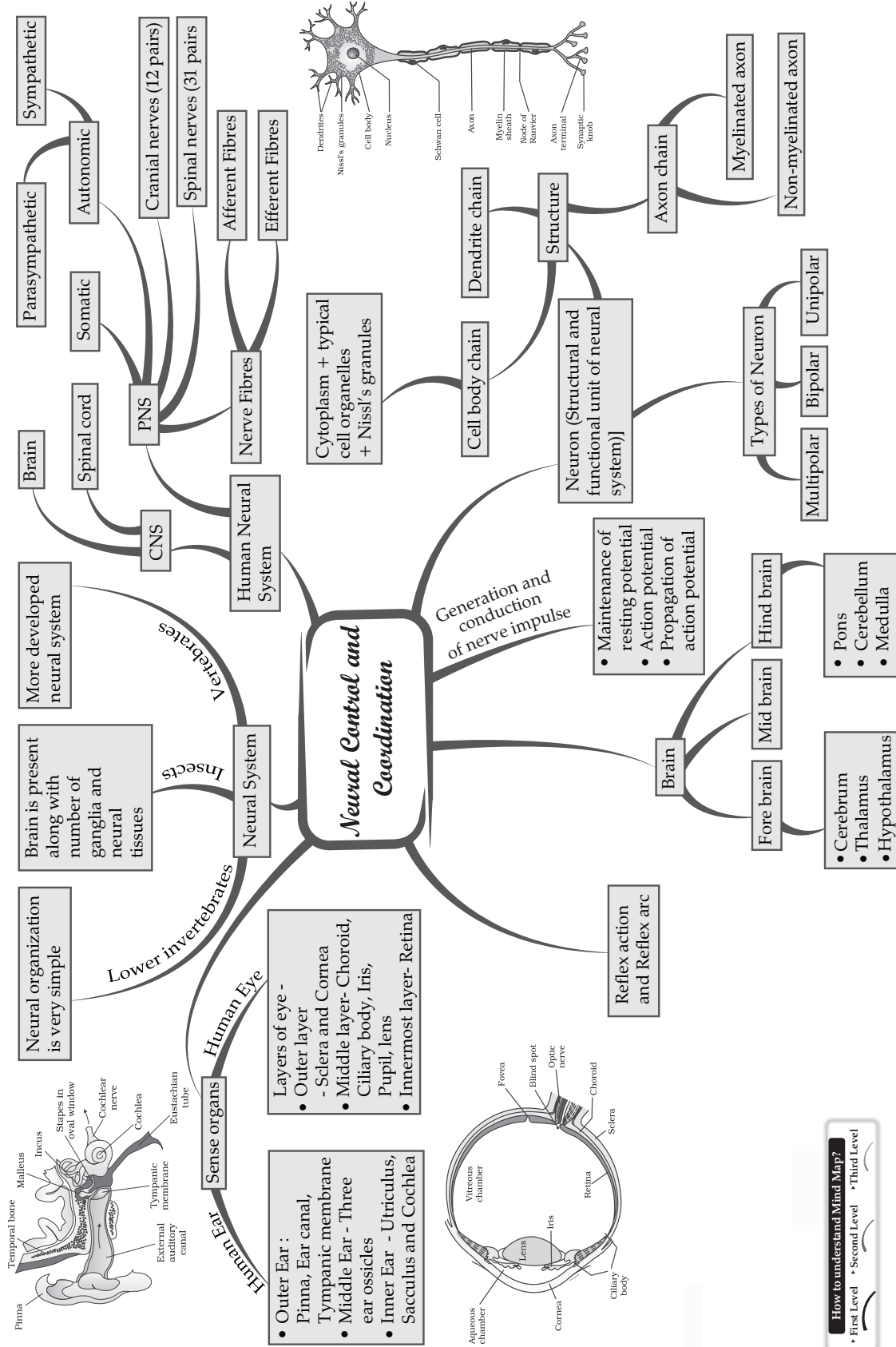
How to understand Mind Map?  
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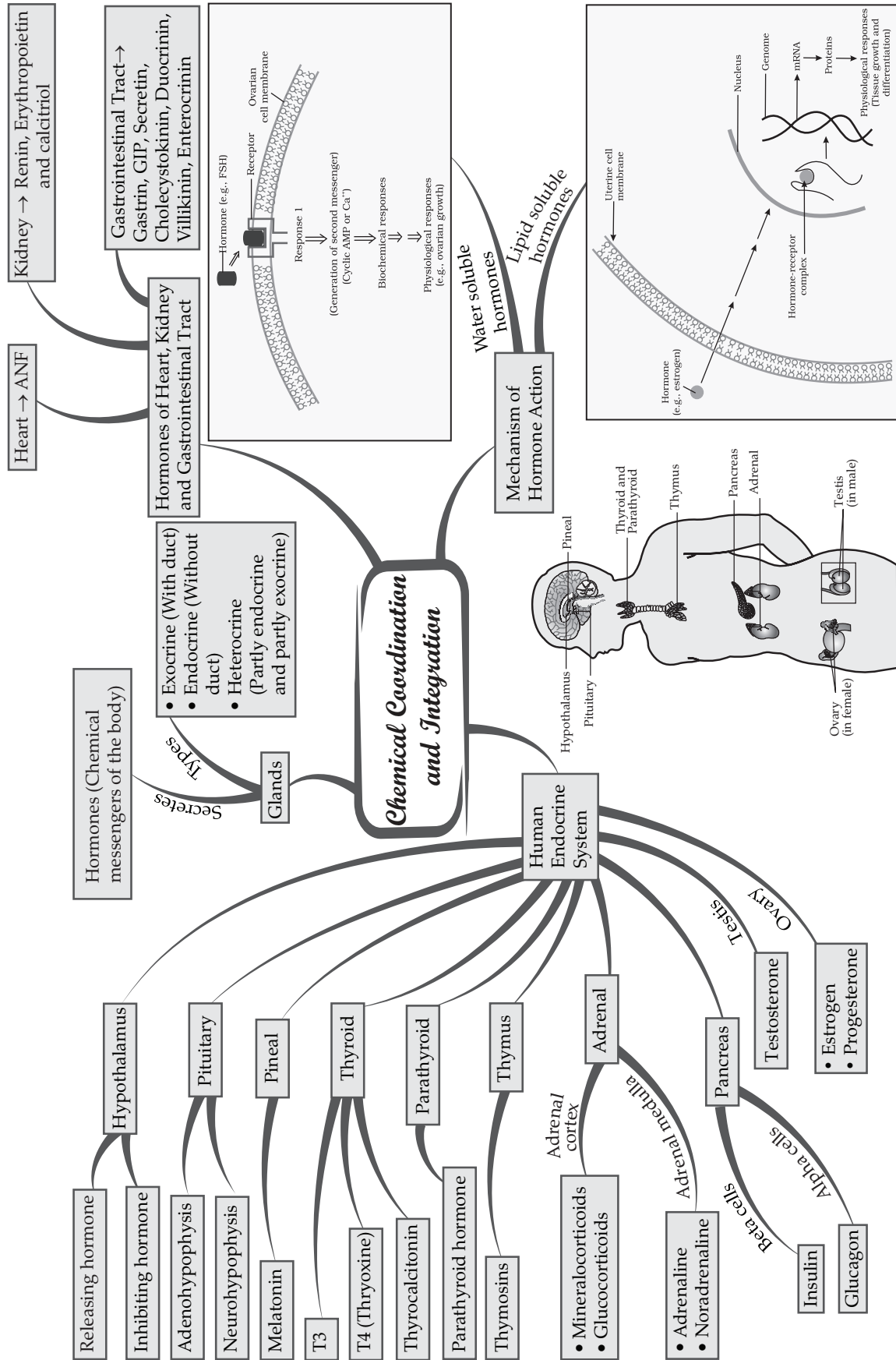
**How to understand Mind Map?**  
 • First Level • Second Level • Third Level



How to understand Mind Map?  
 • First Level • Second Level • Third Level



**How to understand Mind Map?**  
 • First Level • Second Level • Third Level



Heart → ANF

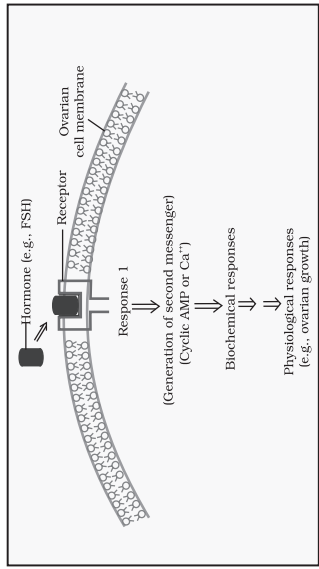
Kidney → Renin, Erythropoietin and calcitriol

- Hormones (Chemical messengers of the body)**
- Types**
- Exocrine (With duct)
  - Endocrine (Without duct)
  - Heterocrine (Partly endocrine and partly exocrine)

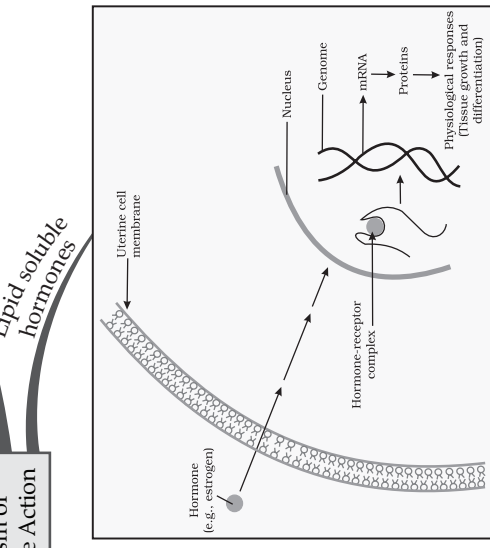
- Glands**
- Hypothalamus
    - Releasing hormone
    - Inhibiting hormone
  - Pituitary
    - Adenohypophysis
    - Neurohypophysis
  - Pineal
    - Melatonin
  - Thyroid
    - T3
    - T4 (Thyroxine)
  - Parathyroid
    - Thyrocalcitonin
  - Thymus
    - Parathyroid hormone
    - Thymosins
  - Adrenal
    - Mineralocorticoids
    - Glucocorticoids
  - Pancreas
    - Insulin
    - Glucagon
  - Testis (in male)
    - Testosterone
  - Ovary (in female)
    - Estrogen
    - Progesterone

**Hormones of Heart, Kidney and Gastrointestinal Tract**

Gastrointestinal Tract → Gastrin, GIP, Secretin, Cholecystokinin, Duocrinin, Villikinin, Enterocinin

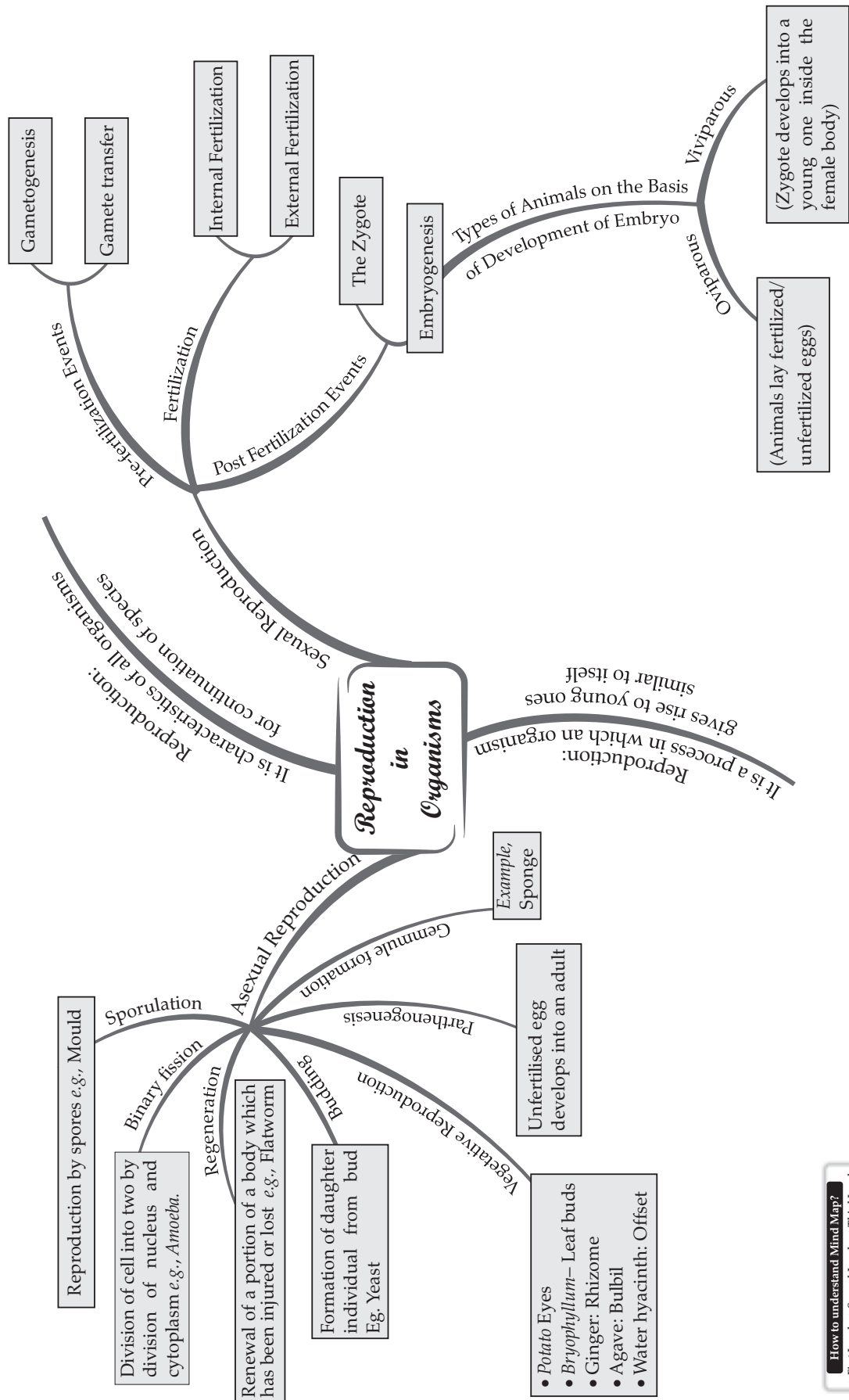


**Lipid soluble hormones**



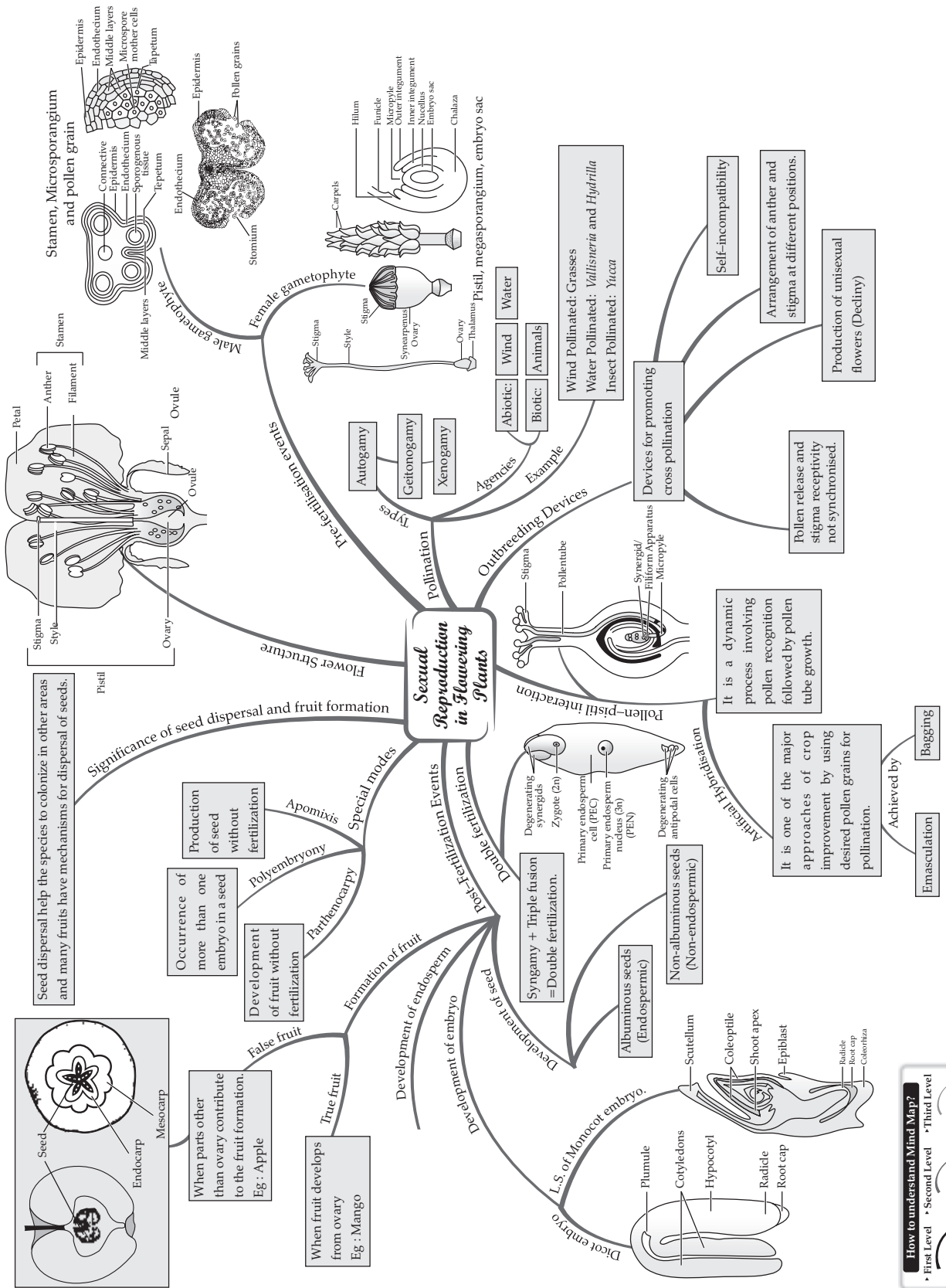
**How to understand Mind Map?**

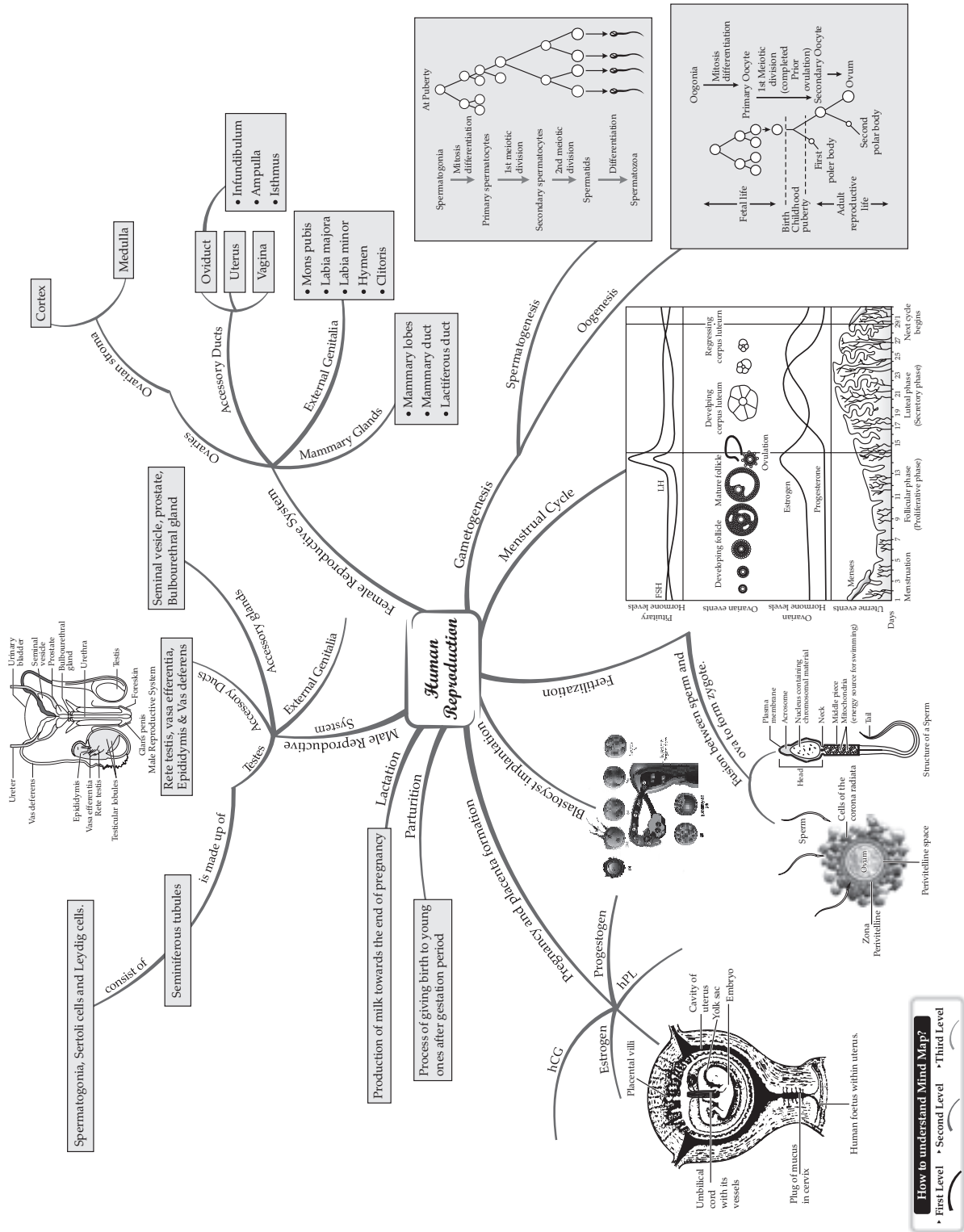
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- Third Level



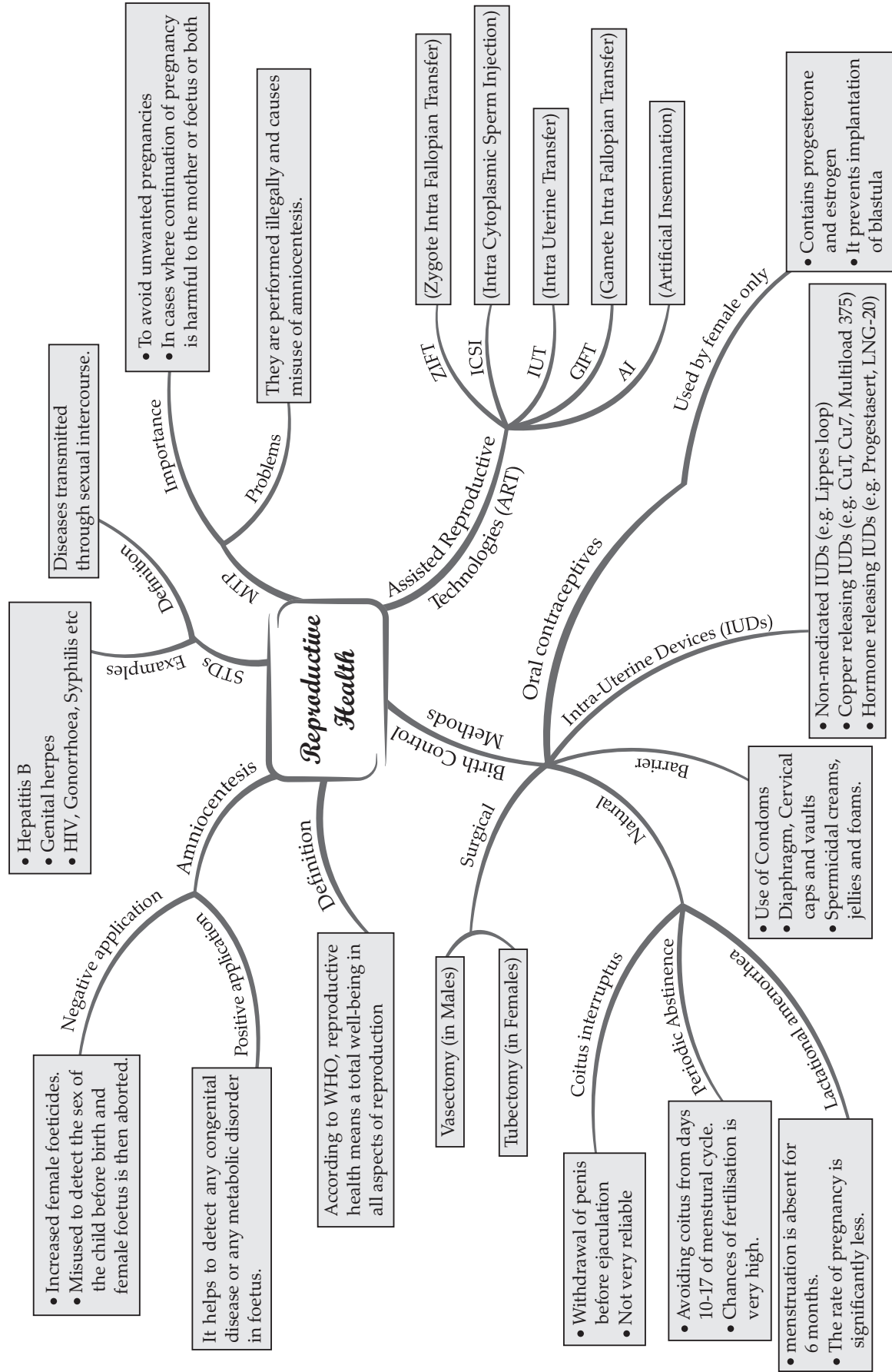
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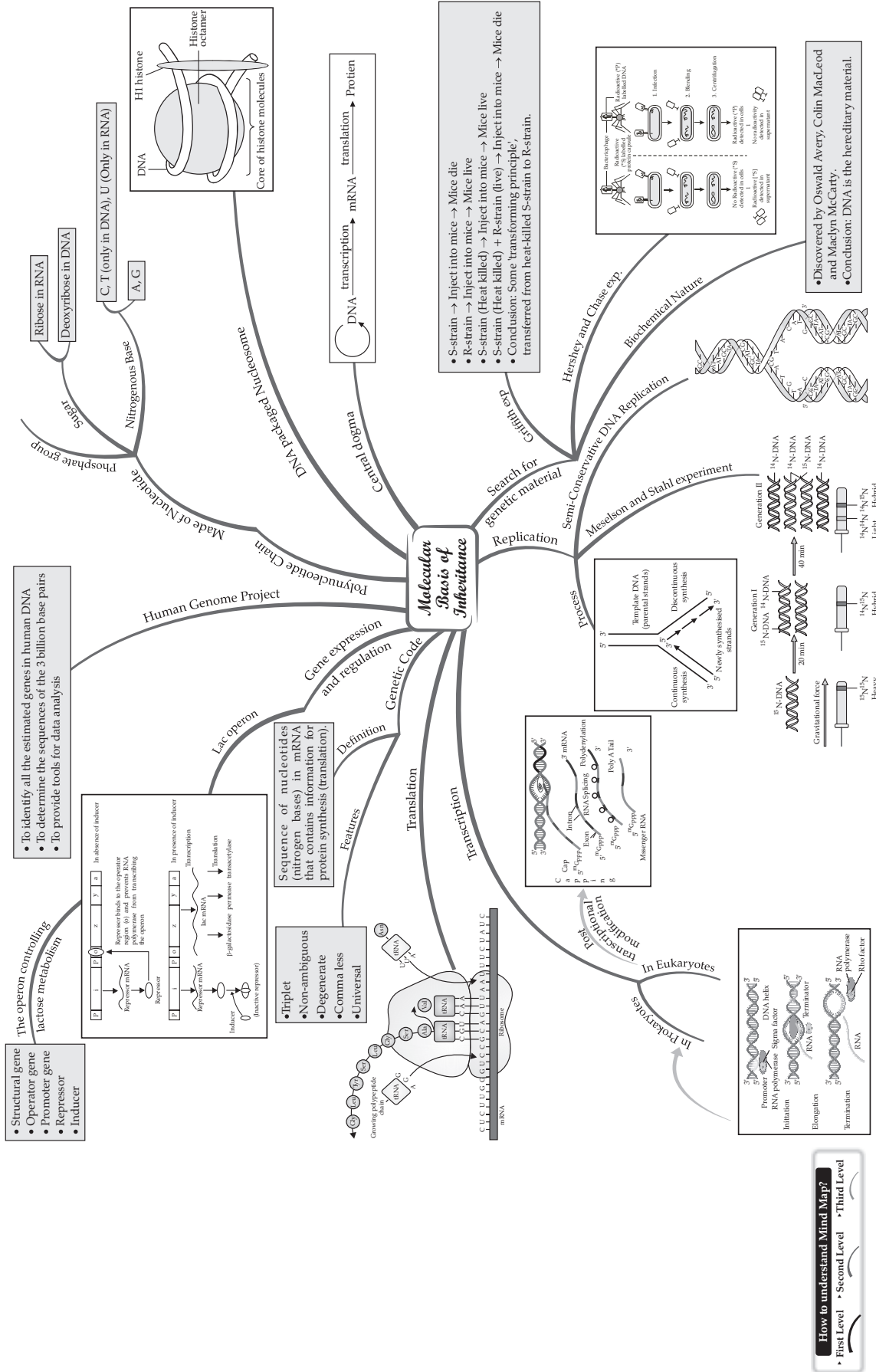




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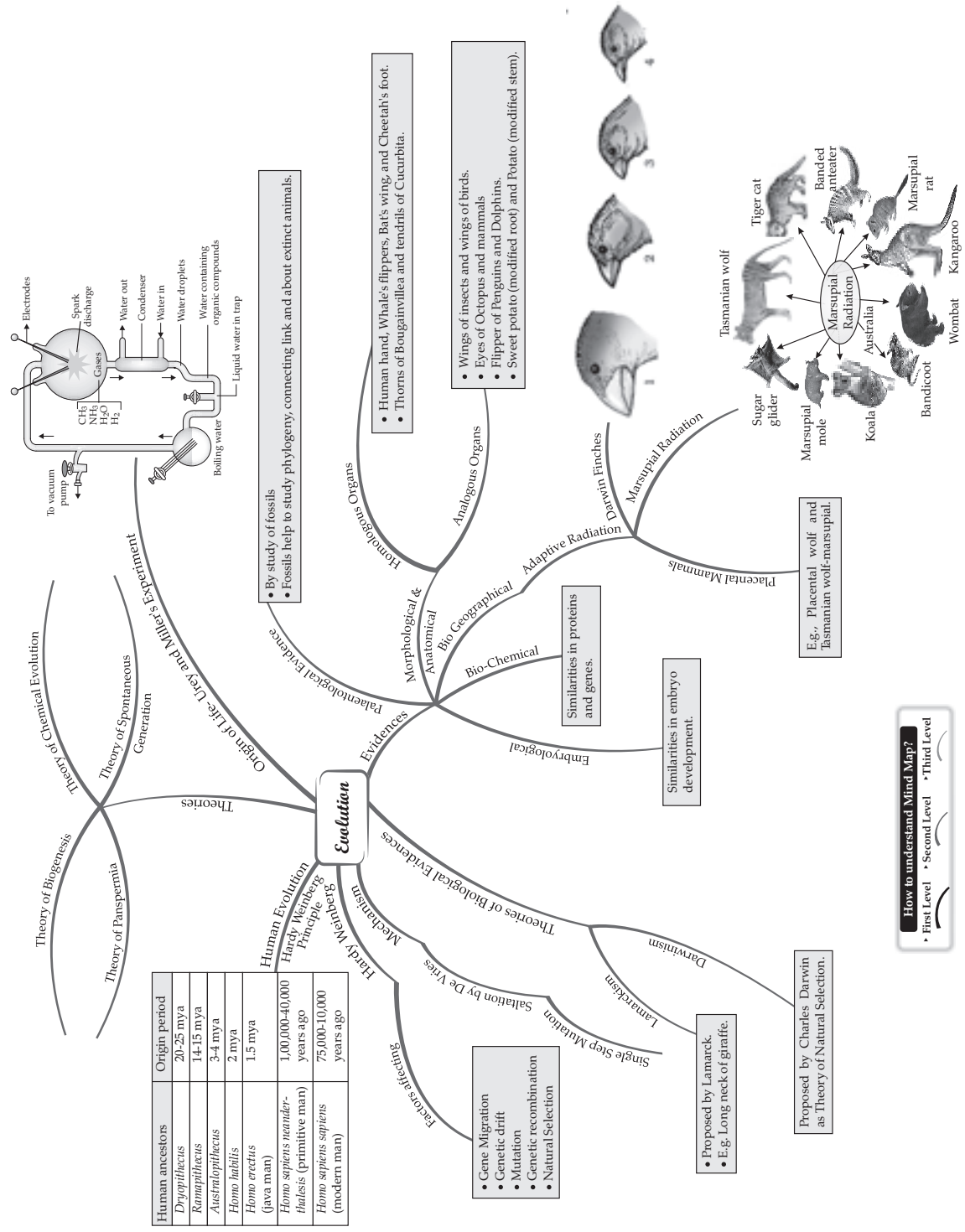


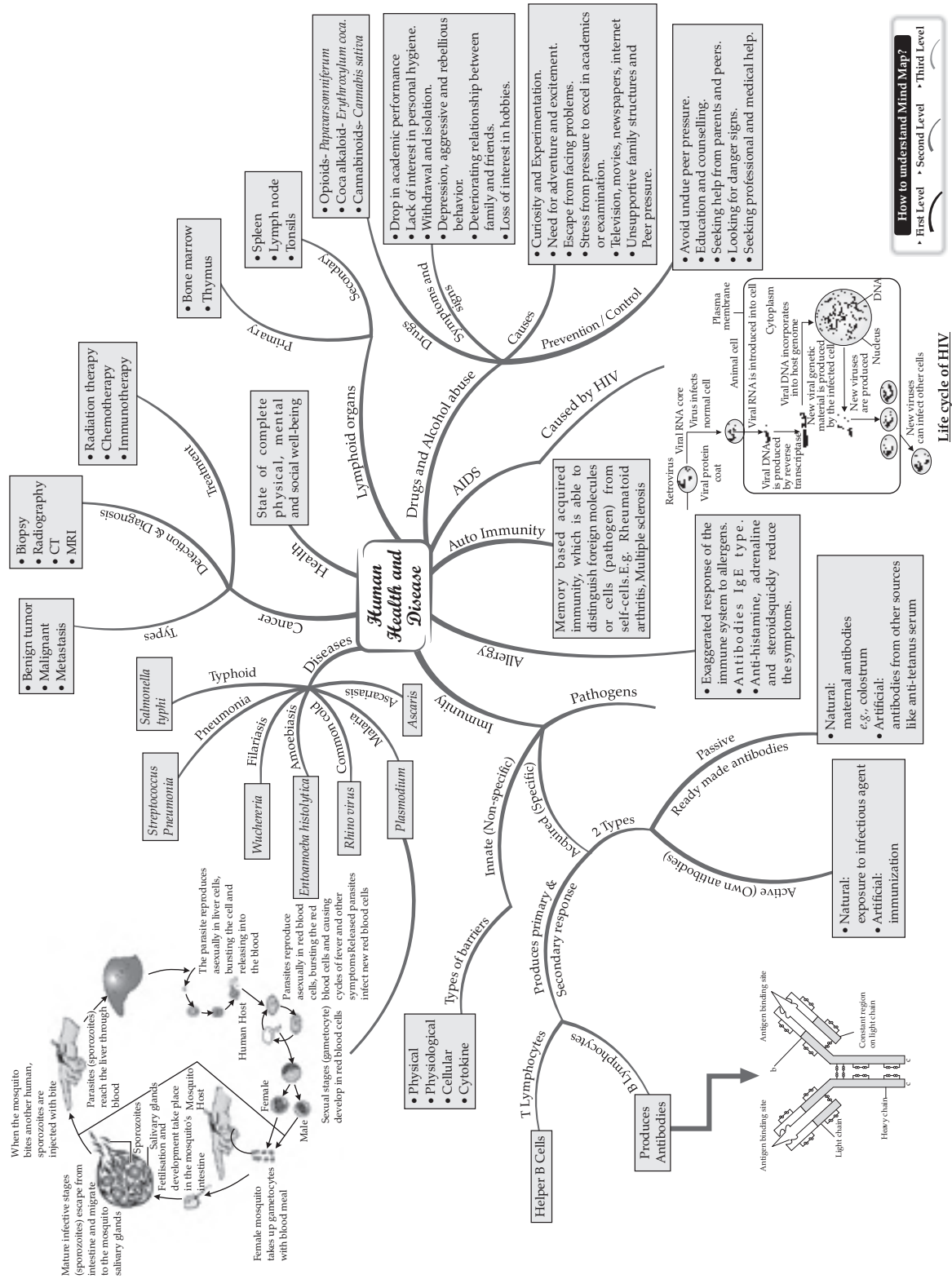




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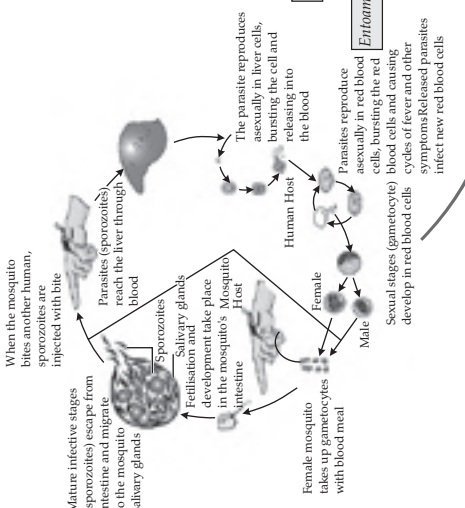
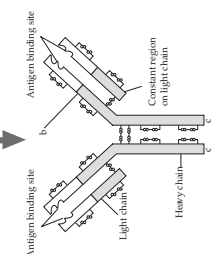
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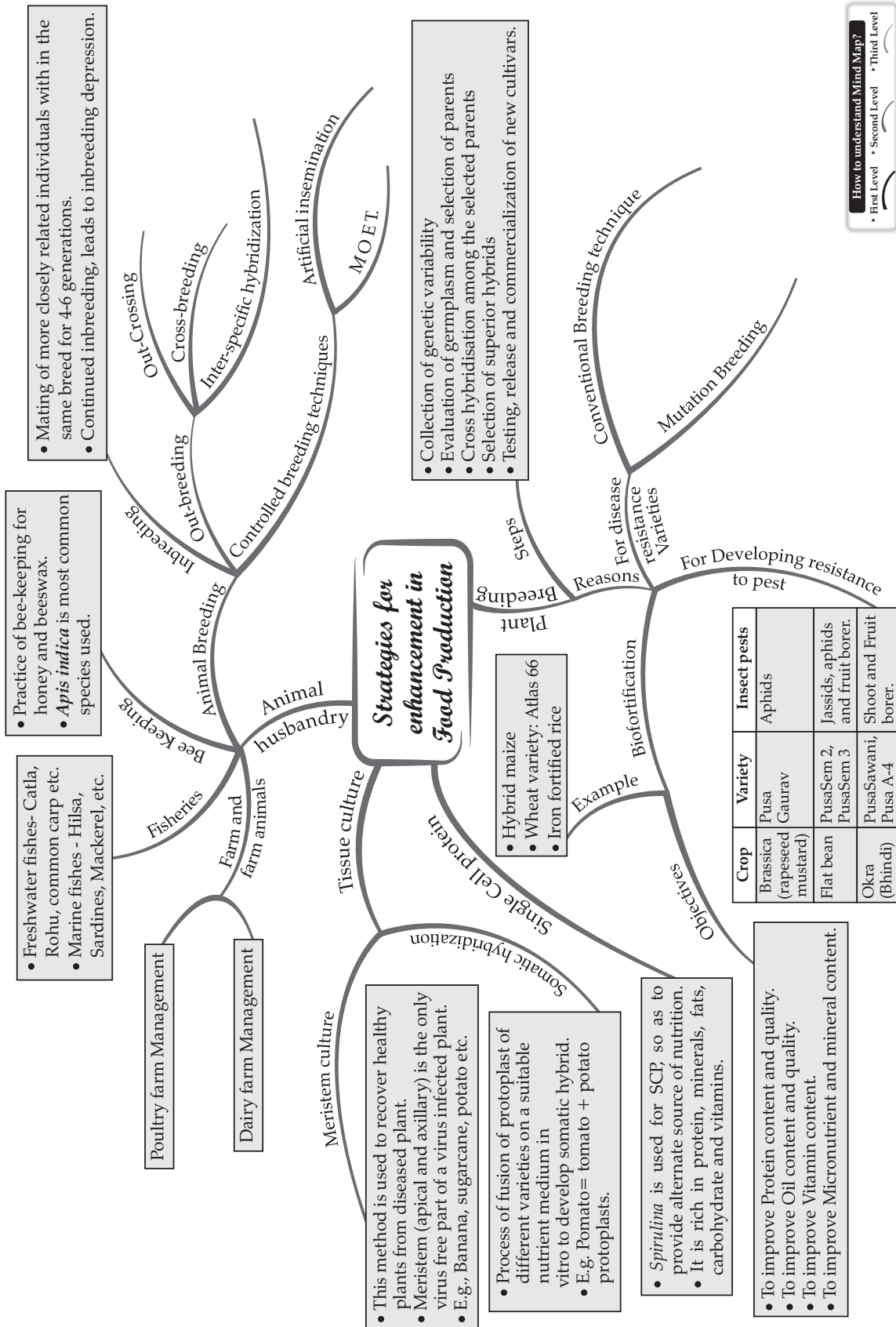




**How to understand Mind Map?**

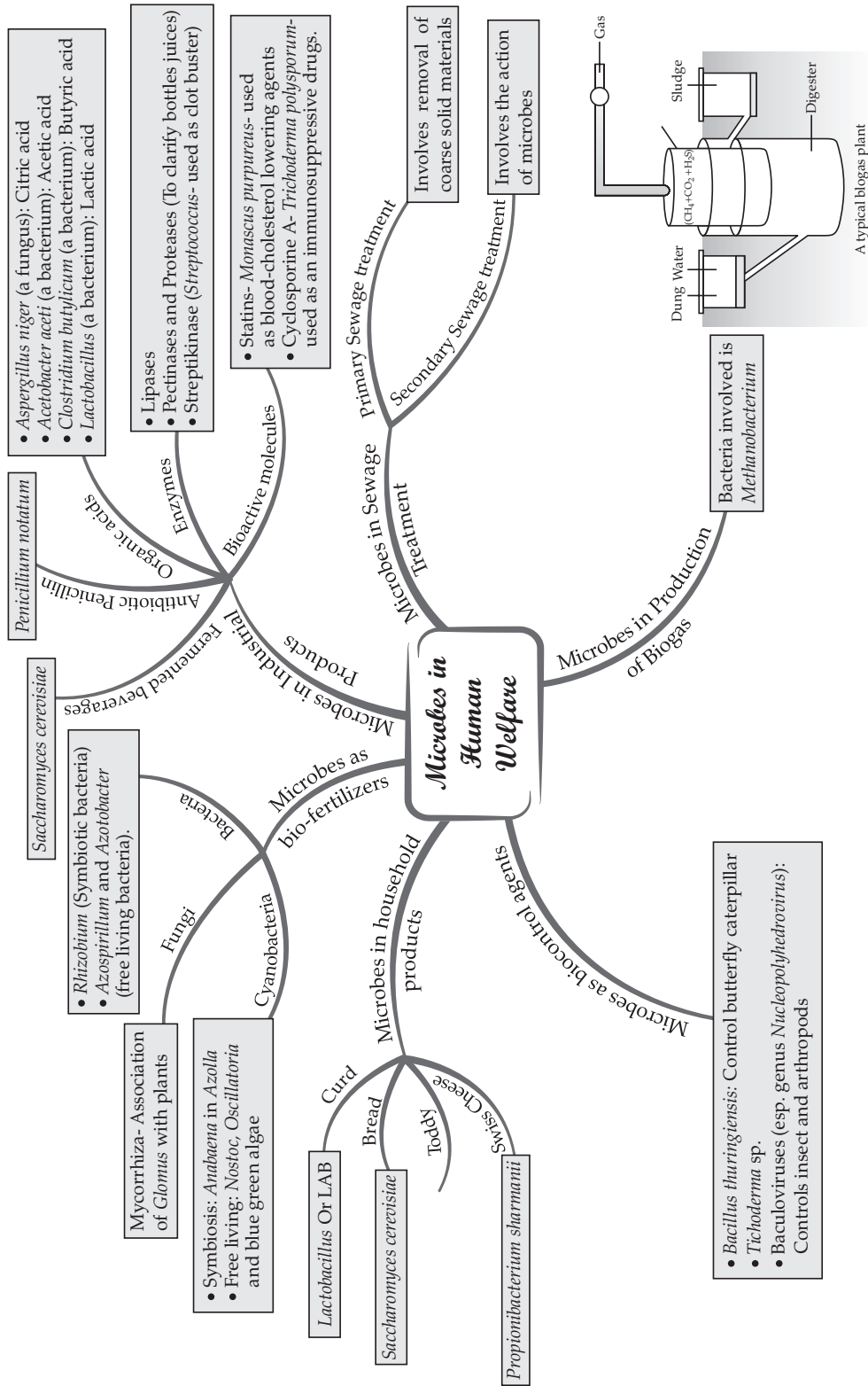
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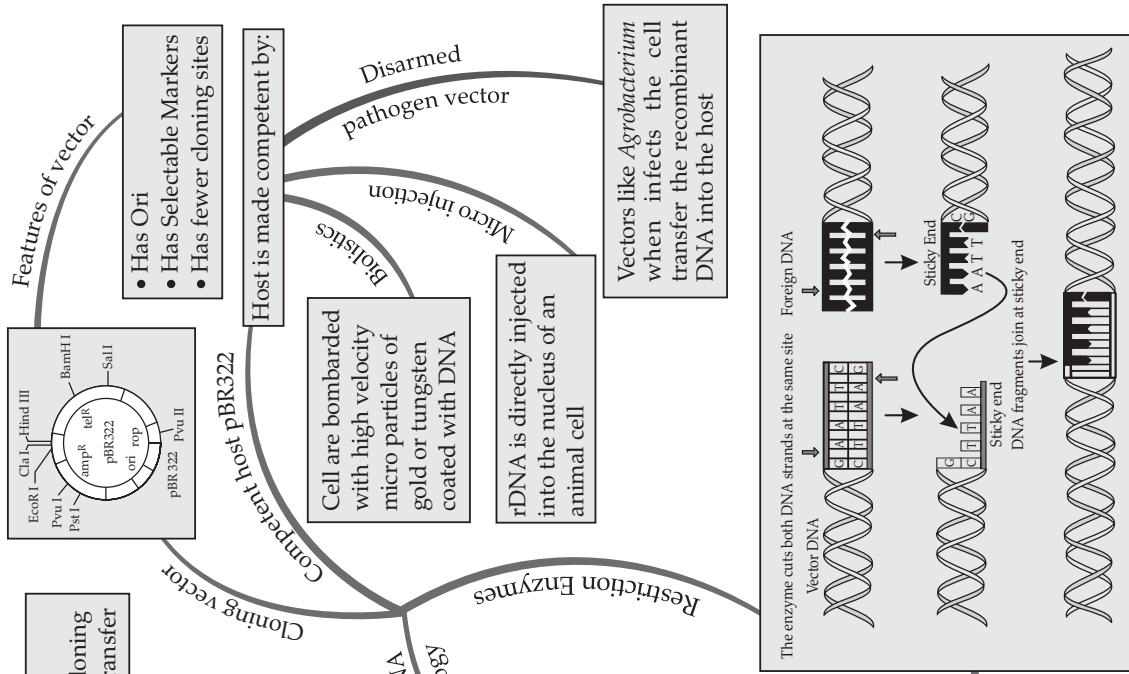
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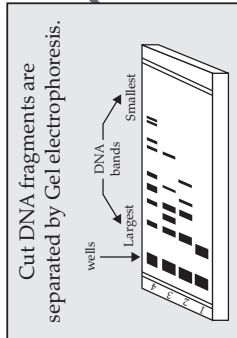


**Biotechnology : Principles and Processes**

**Principles of Genetic Engineering**

- rDNA
- Gene cloning
- Gene transfer

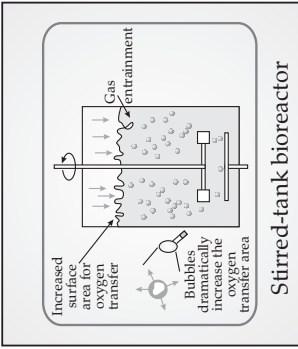
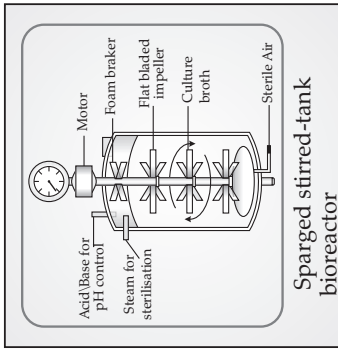
It is the integration of natural science and organisms, cells, parts thereof, and molecular analogues for product and services.



**Processes of rDNA Technology**

Cutting of DNA at specific locations by restriction enzymes.

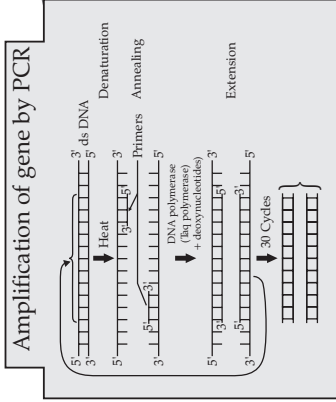
**Isolation of genetic material**



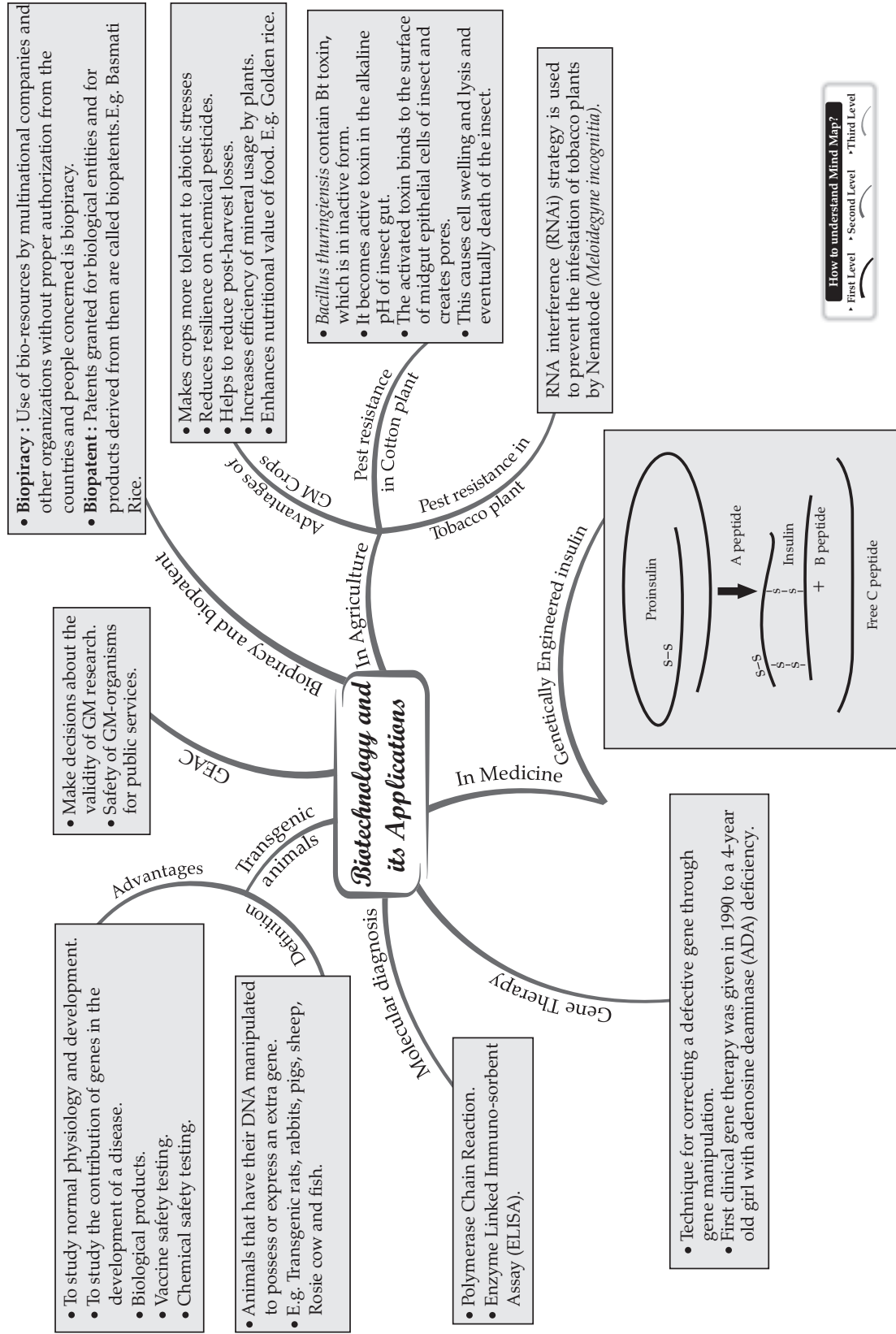
Obtaining foreign gene product by bioreactors.

Selection of recombinants:  
(a) By antibiotic resistance method.  
(b) By Insertional inactivation method

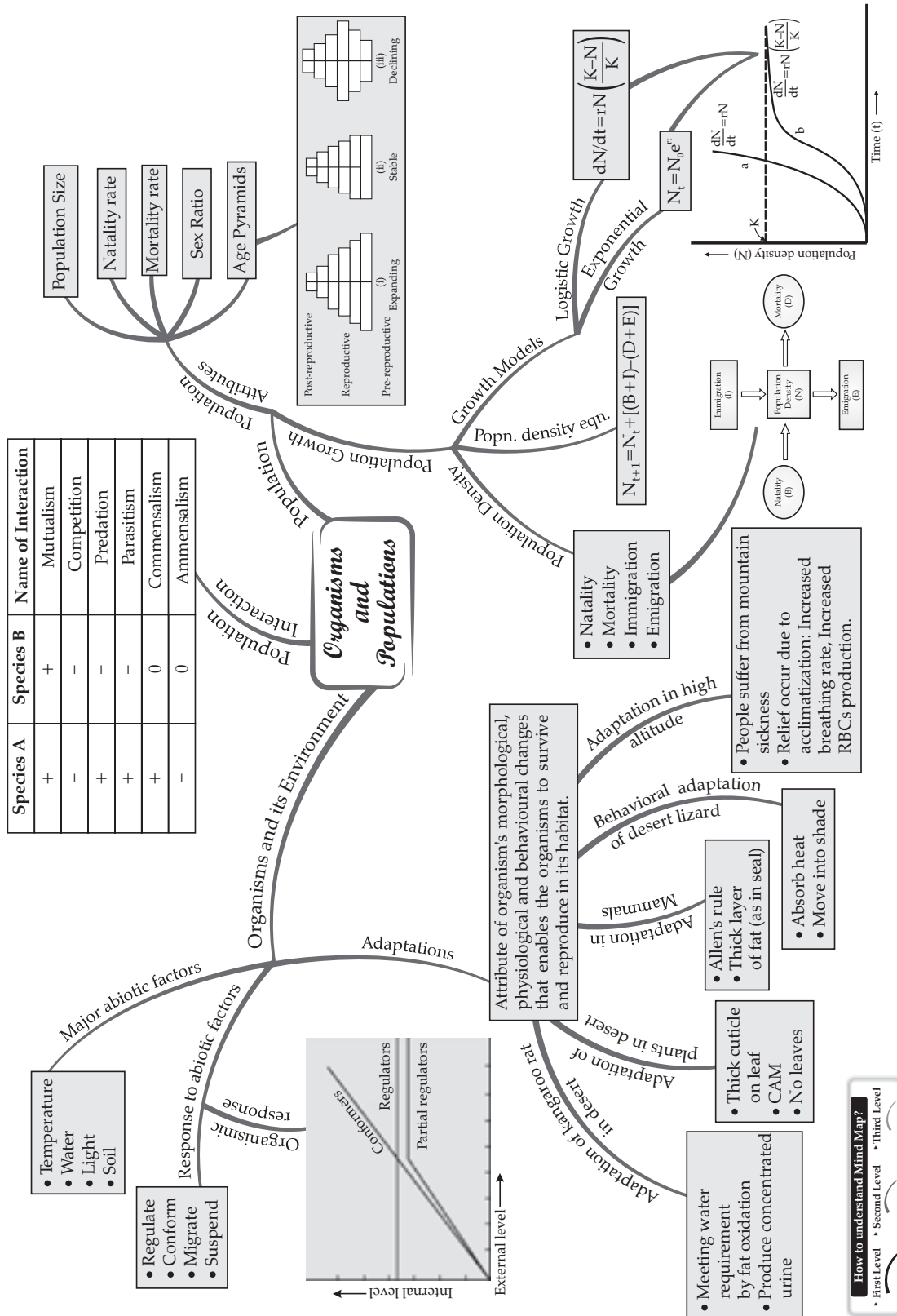
Inserting of DNA into host cells. Host cells are made competent to take up DNA

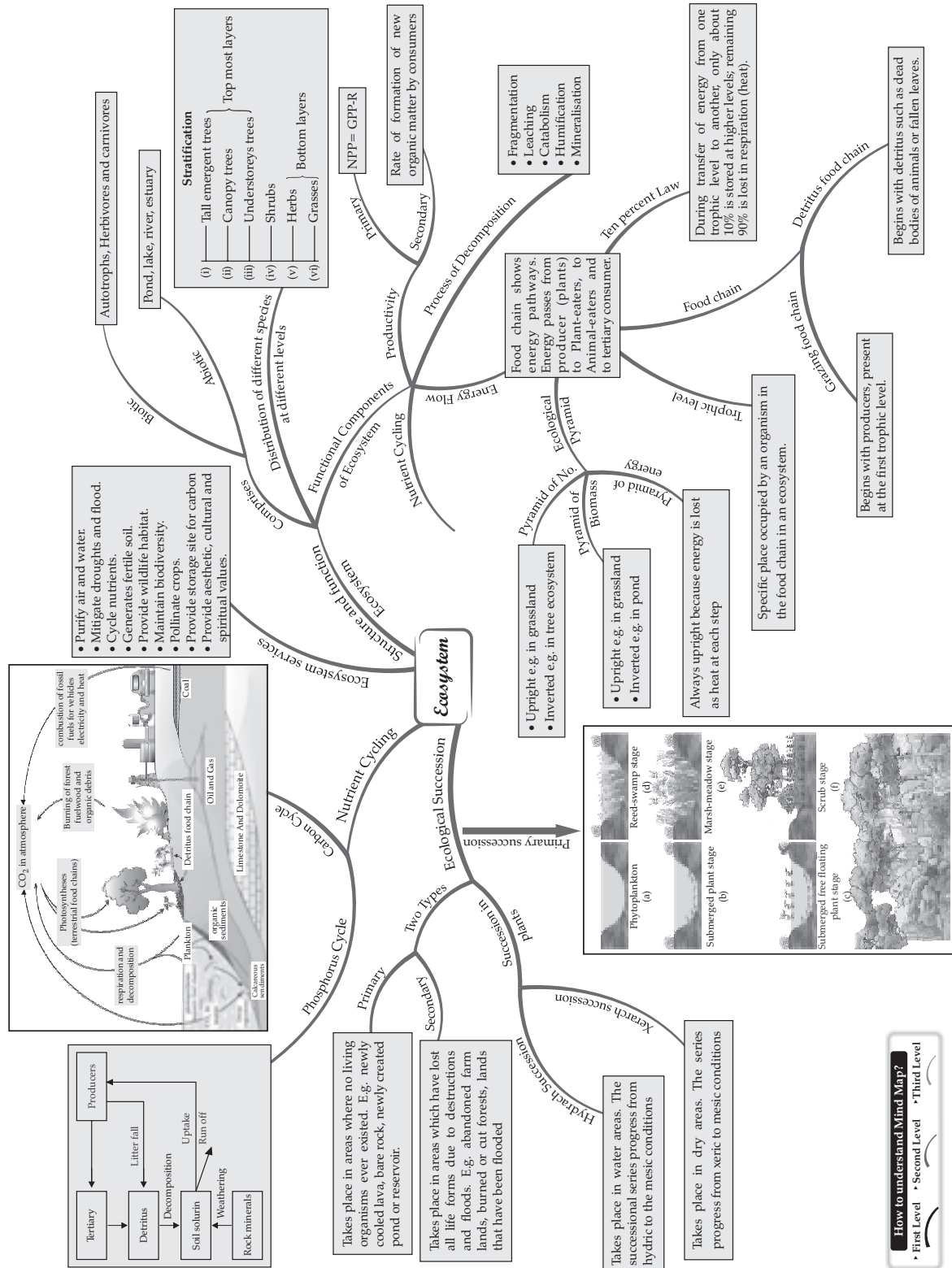


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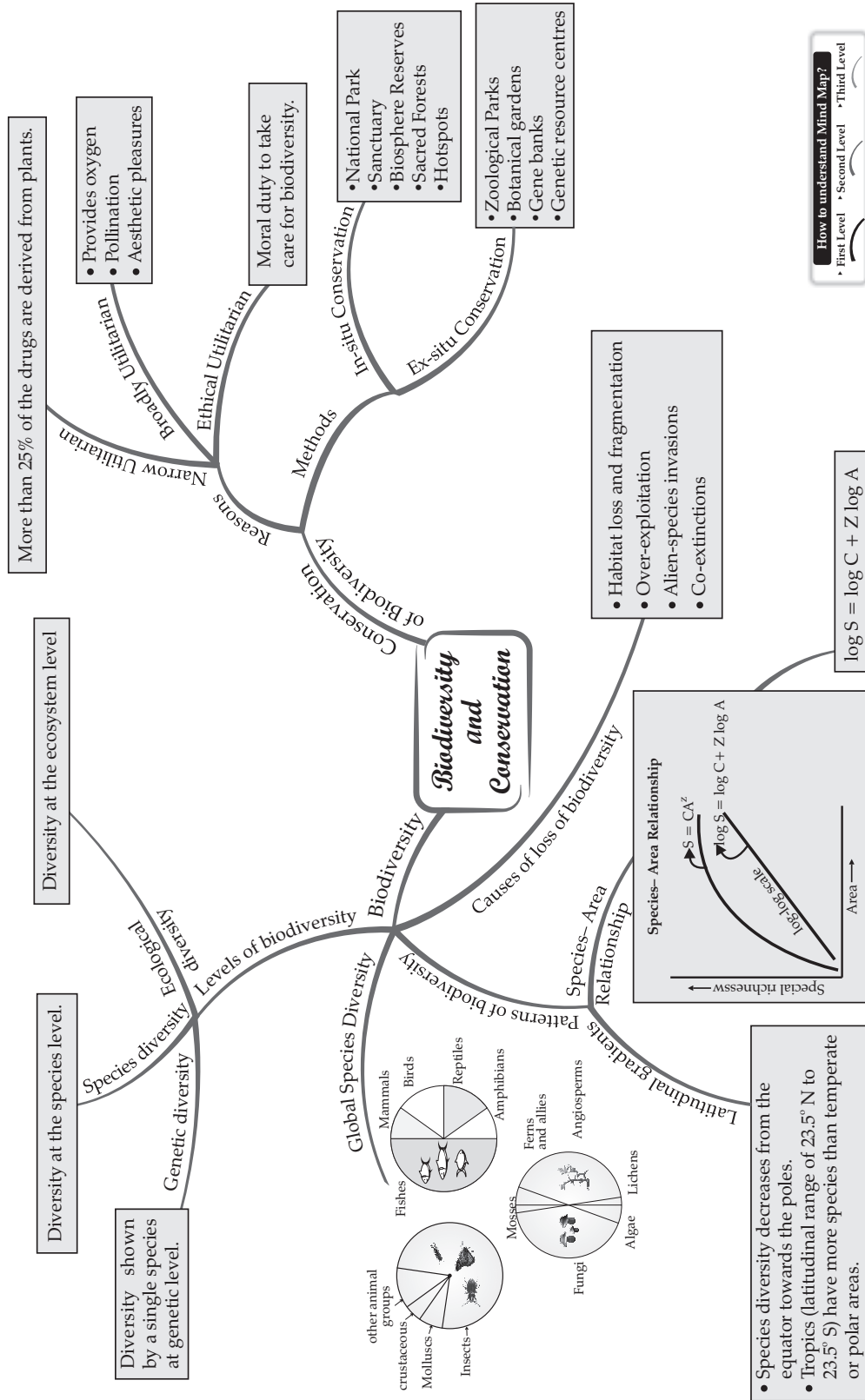
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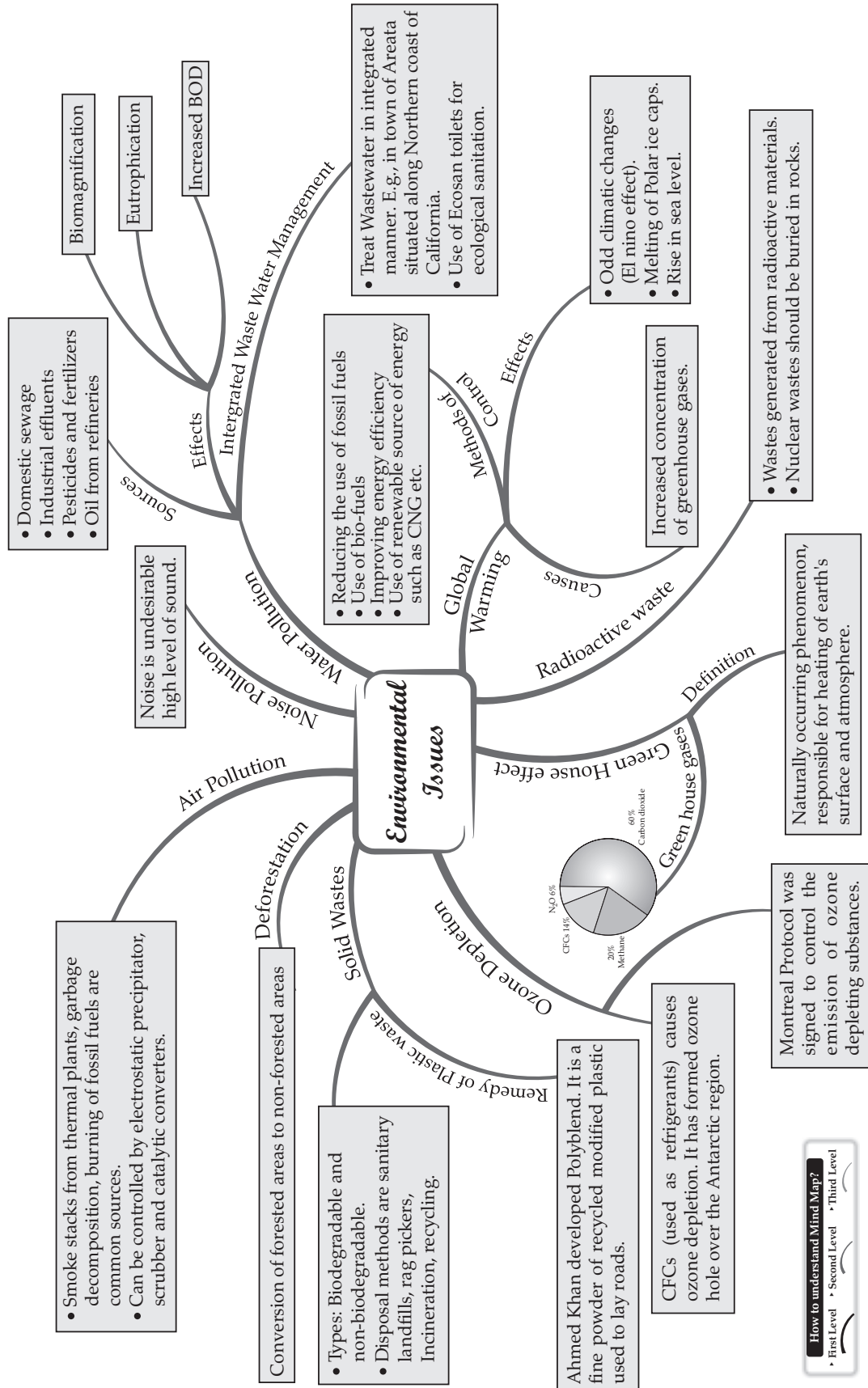
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- Second Level
- Third Level



**How to understand Mind Map?**

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- Second Level
- Third Level



**How to understand Mind Map?**

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- Second Level
- Third Level