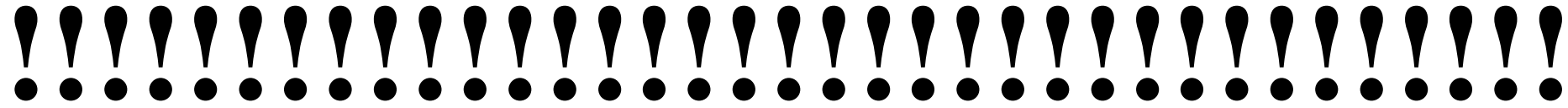


BIOLOGY 460
PLANT
PHYSIOLOGY
LABORATORY
#13

**ANGIOSPERM
LIFE CYCLE
&
ANGIOSPERM
FRUIT**



ATTENTION STUDENTS



REQUIRED MATERIAL

LAB EXAM #4

&

FINAL EXAM

BIOLOGY 460/560

LABORATORY EXAM #4

STUDY GUIDE

!!!!YOU MUST SPELL CORRECTLY FOR COMPLETE CREDIT!!!!

---LABORATORY #12 / ANGIOSPERM FLOWER ANATOMY & MORPHOLOGY---

- KNOW INFLORESCENCE TYPES AND MORPHOLOGY
- KNOW FLOWER MORPHOLOGY AND ANATOMY

---LABORATORY #13 / ANGIOSPERM LIFE CYCLE & ANGIOSPERM FRUIT---

- KNOW ANGIOSPERM LIFE CYCLE
- KNOW Polygonum EMBRYO SAC ARRANGEMENT
- KNOW FRUIT TYPES
- KNOW FRUIT MORPHOLOGY AND ANATOMY

!!!!30-50 QUESTIONS!!!!

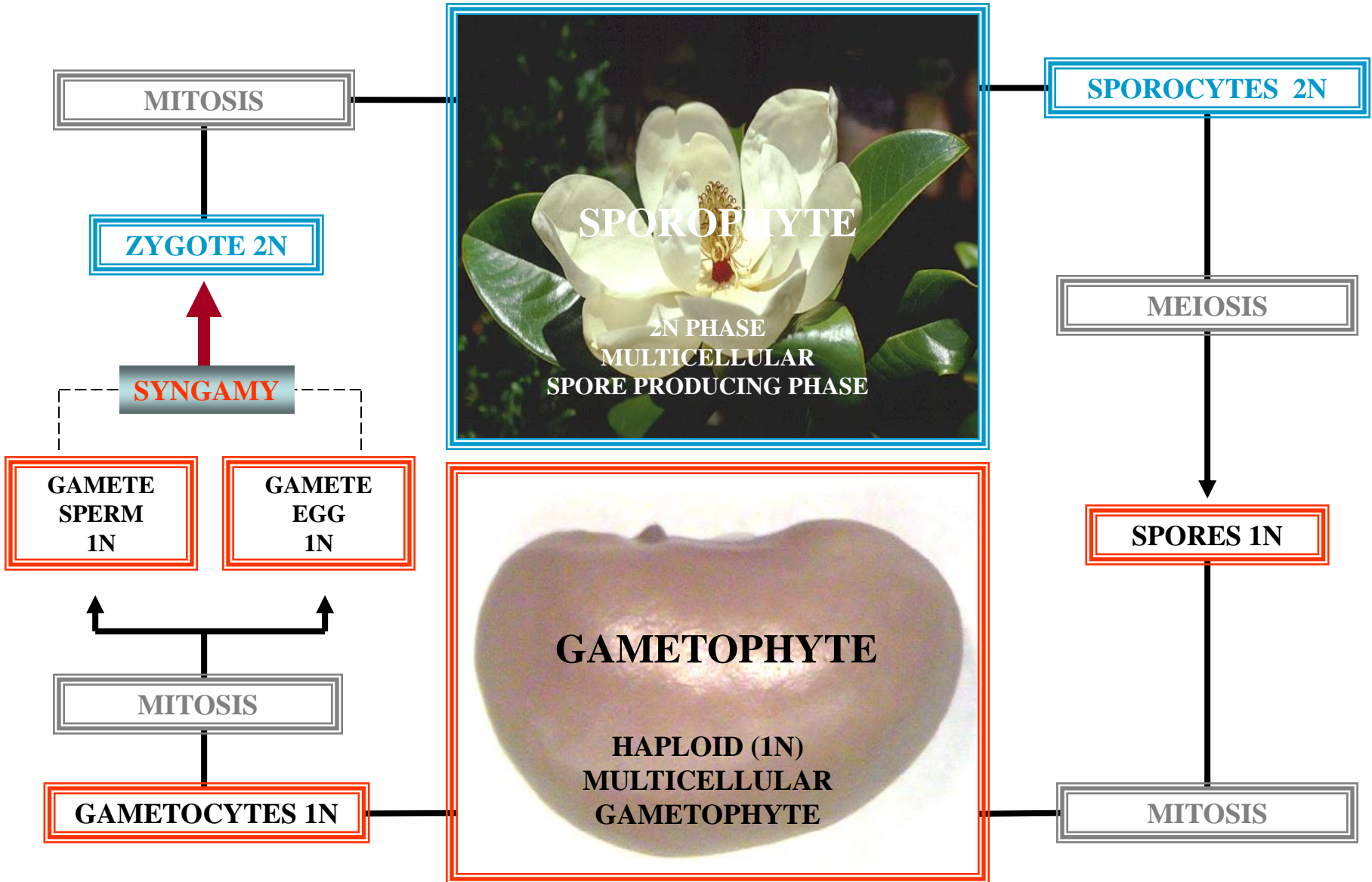
!!!!20 SECONDS/QUESTION!!!!



ANGIOSPERM LIFE CYCLE



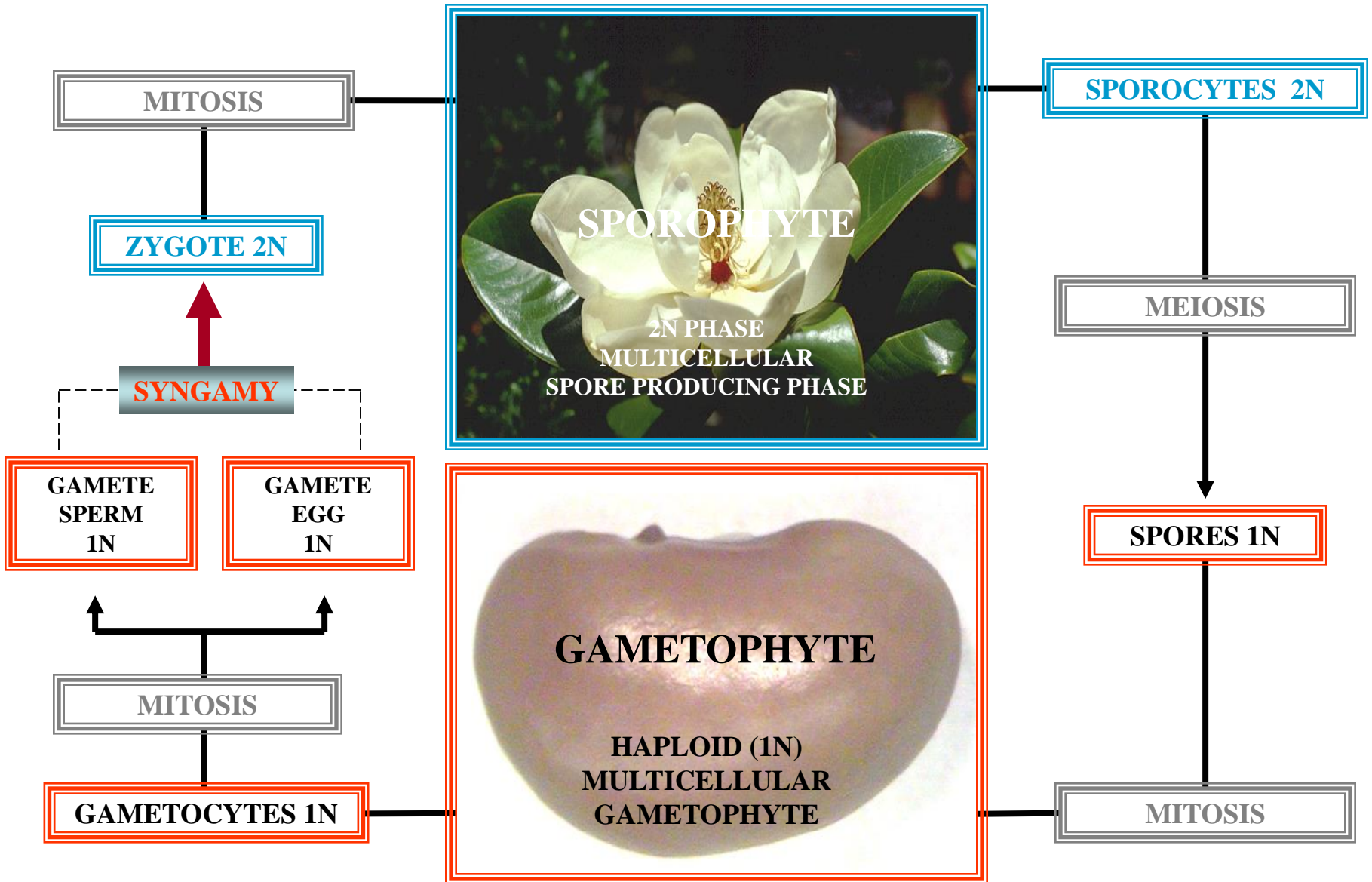
ANGIOSPERM LIFE CYCLE





ANGIOSPERM

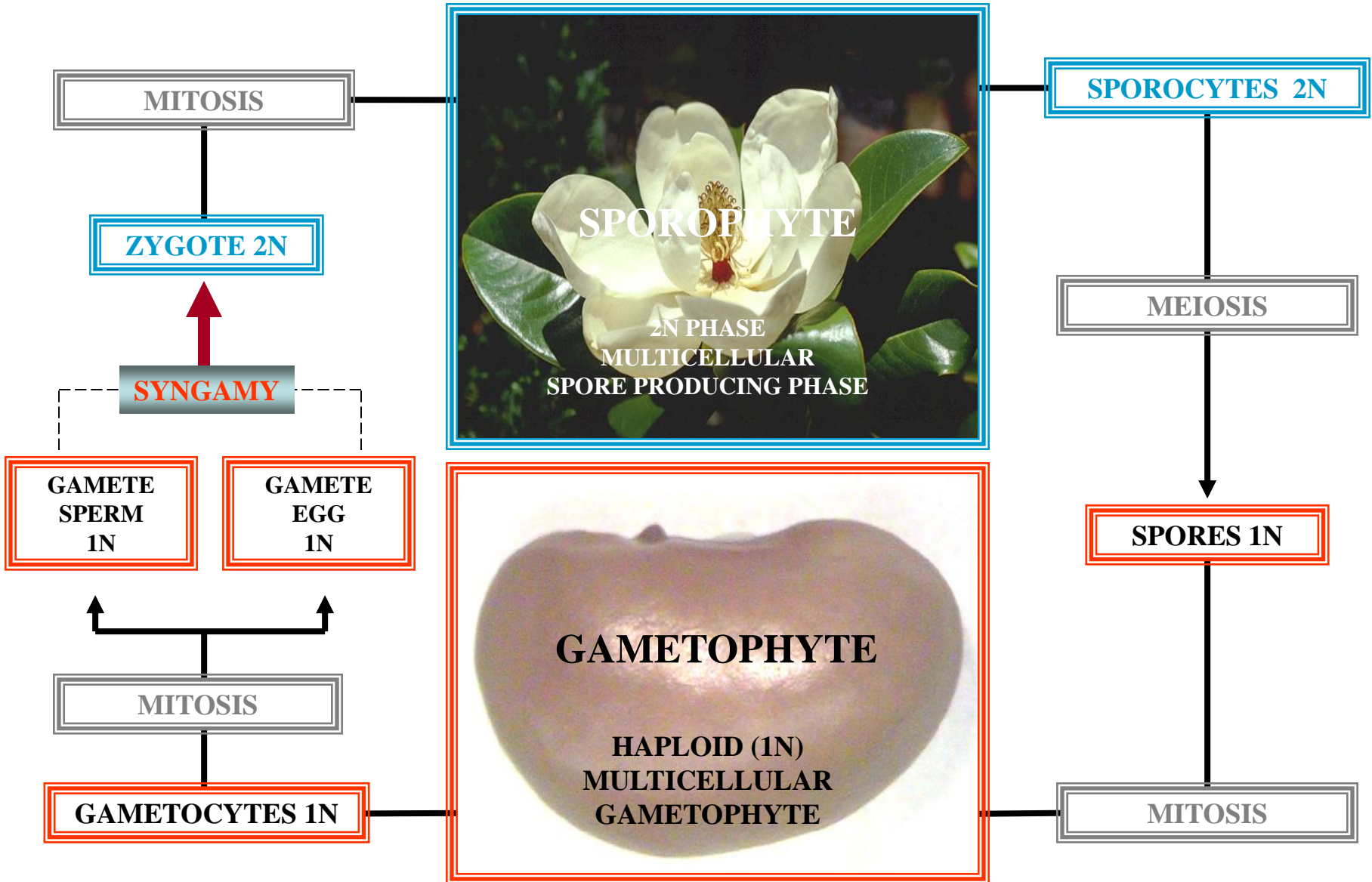
SPORIC LIFE CYCLE



ANGIOSPERM



HETEROMORPHIC SPORIC LIFE CYCLE

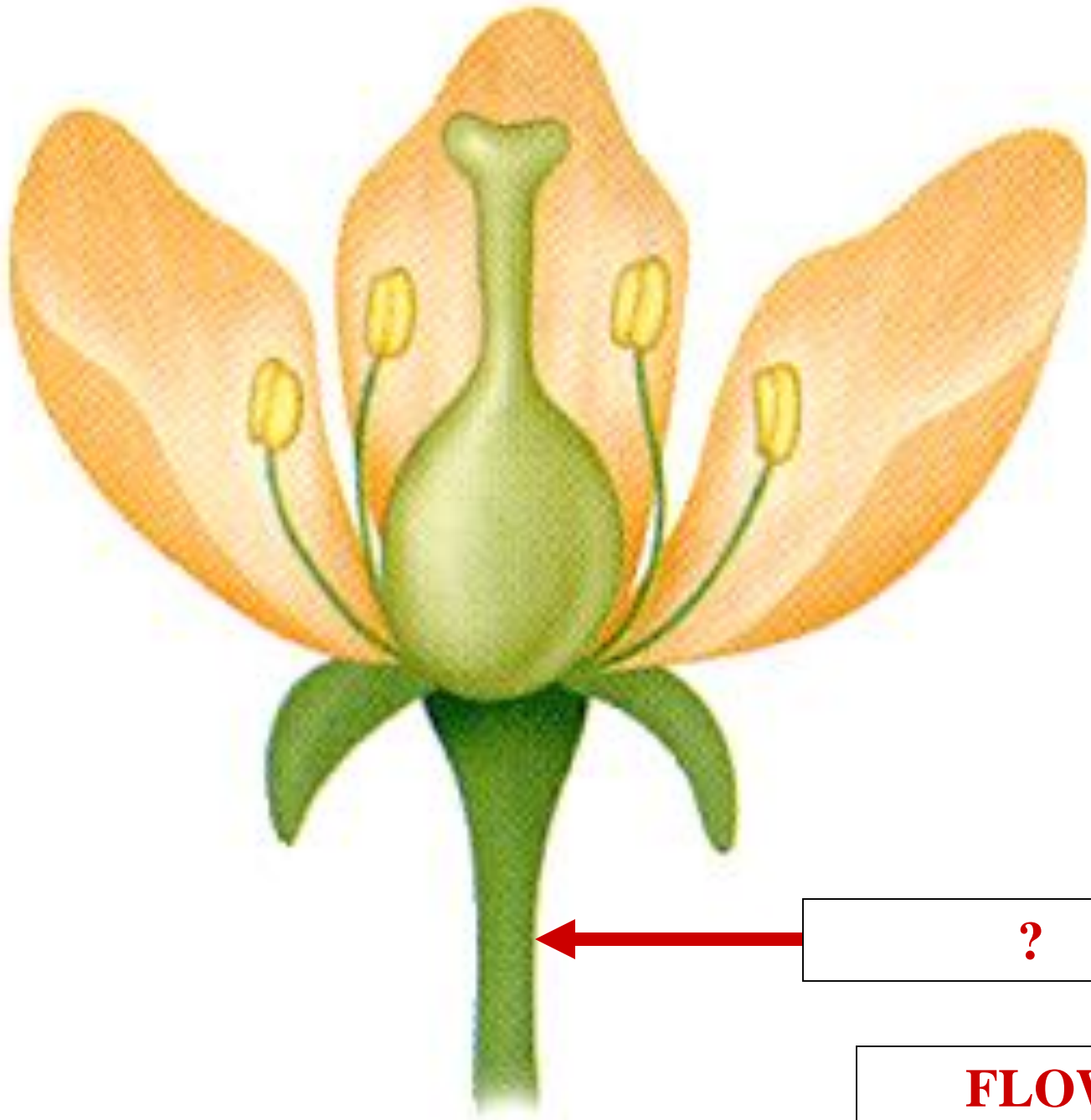




FLOWER MORPHOLOGY REVIEW

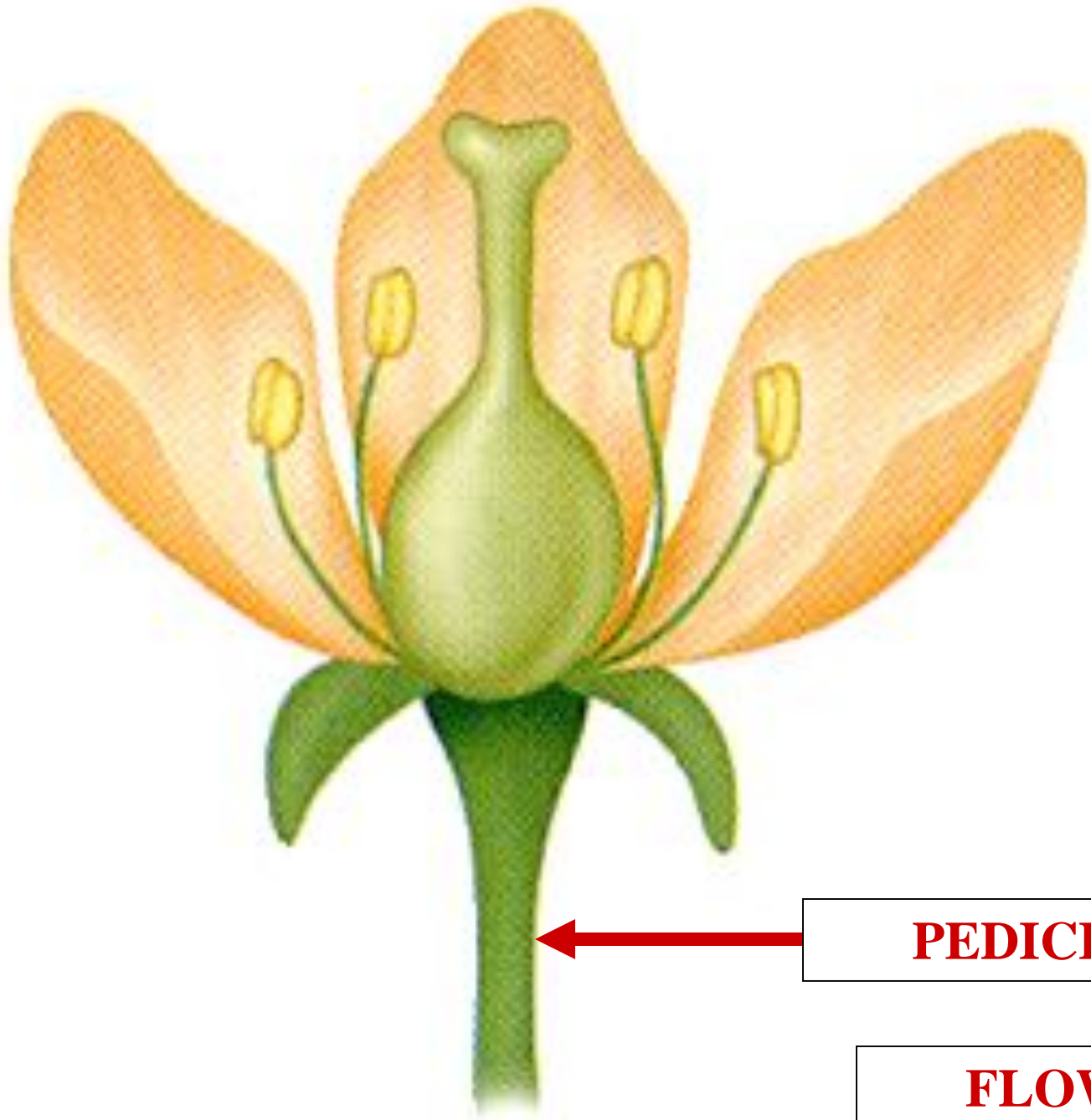


FLOWER



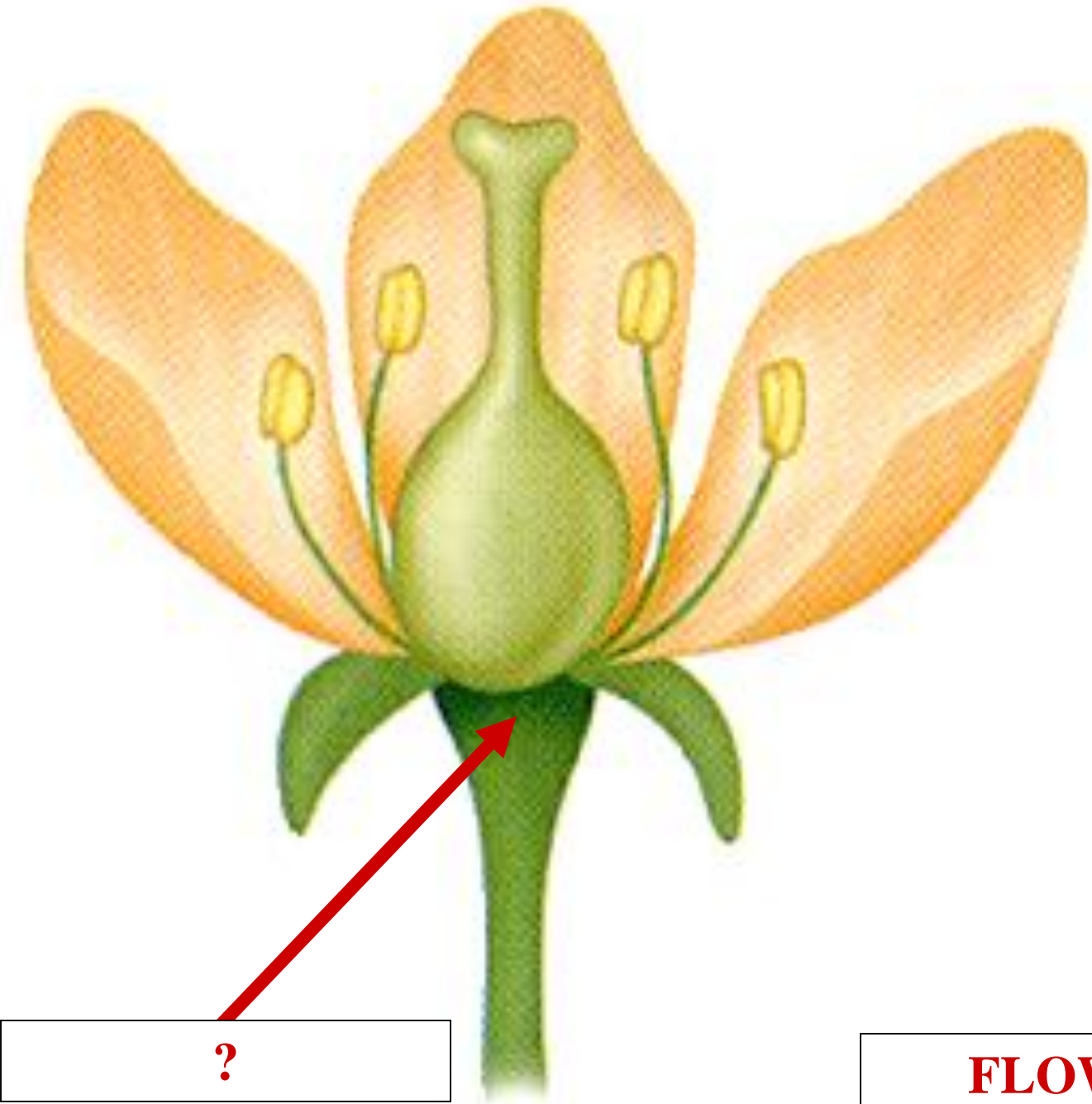
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FLOWER



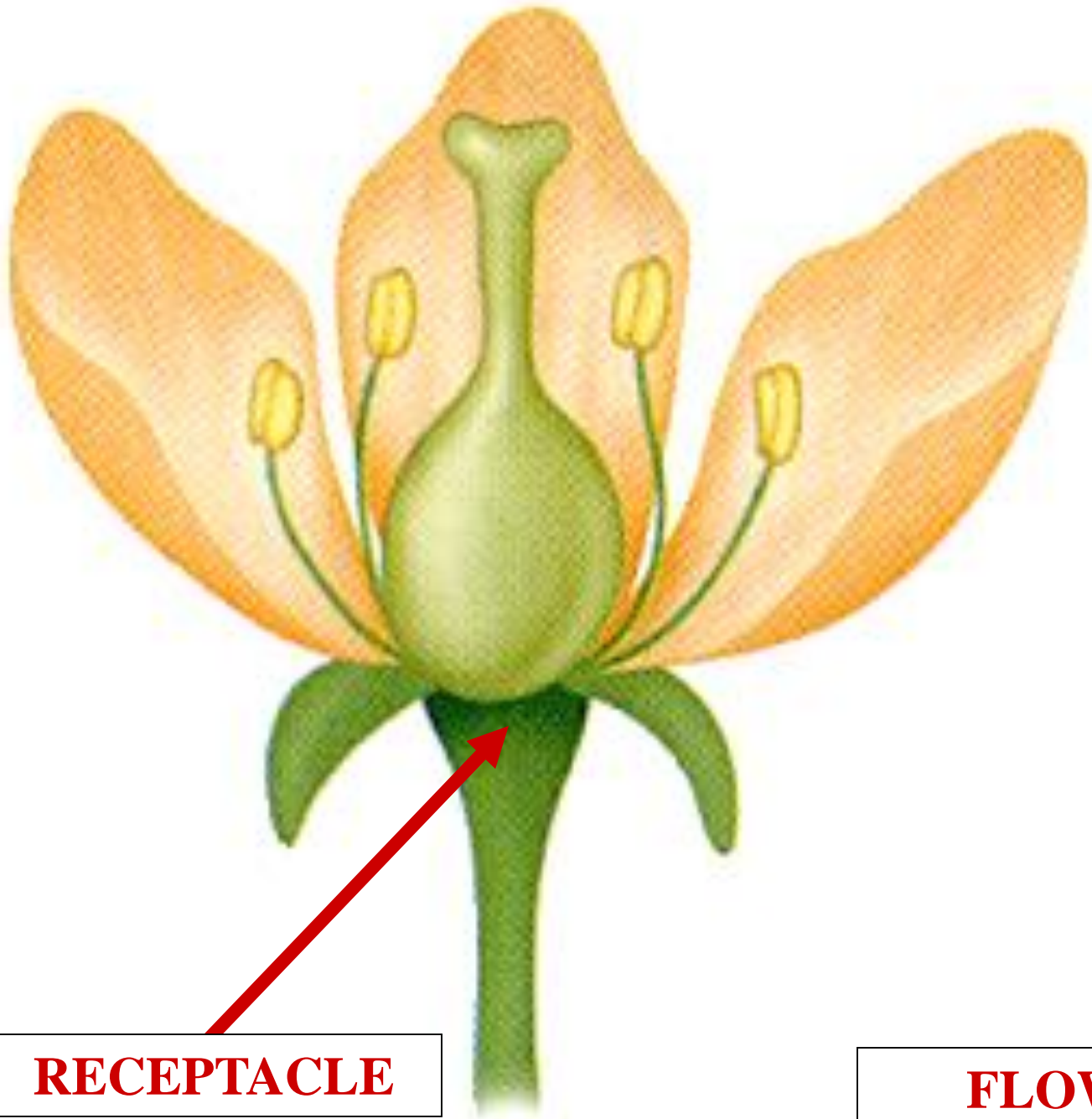
PEDICEL

FLOWER



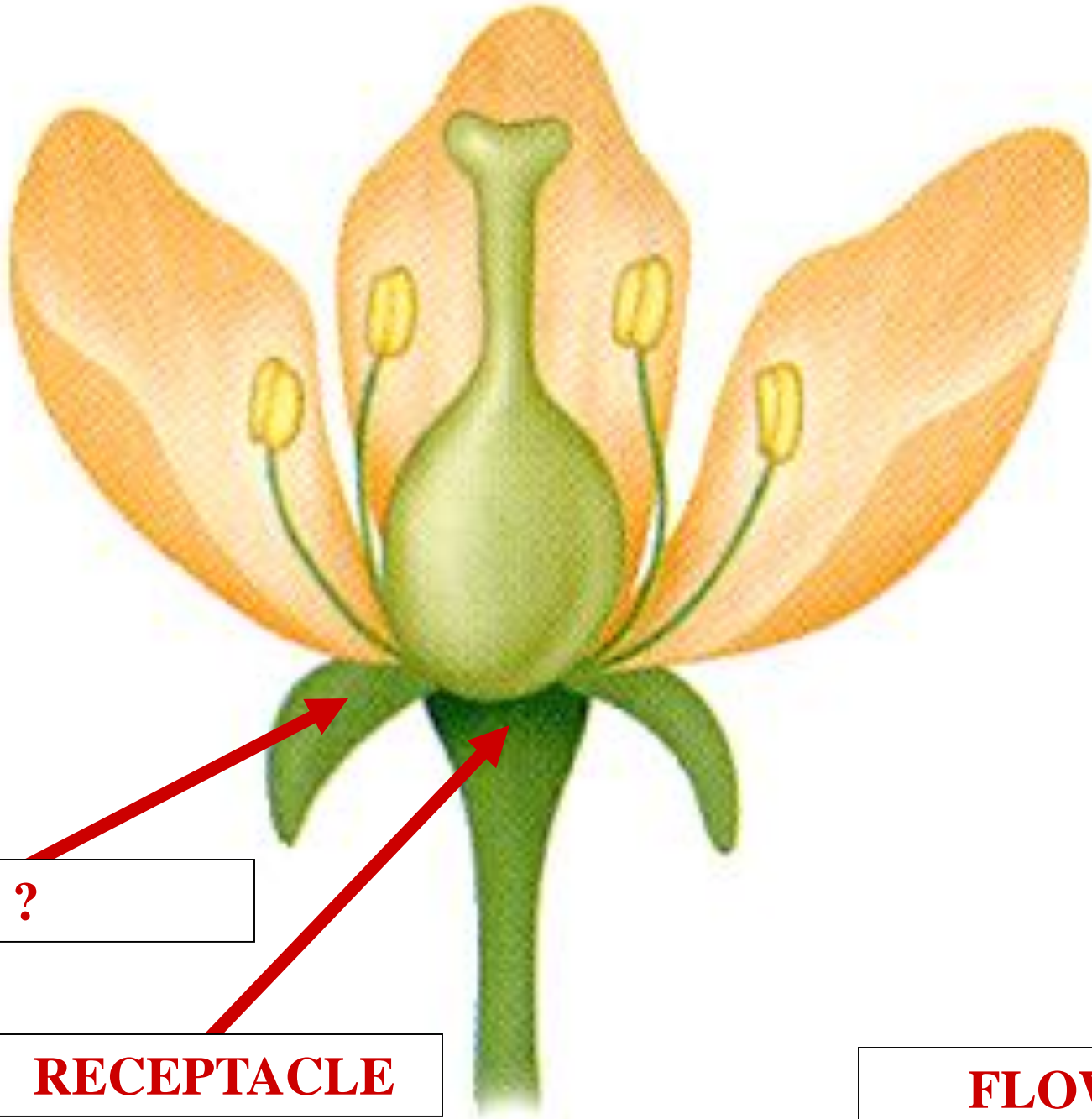
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FLOWER



RECEPTACLE

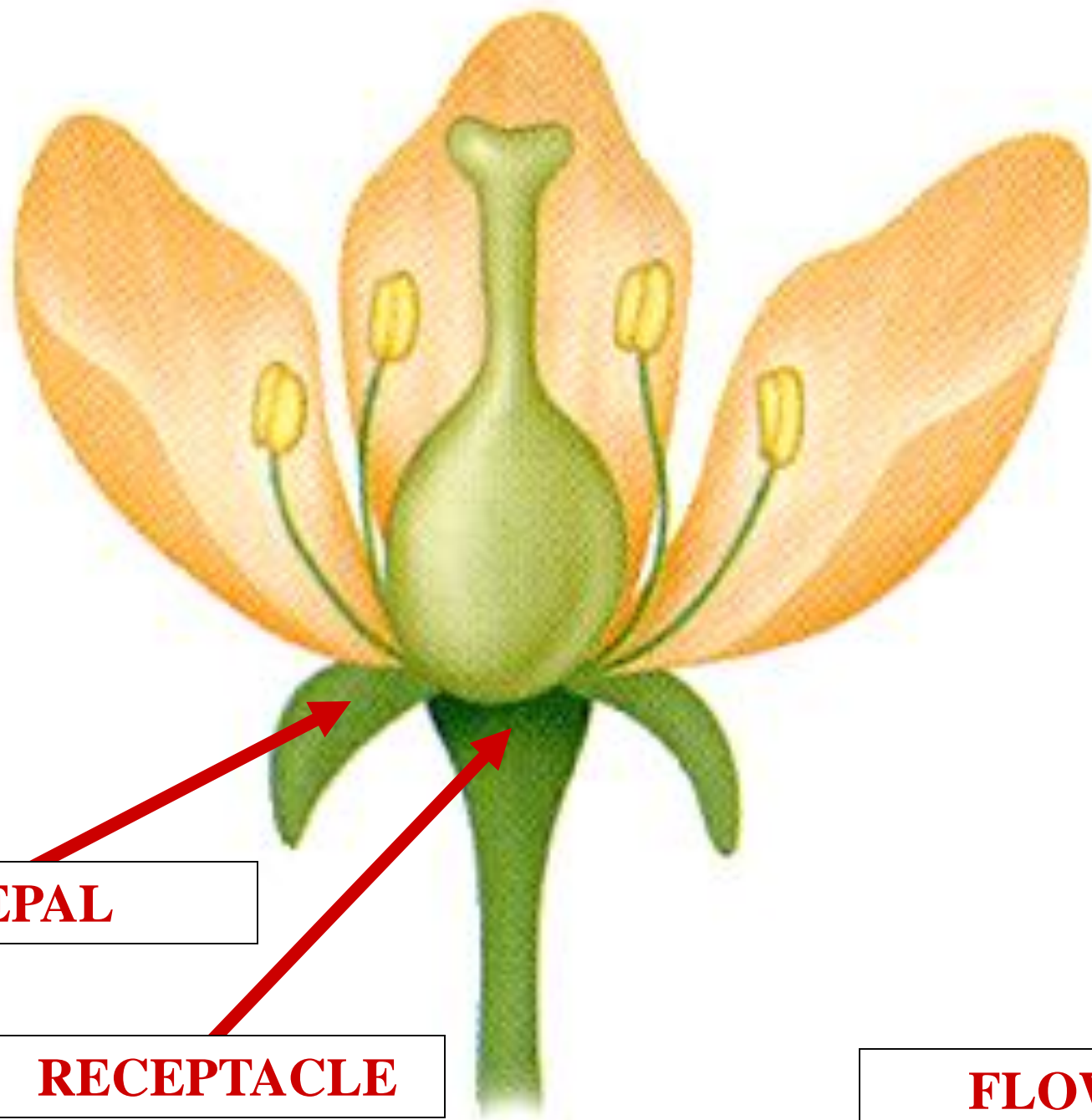
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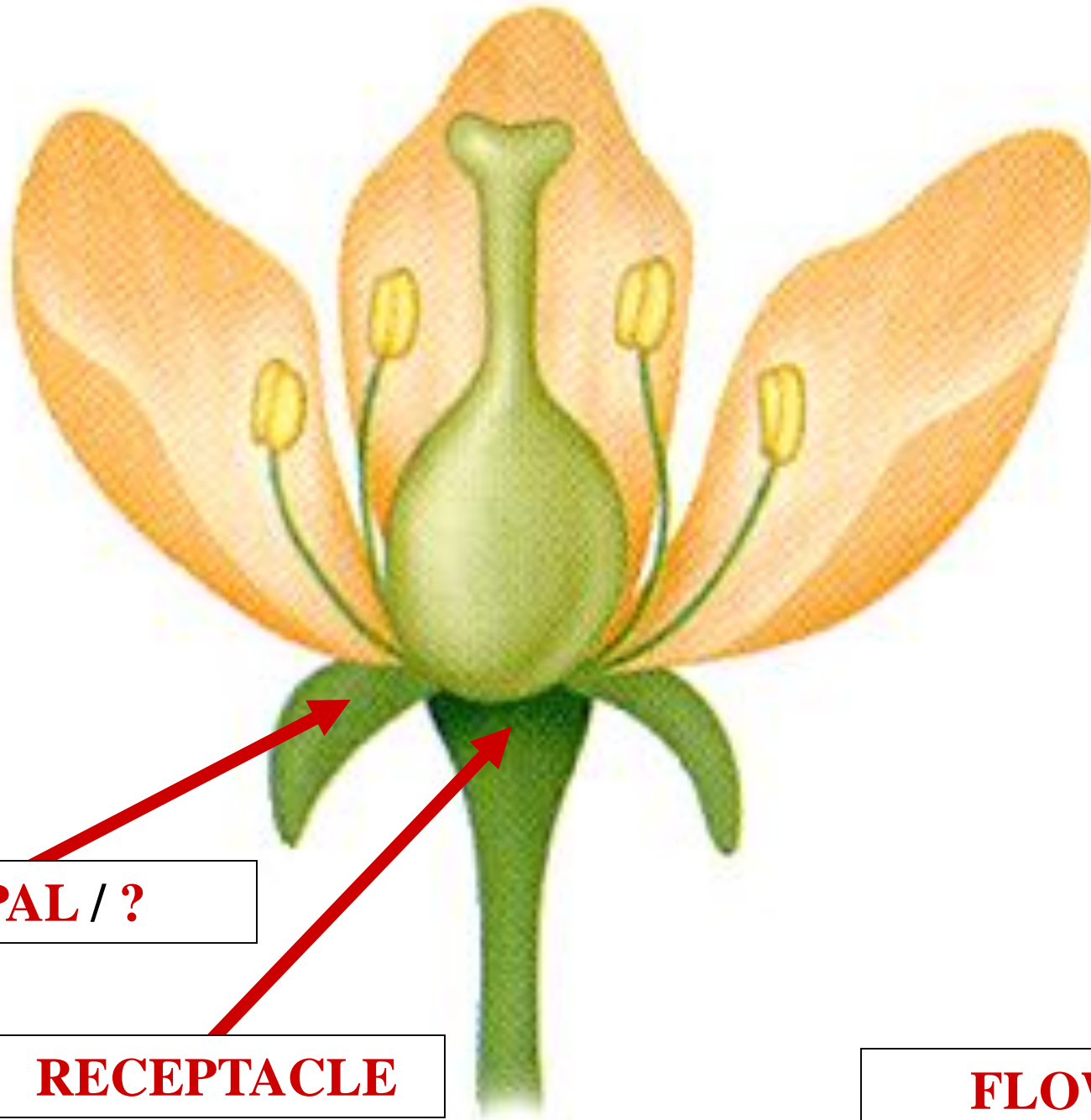
FLOWER



SEPAL

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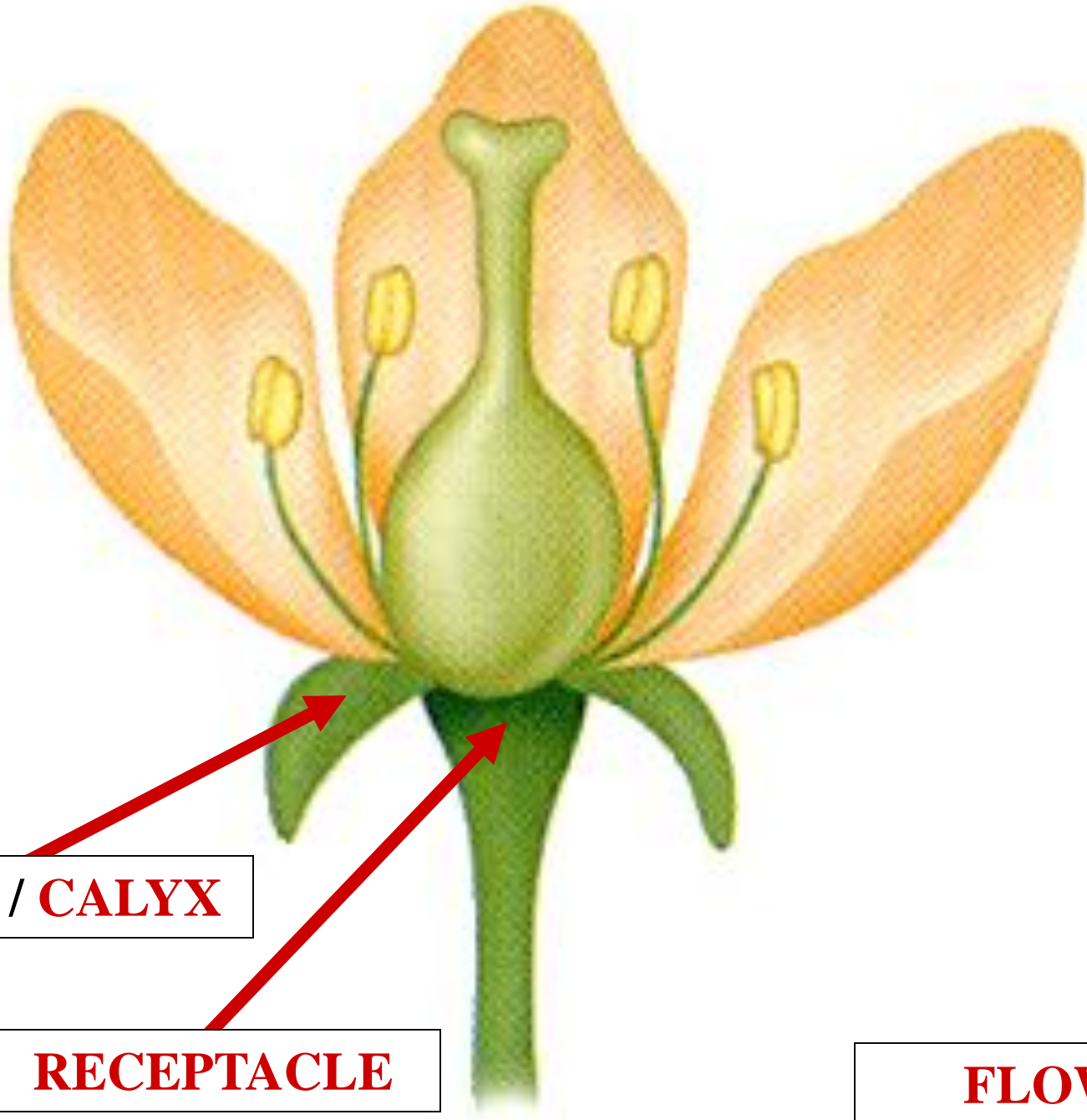
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SEPAL / ?

RECEPTACLE

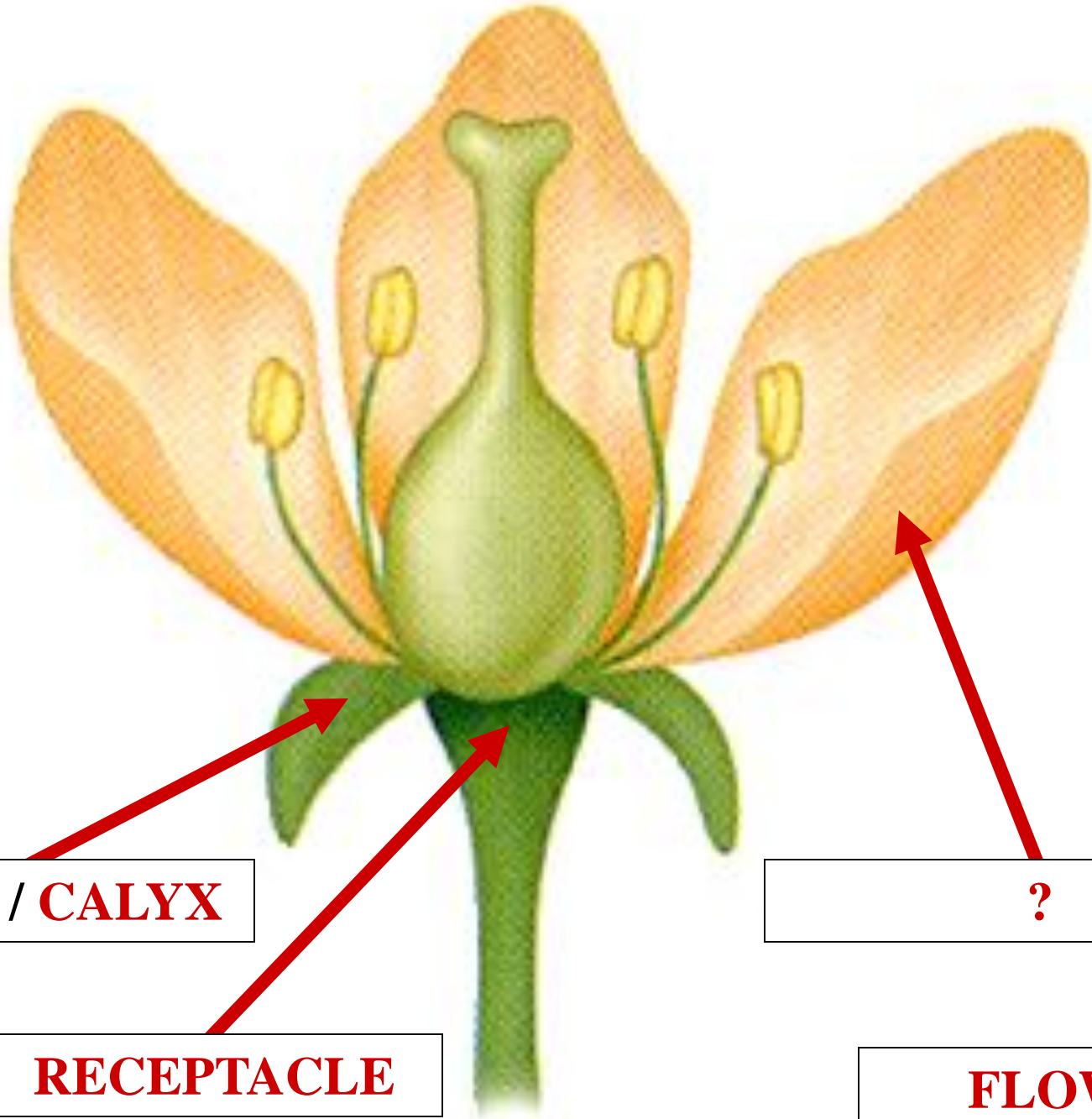
FLOWER



SEPAL / CALYX

RECEPTACLE

FLOWER

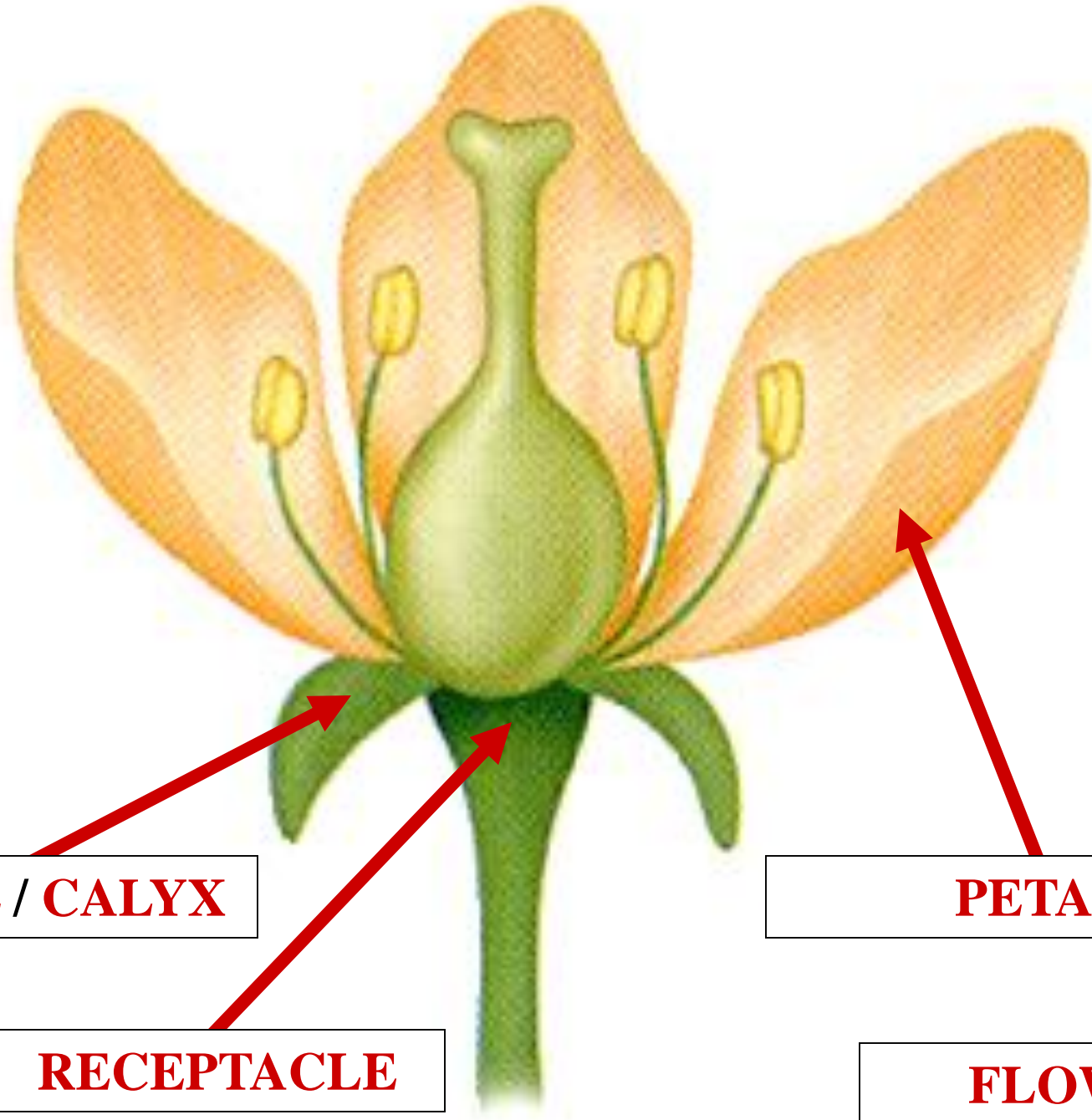


SEPAL / CALYX

RECEPTACLE

?

FLOWER

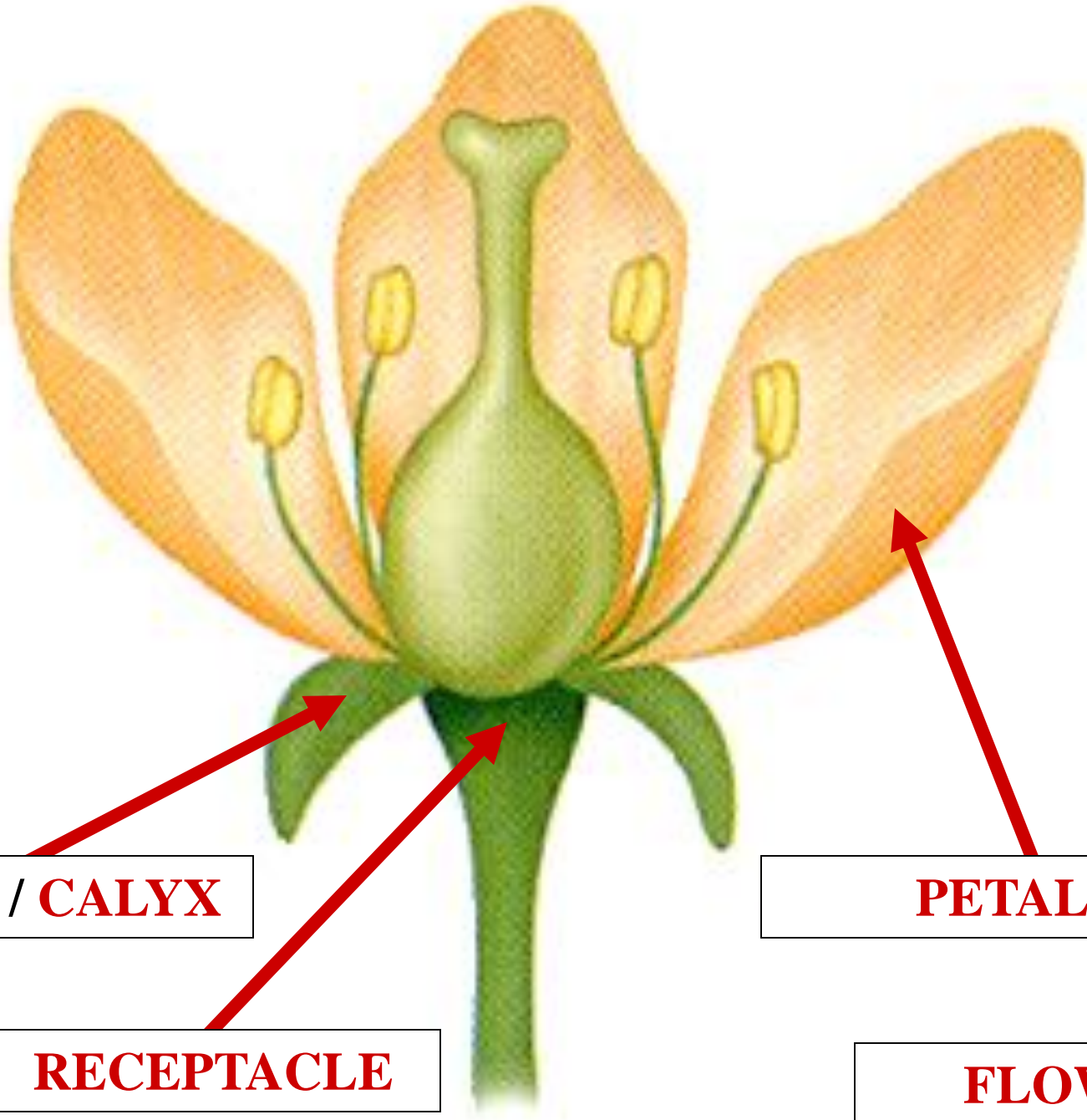


SEPAL / CALYX

RECEPTACLE

PETAL

FLOWER

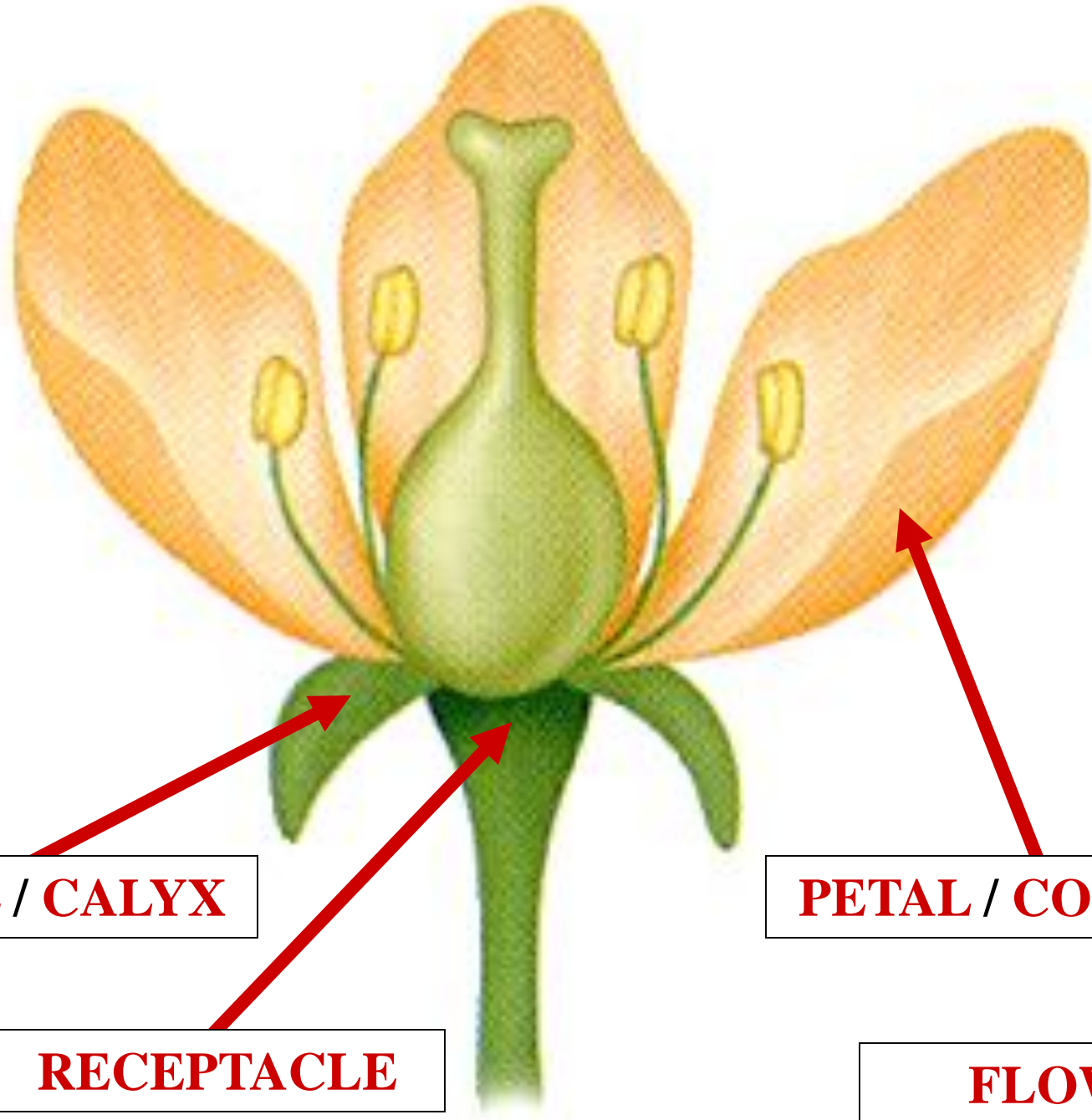


SEPAL / CALYX

RECEPTACLE

PETAL / ?

FLOWER

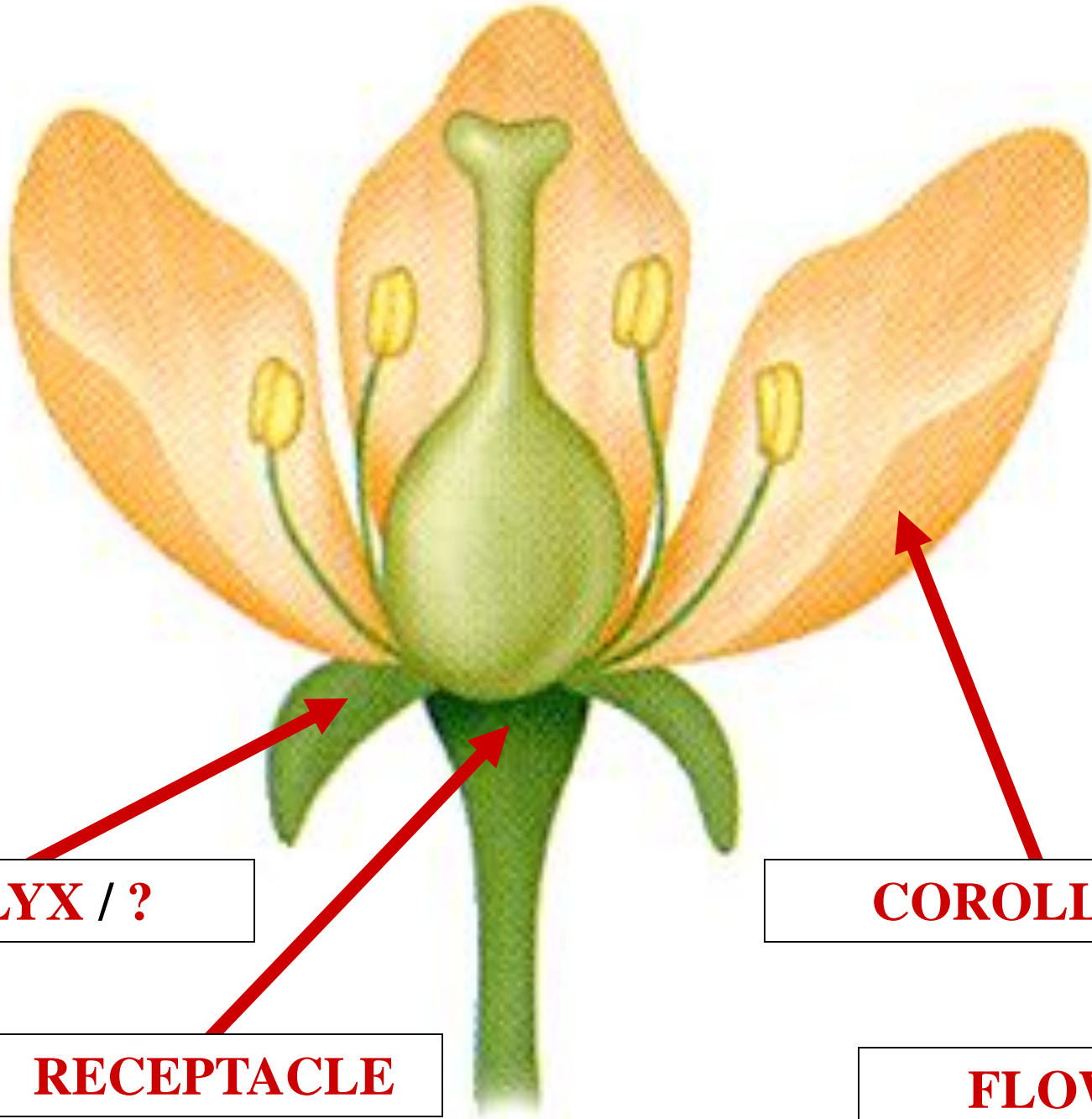


SEPAL / CALYX

RECEPTACLE

PETAL / COROLLA

FLOWER

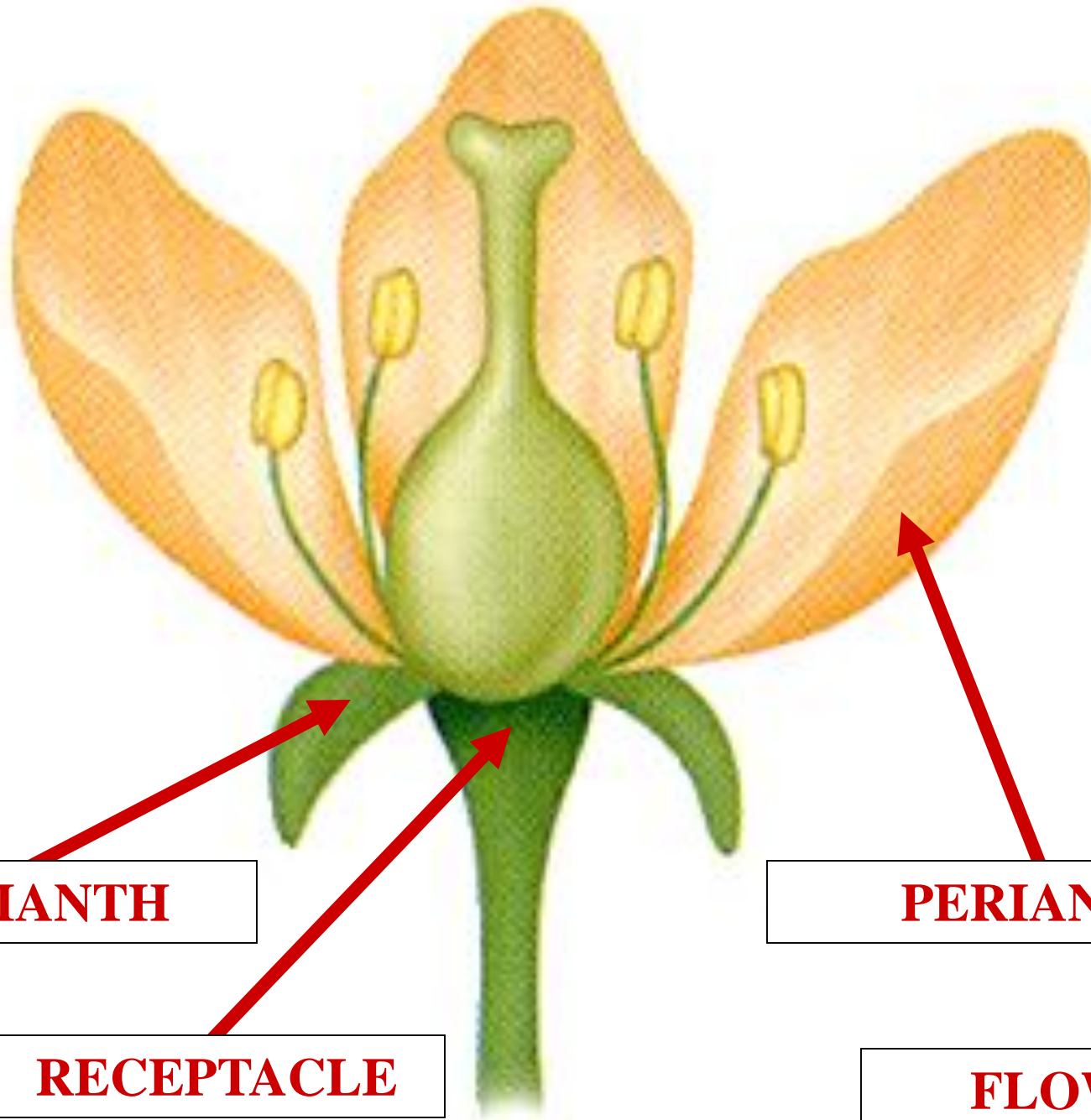


CALYX / ?

COROLLA / ?

RECEPTACLE

FLOWER



PERIANTH

PERIANTH

RECEPTACLE

FLOWER

?

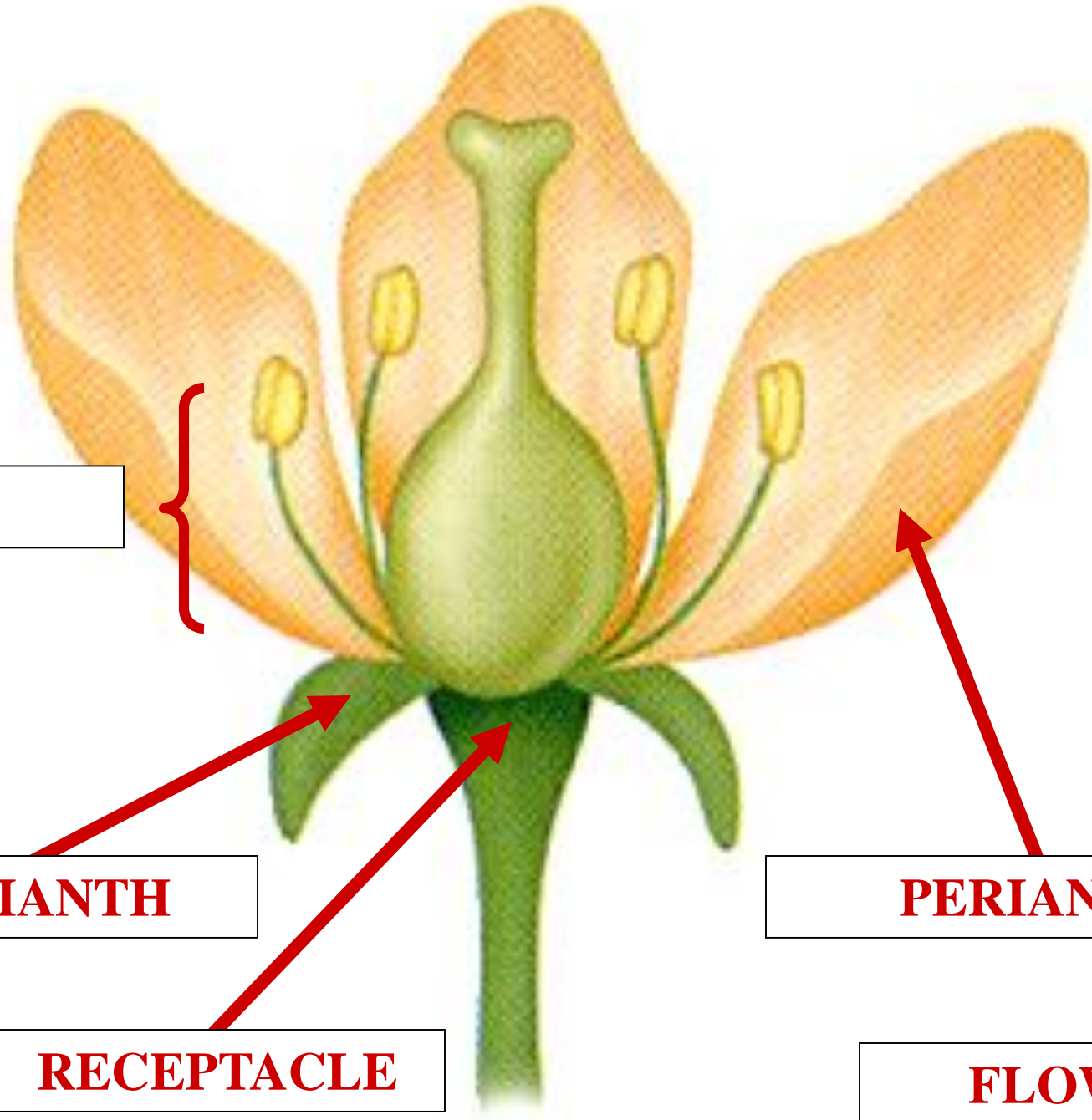


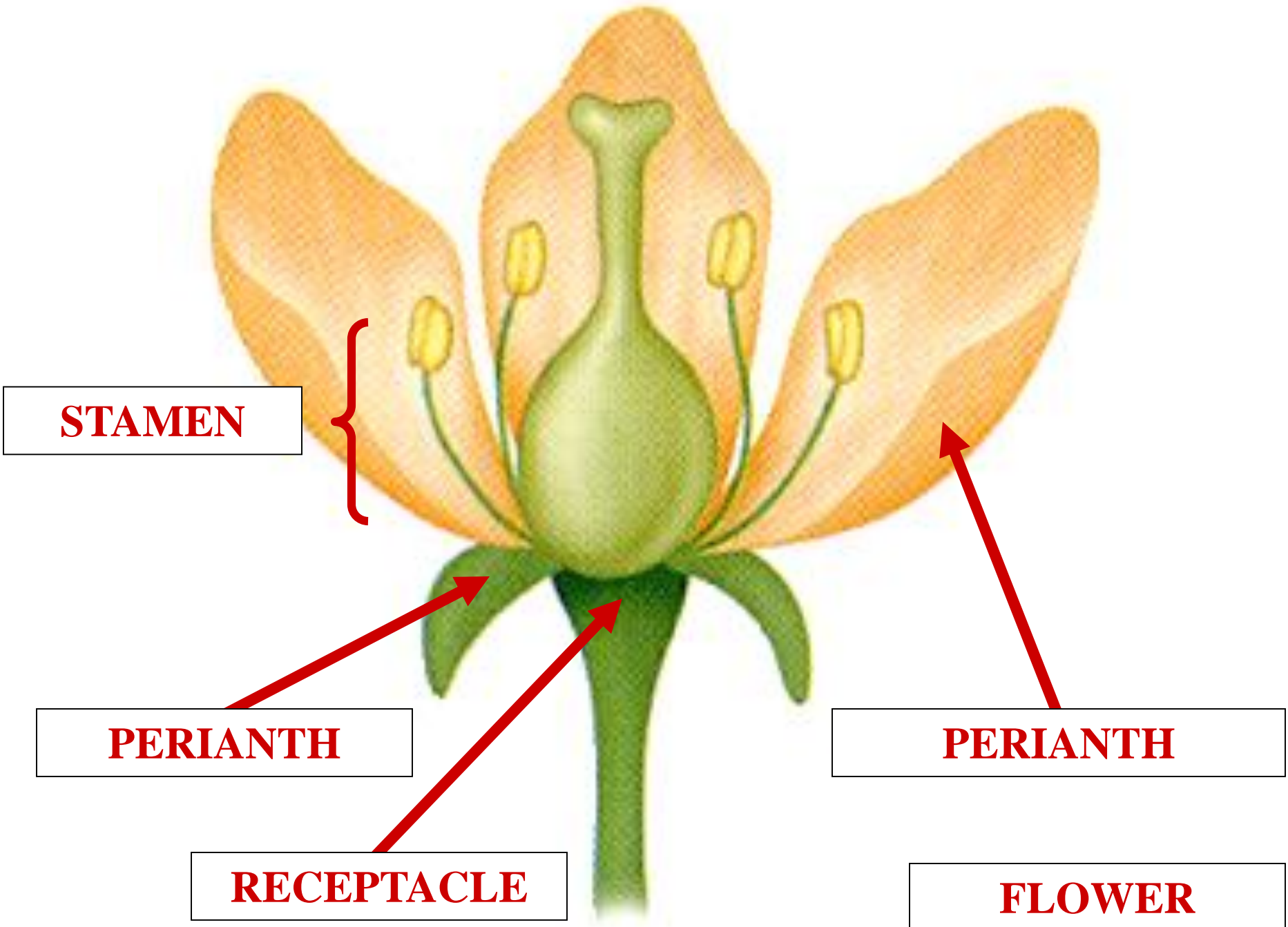
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RECEPTACLE

PERIANTH

FLOWER





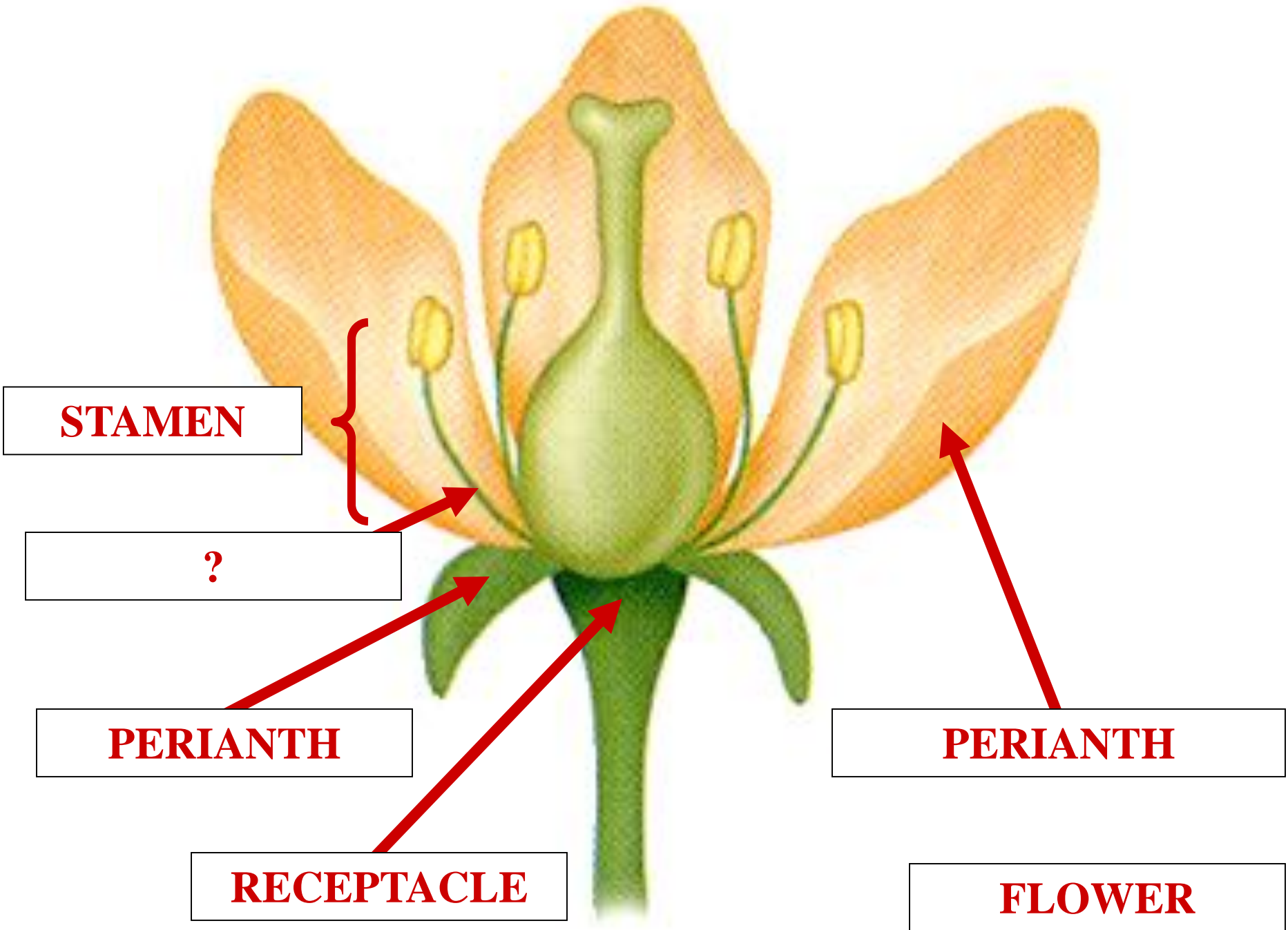
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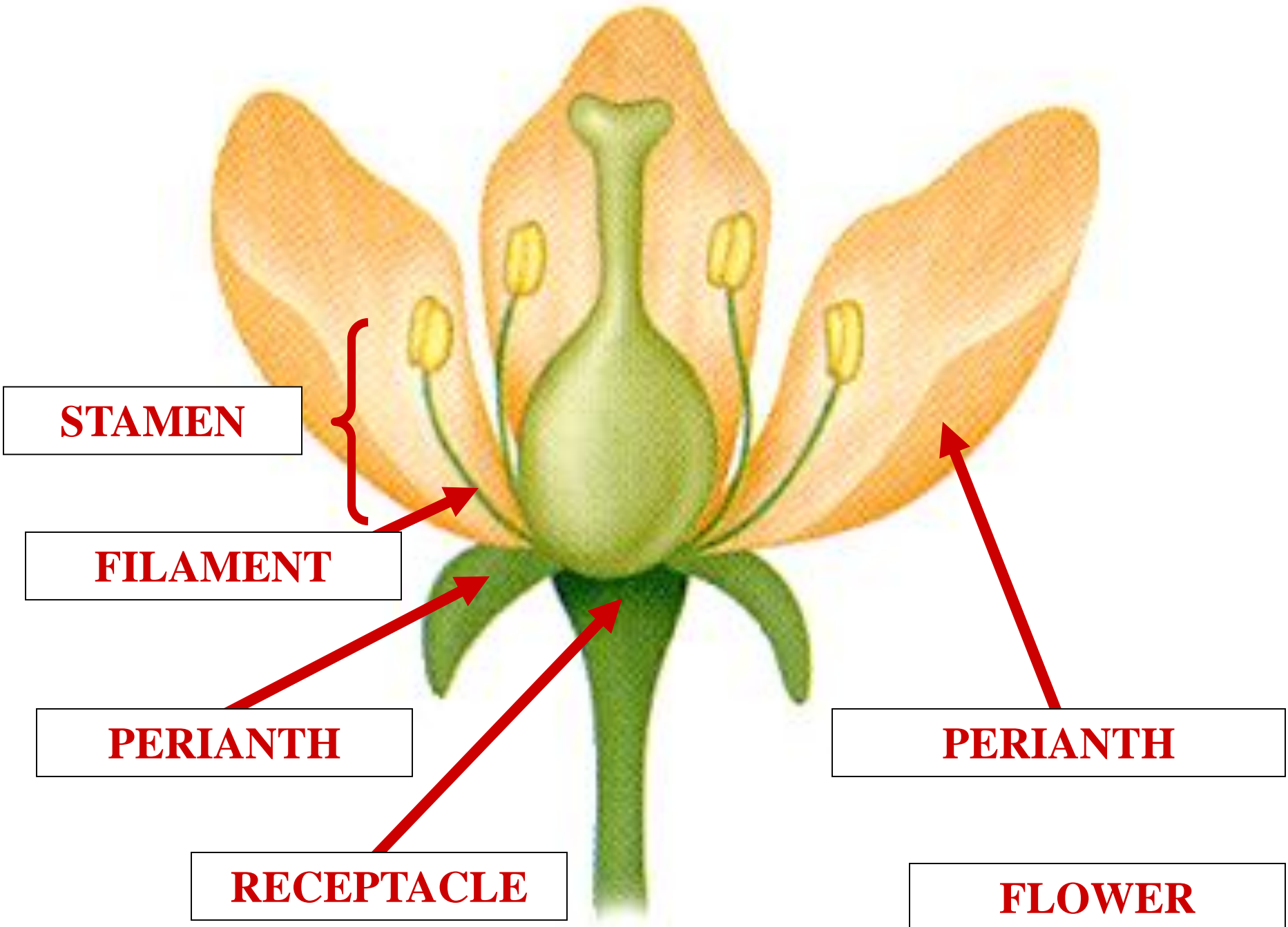
PERIANTH

RECEPTACLE

PERIANTH

FLOWER





STAMEN

FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER

?

STAMEN

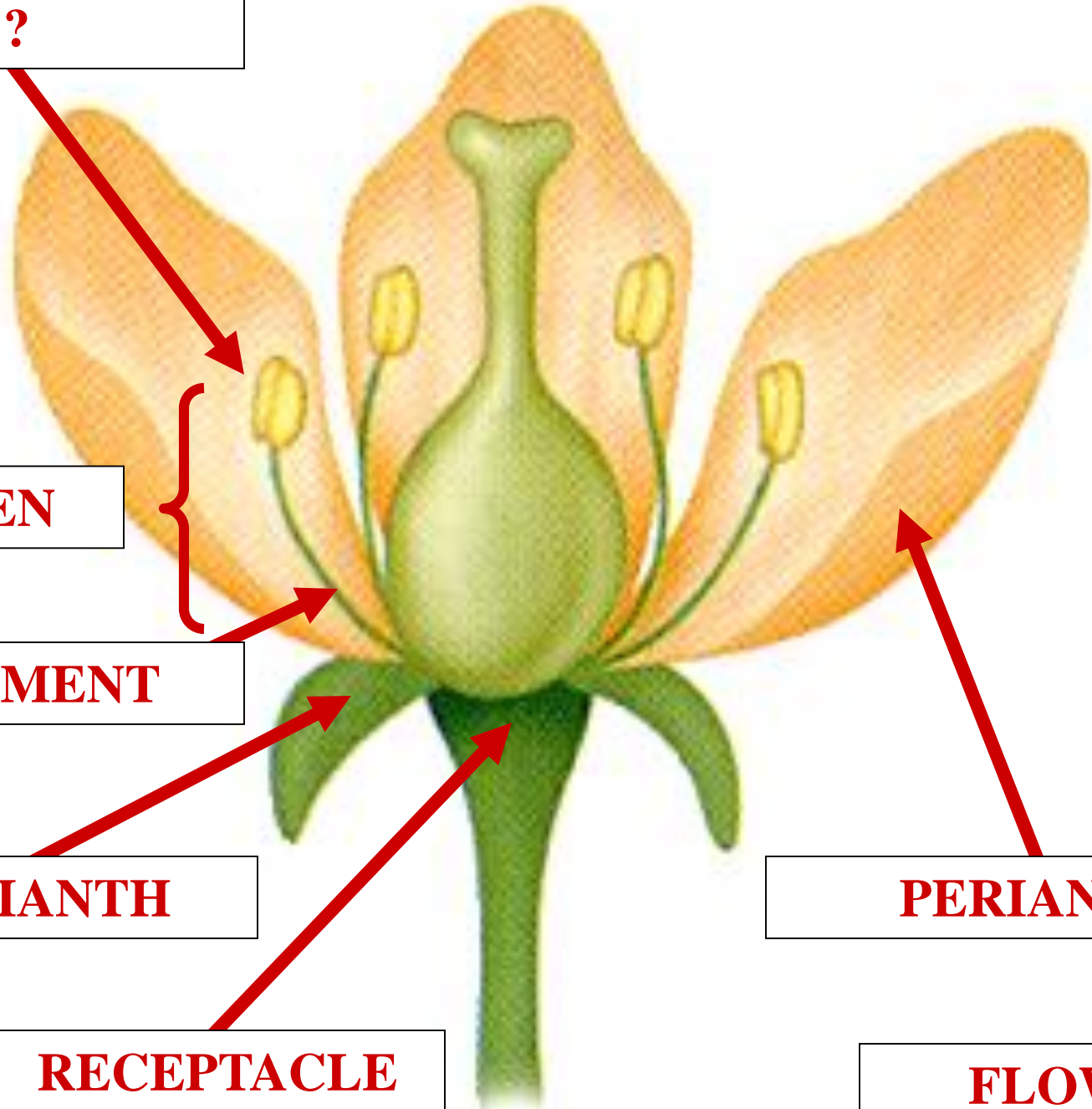
FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

STAMEN

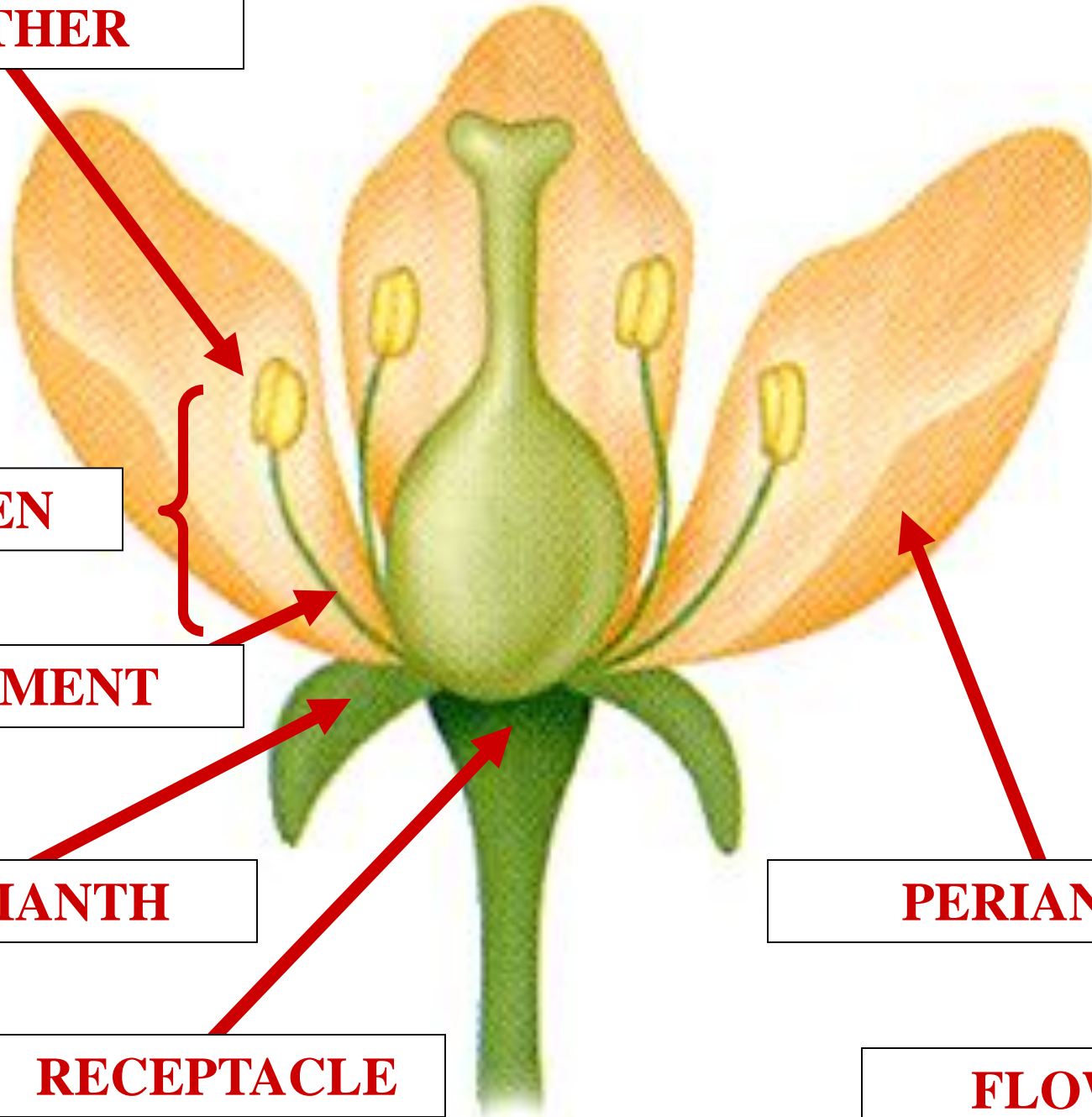
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PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

?

STAMEN

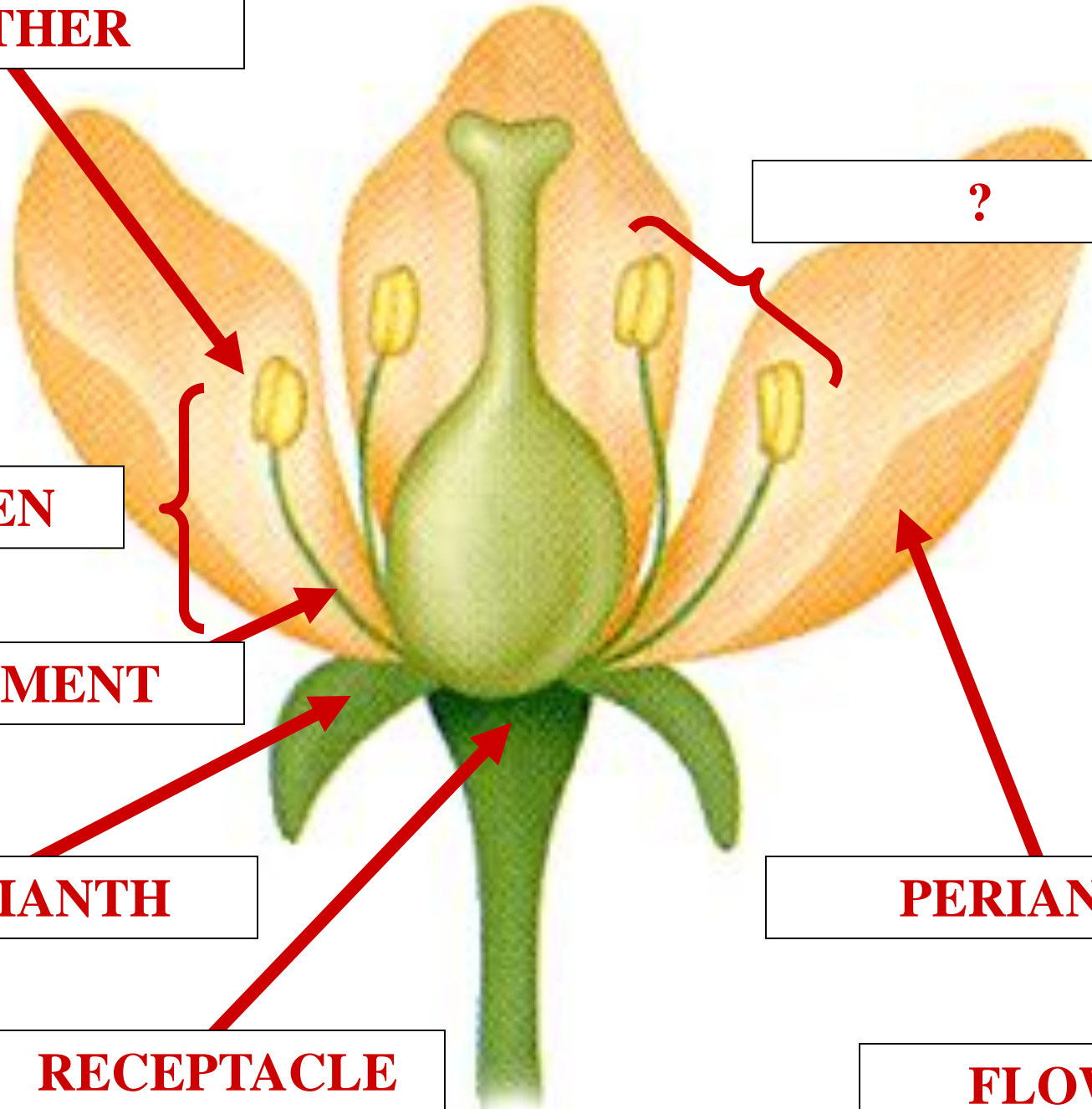
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PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

ANDROECIUM

STAMEN

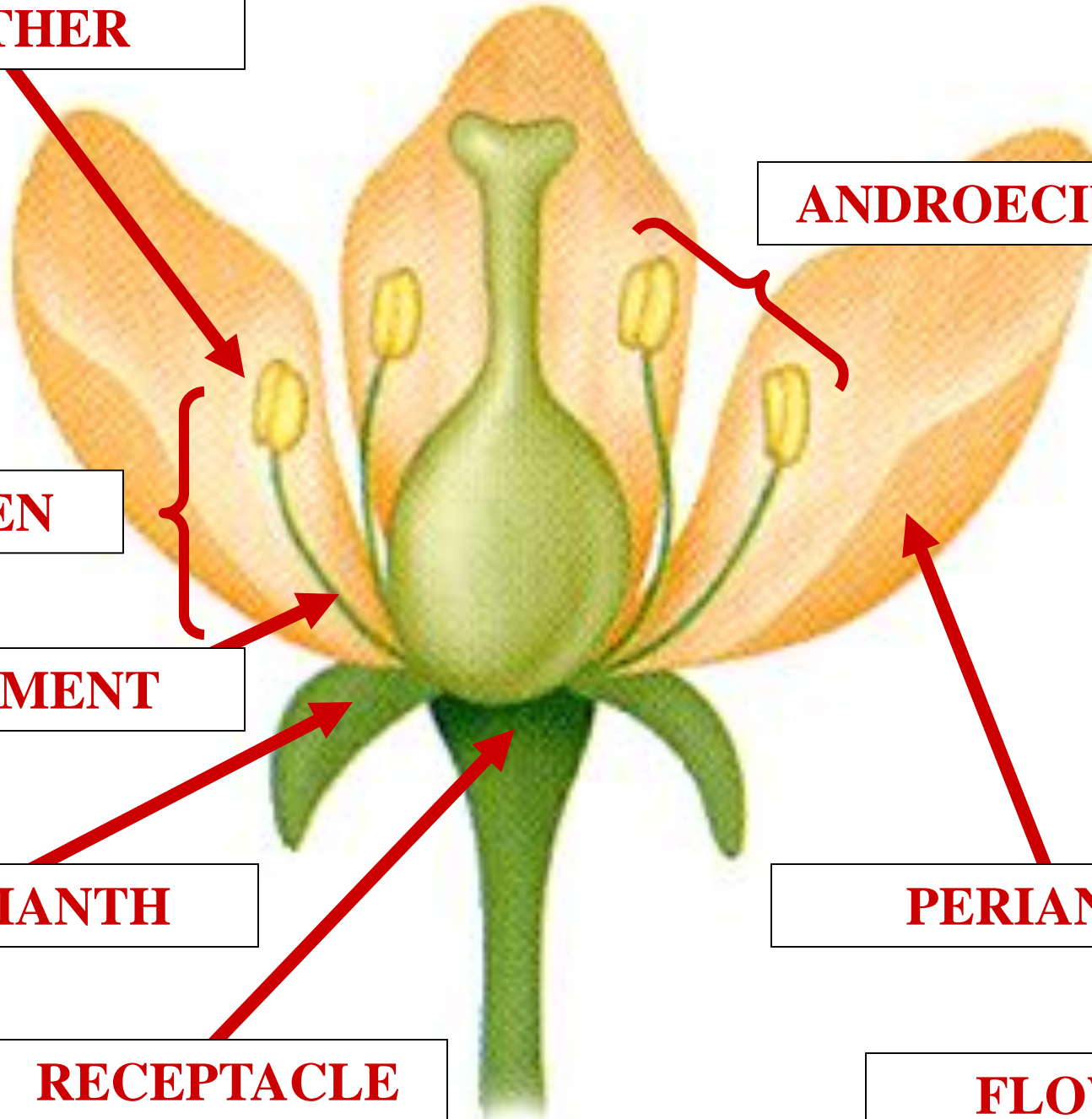
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PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

STAMEN

FILAMENT

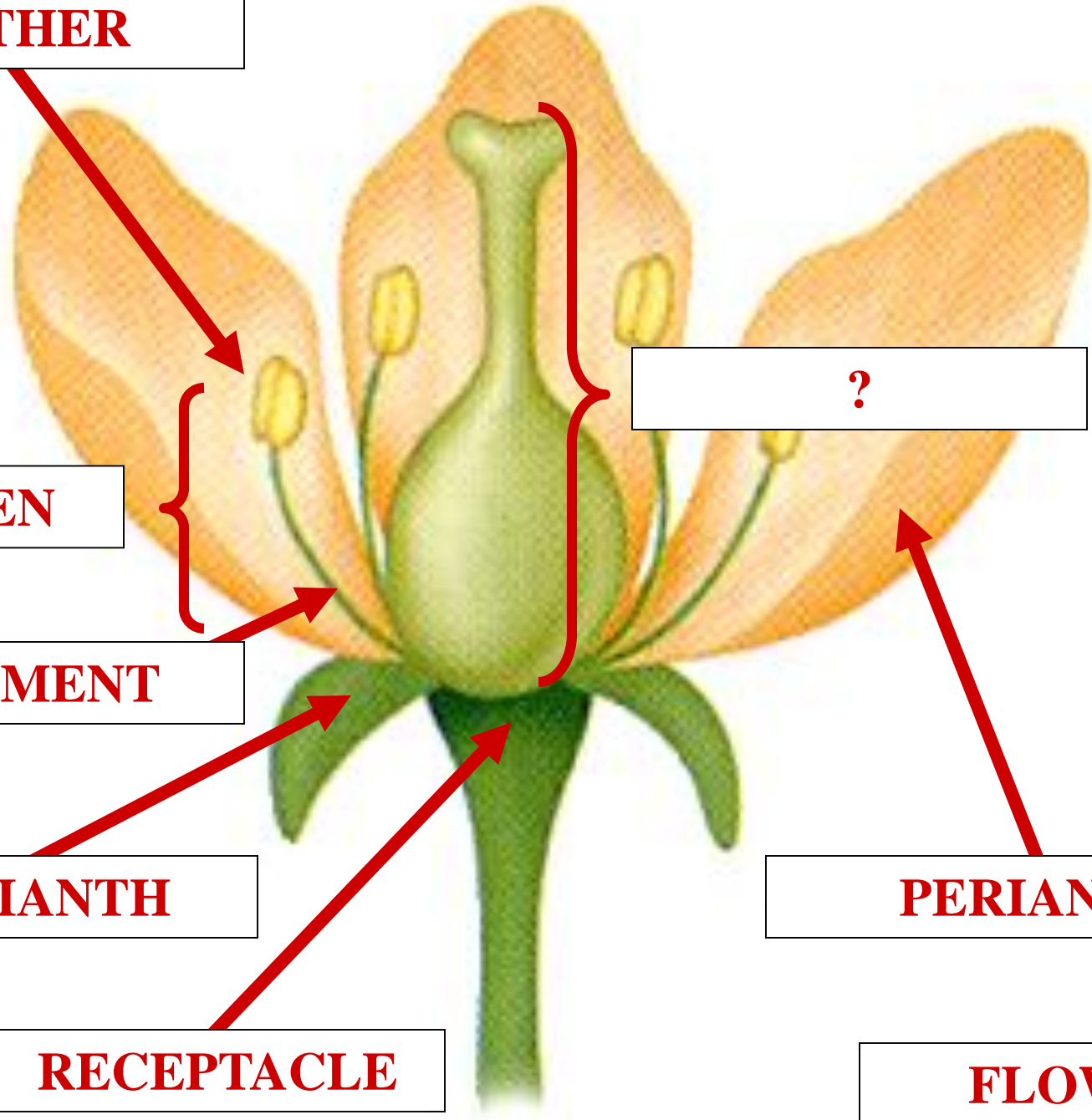
PERIANTH

RECEPTACLE

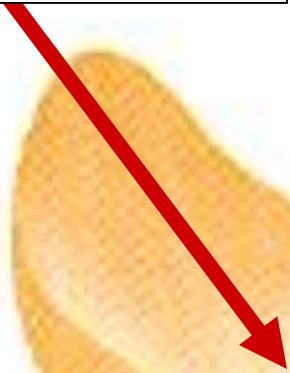
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PERIANTH

FLOWER



ANTHER



STAMEN



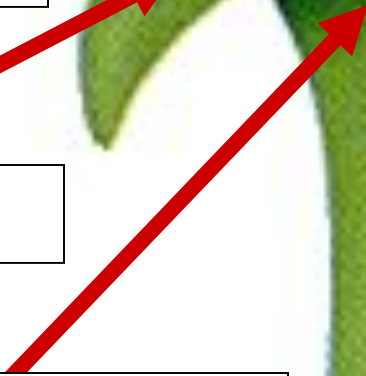
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PERIANTH



RECEPTACLE



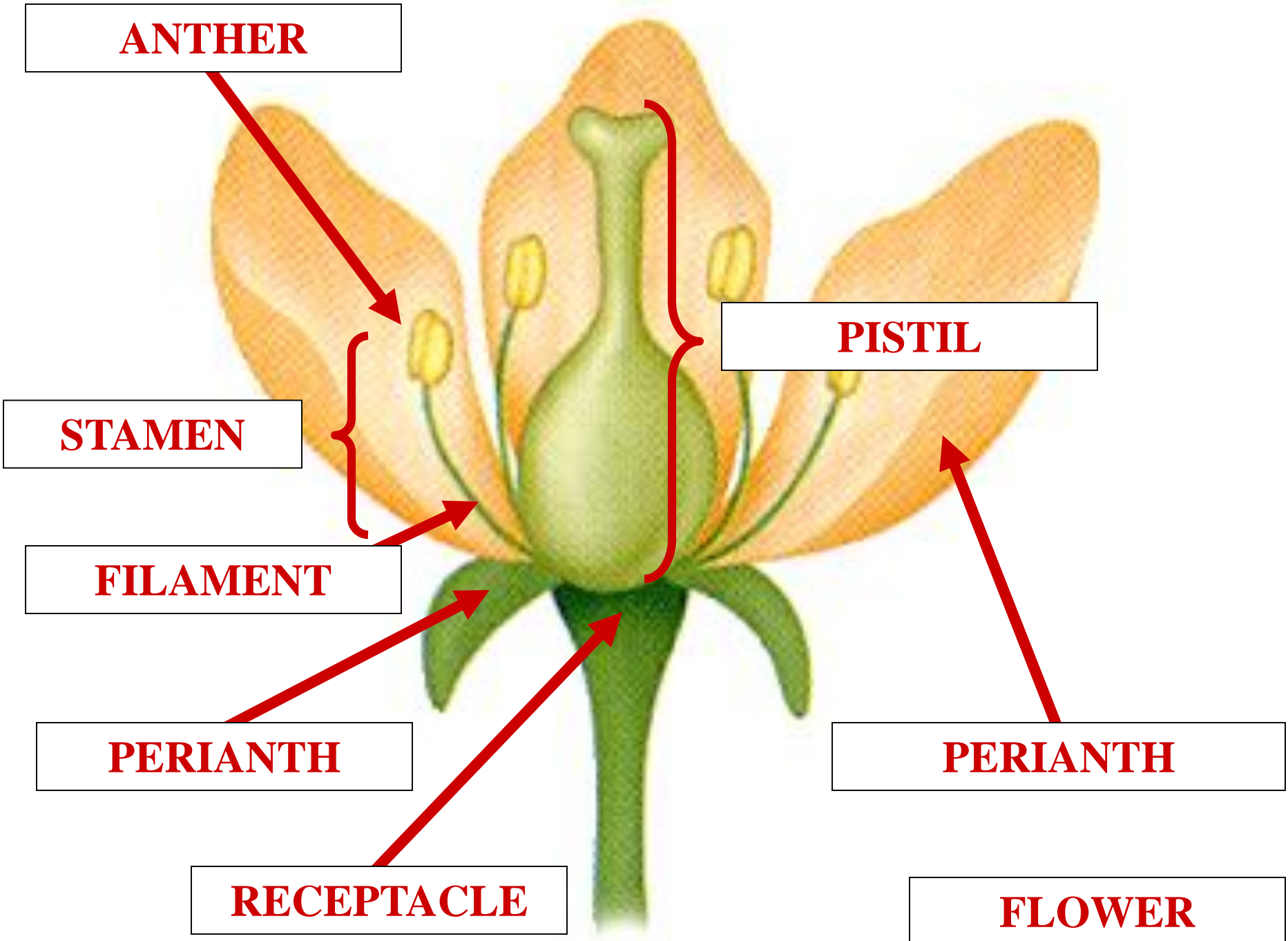
PISTIL



PERIANTH



FLOWER



ANTHER

?

STAMEN

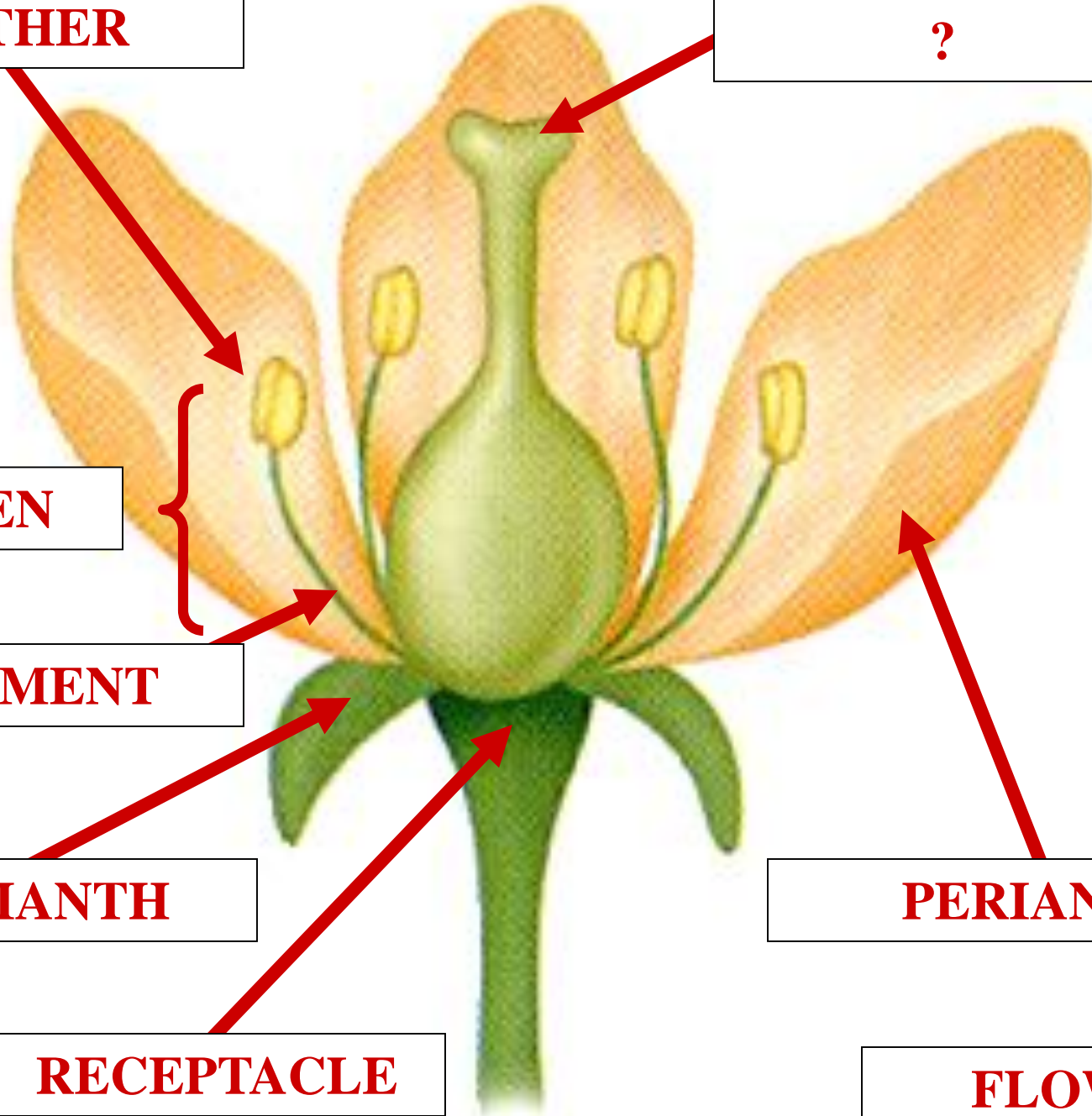
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PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

STIGMA

STAMEN

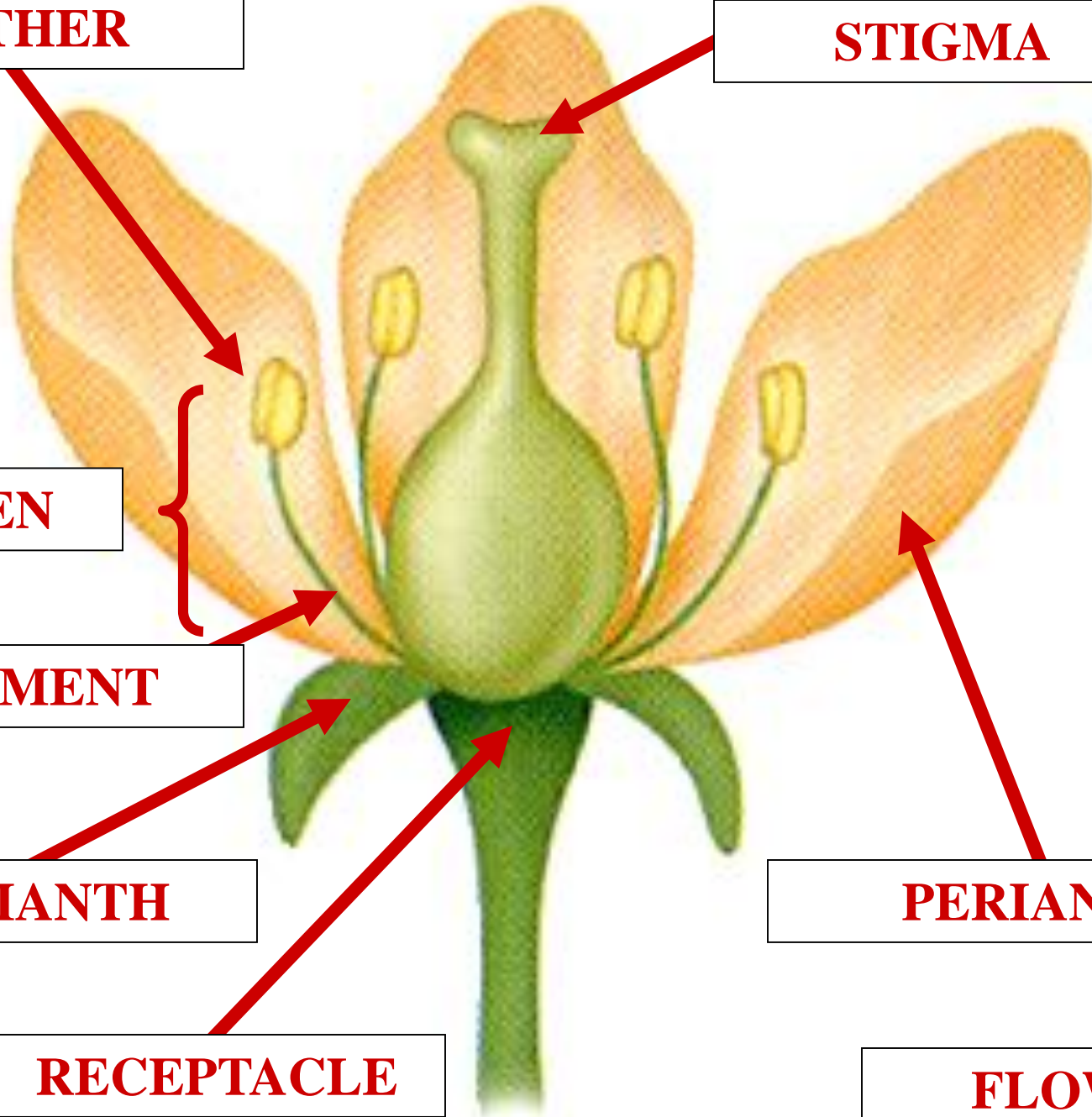
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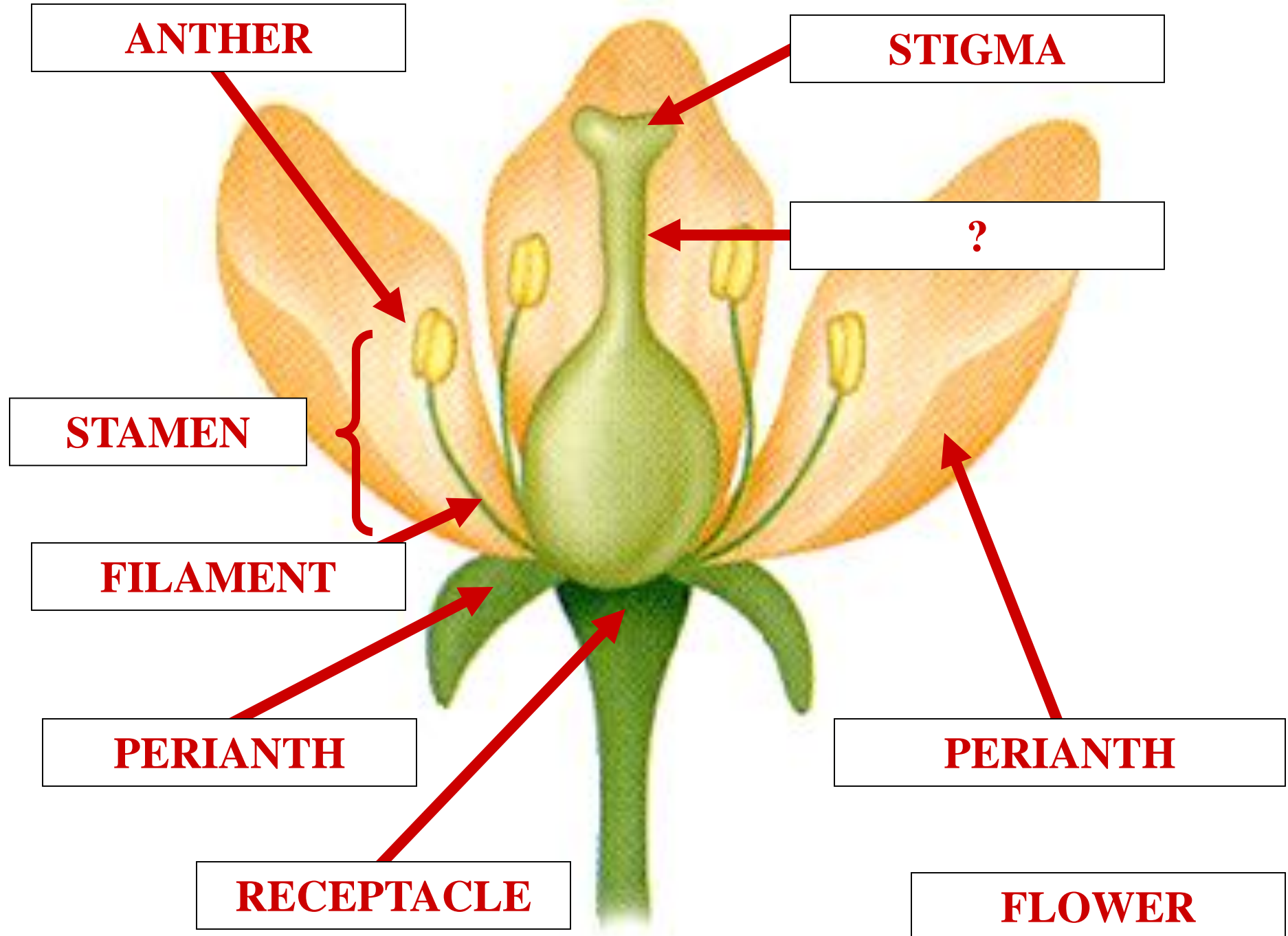
PERIANTH

RECEPTACLE

PERIANTH

FLOWER





ANTHOR

STIGMA

?

STAMEN

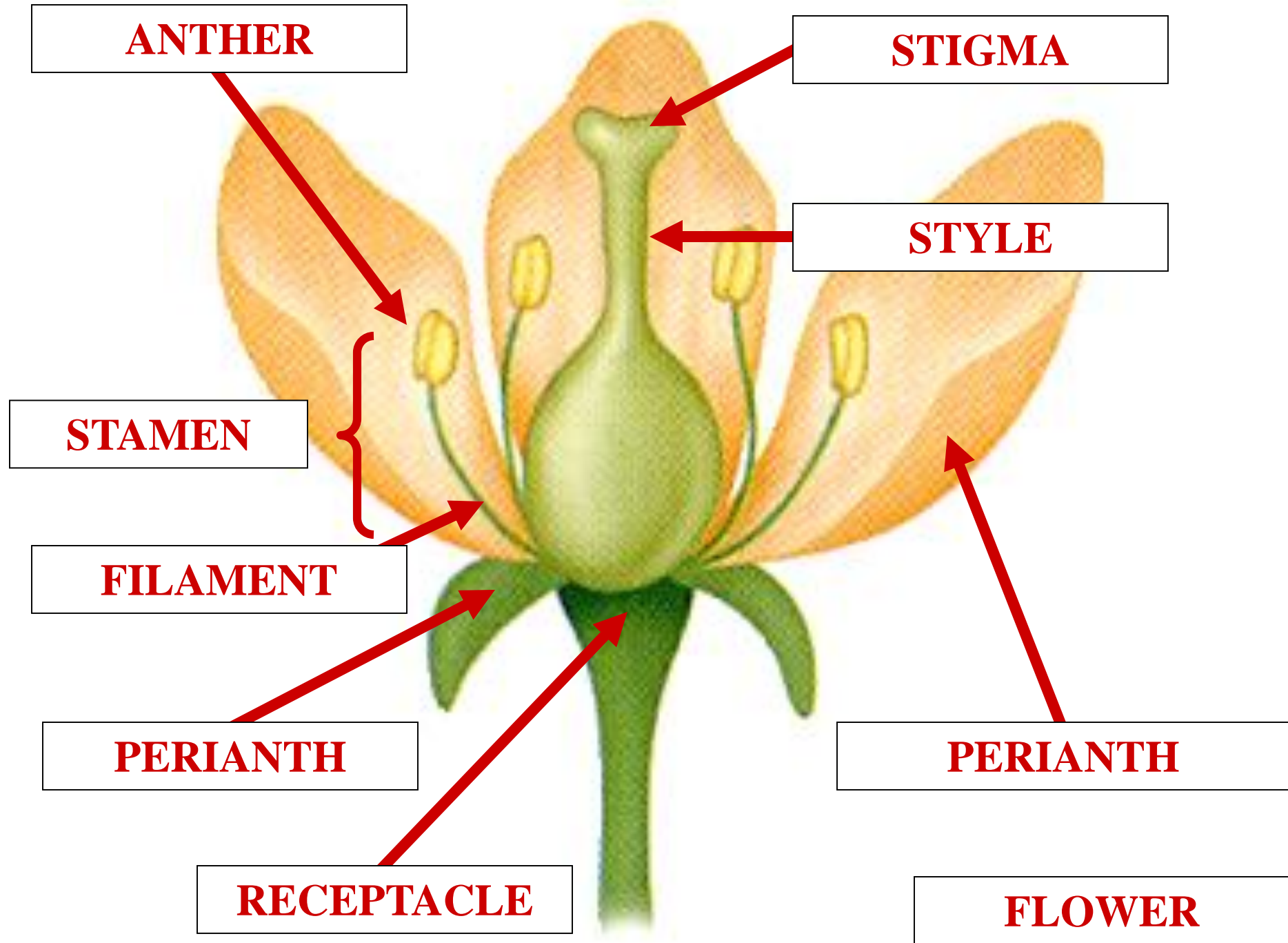
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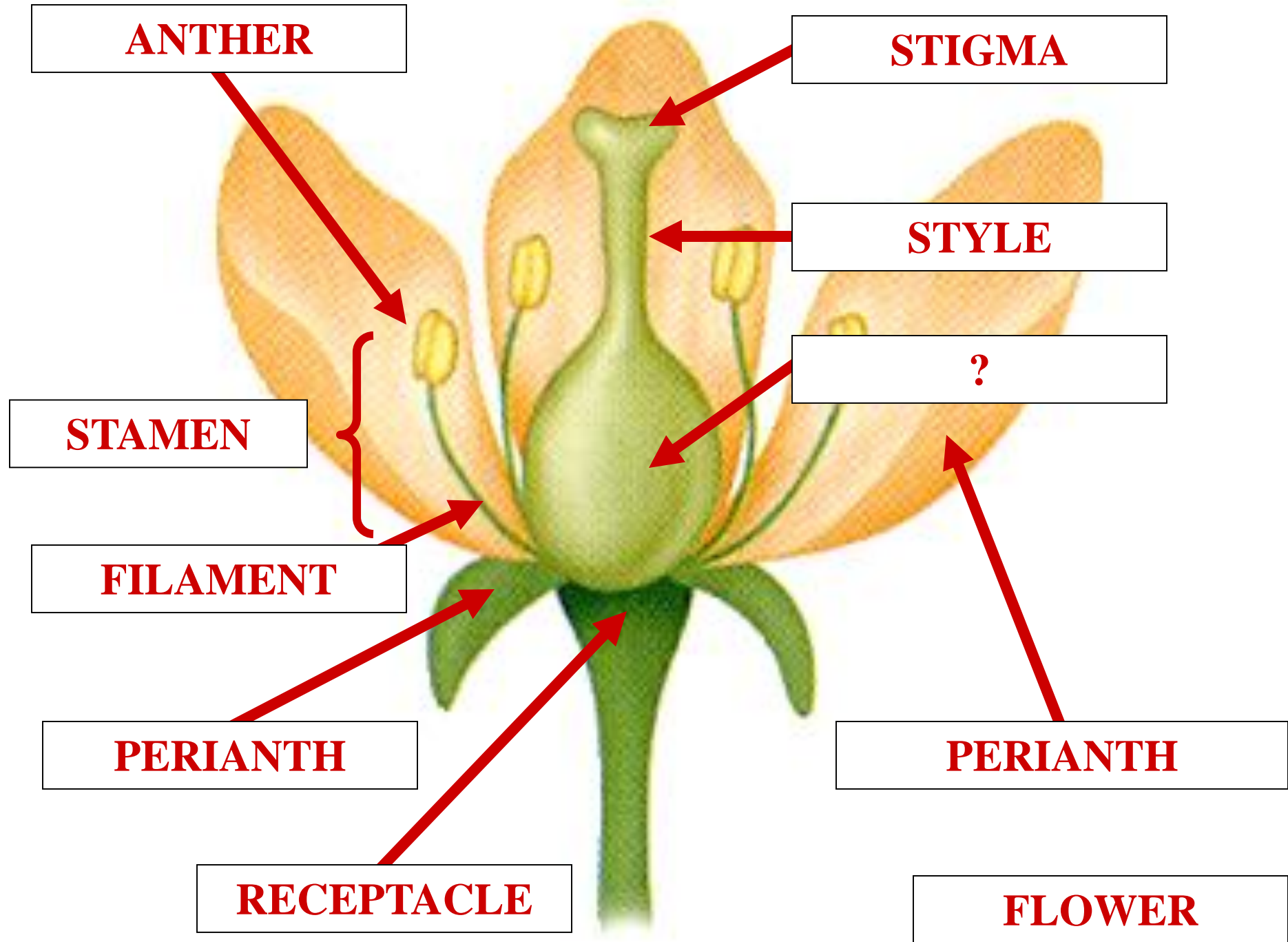
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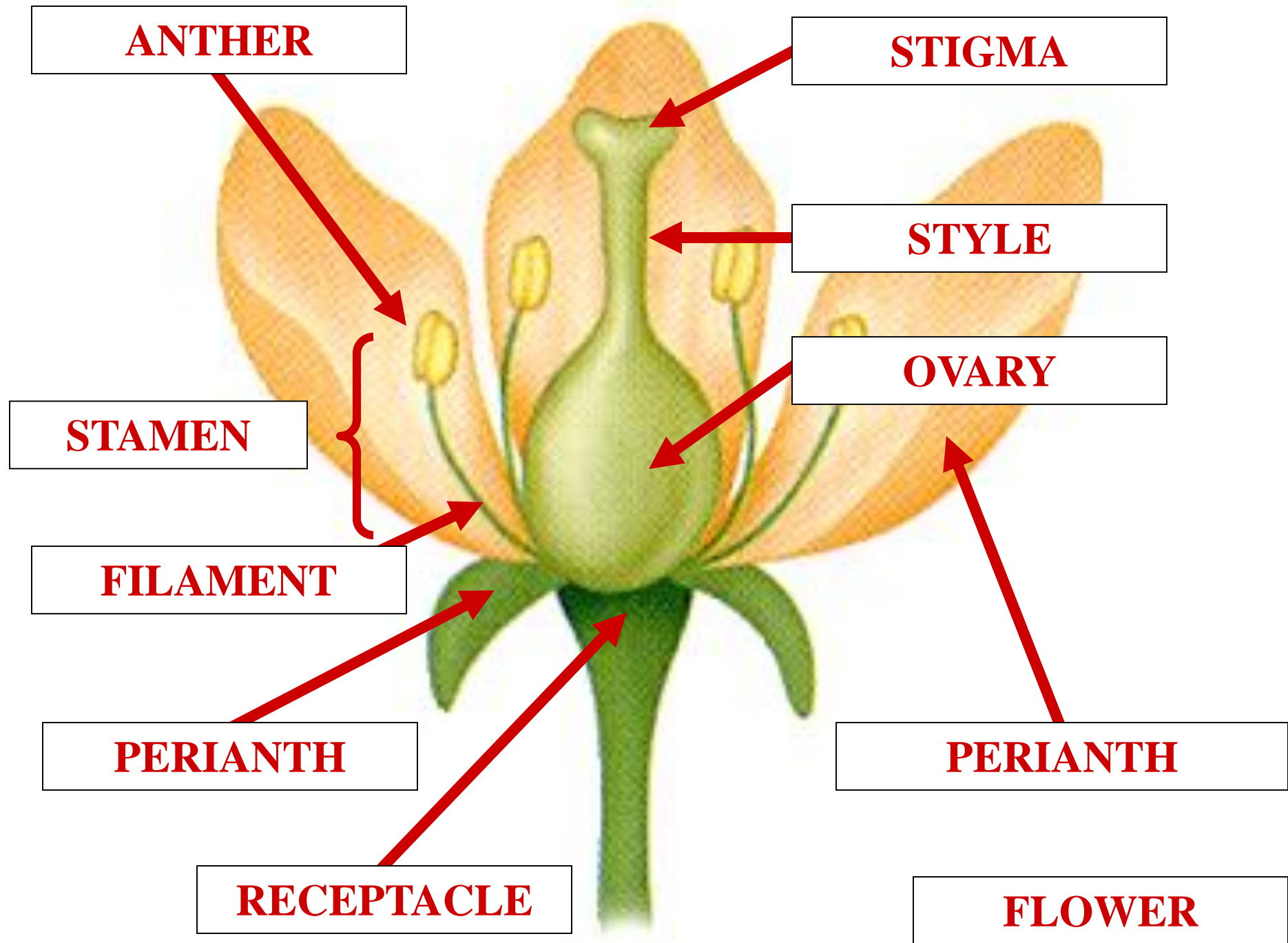
RECEPTACLE

PERIANTH

FLOWER







ANTHER

STAMEN

FILAMENT

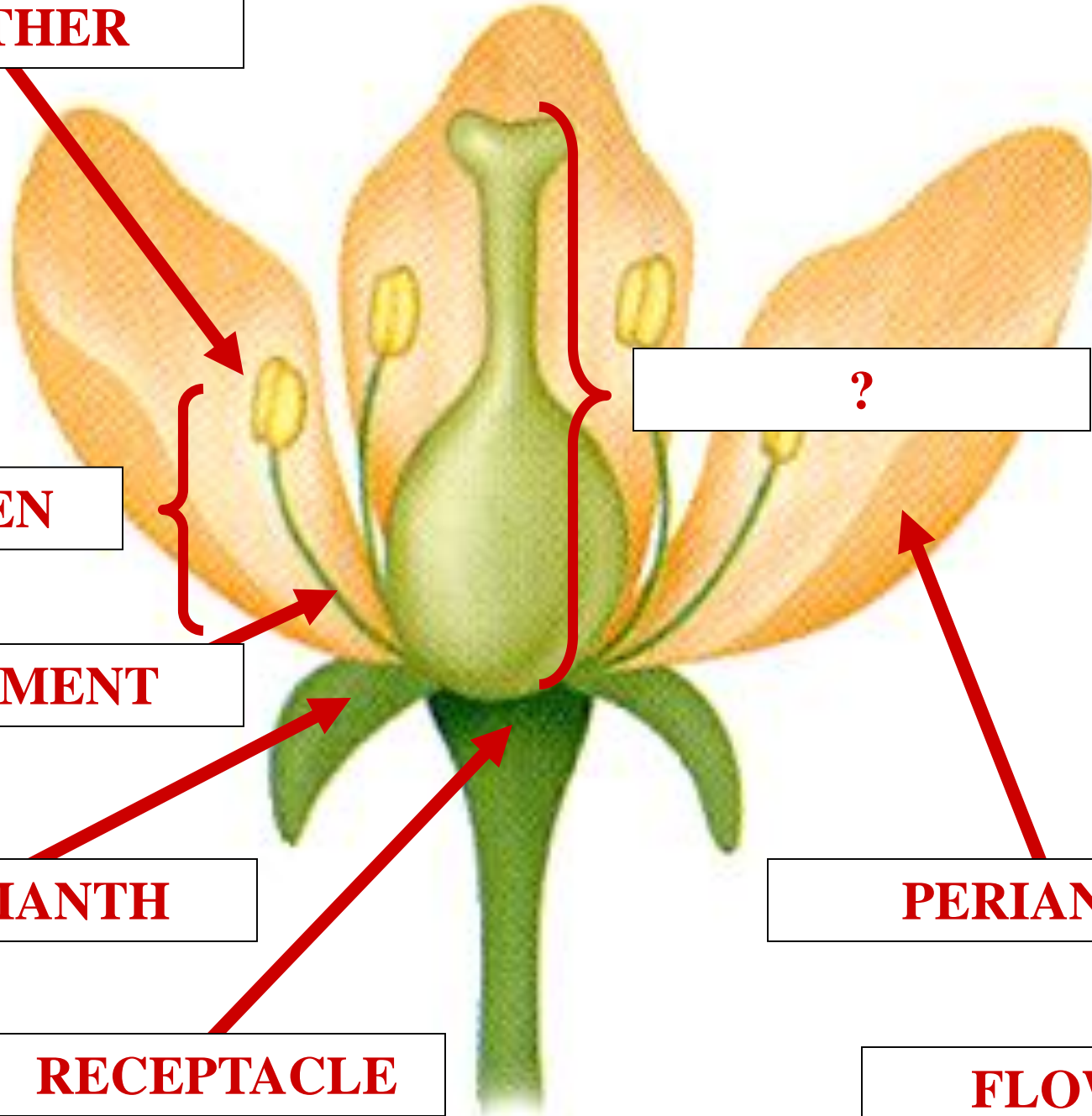
PERIANTH

RECEPTACLE

?

PERIANTH

FLOWER





C

ANTHER

GYNOECIUM

STAMEN

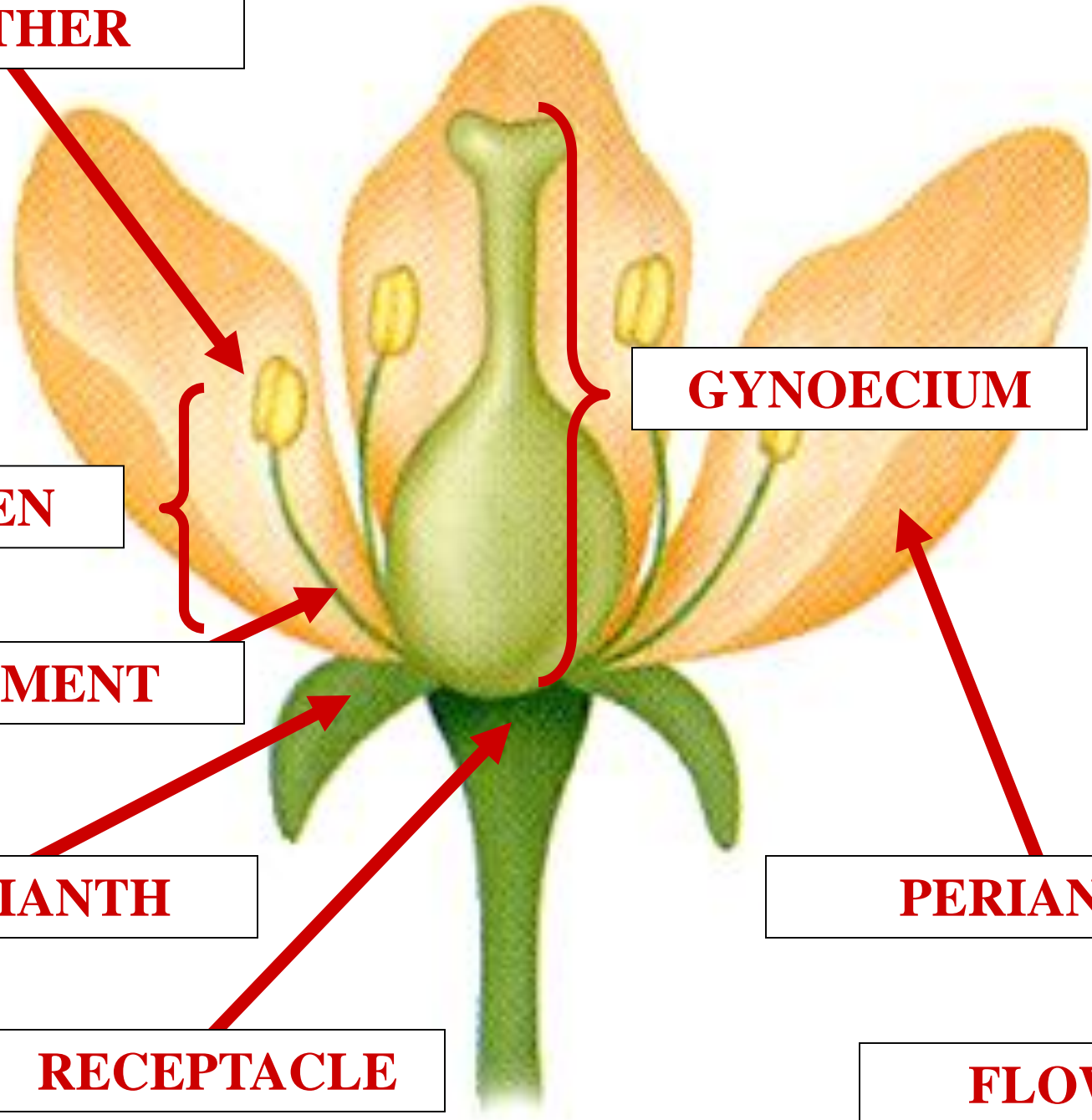
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PERIANTH

RECEPTACLE

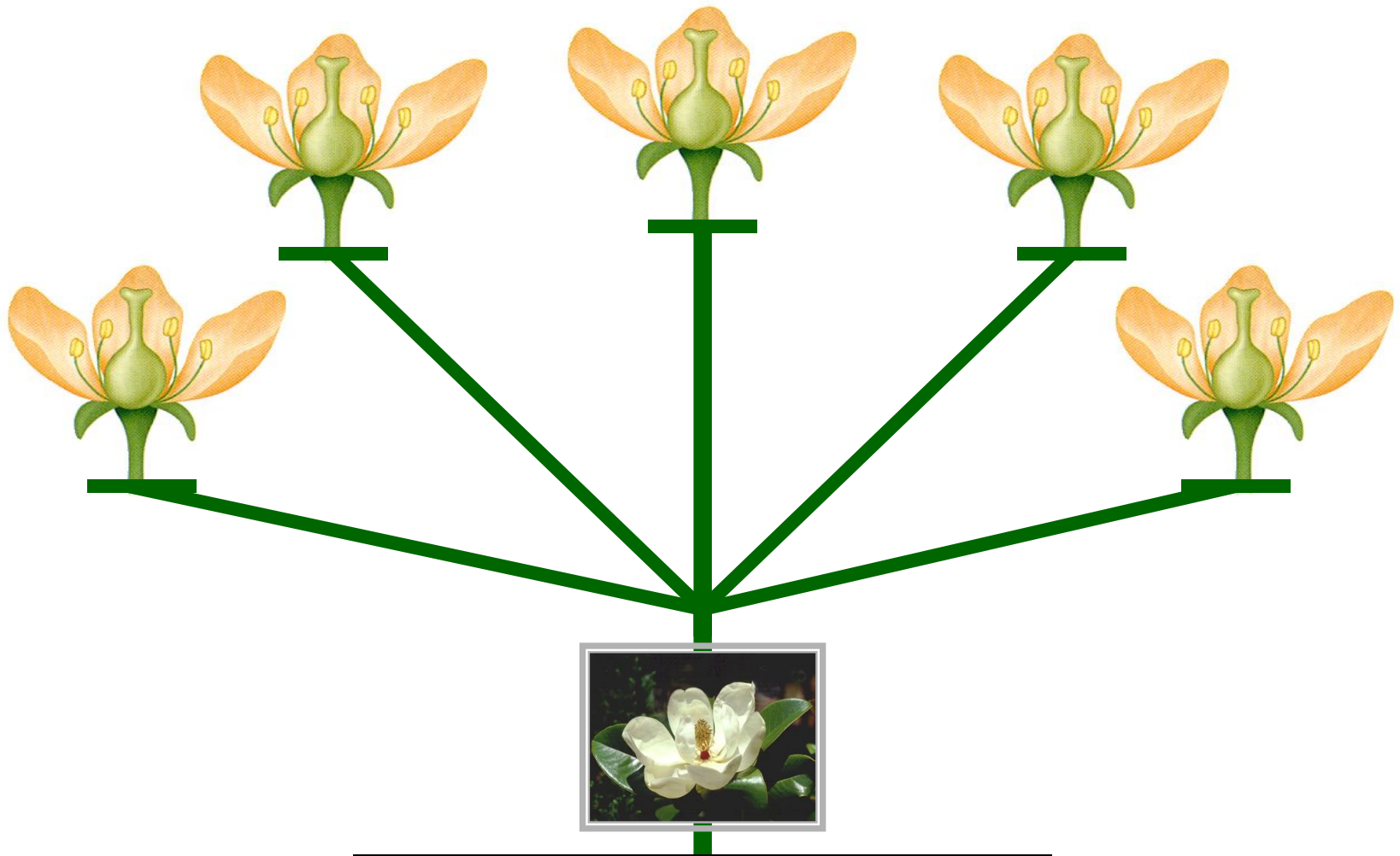
PERIANTH

FLOWER

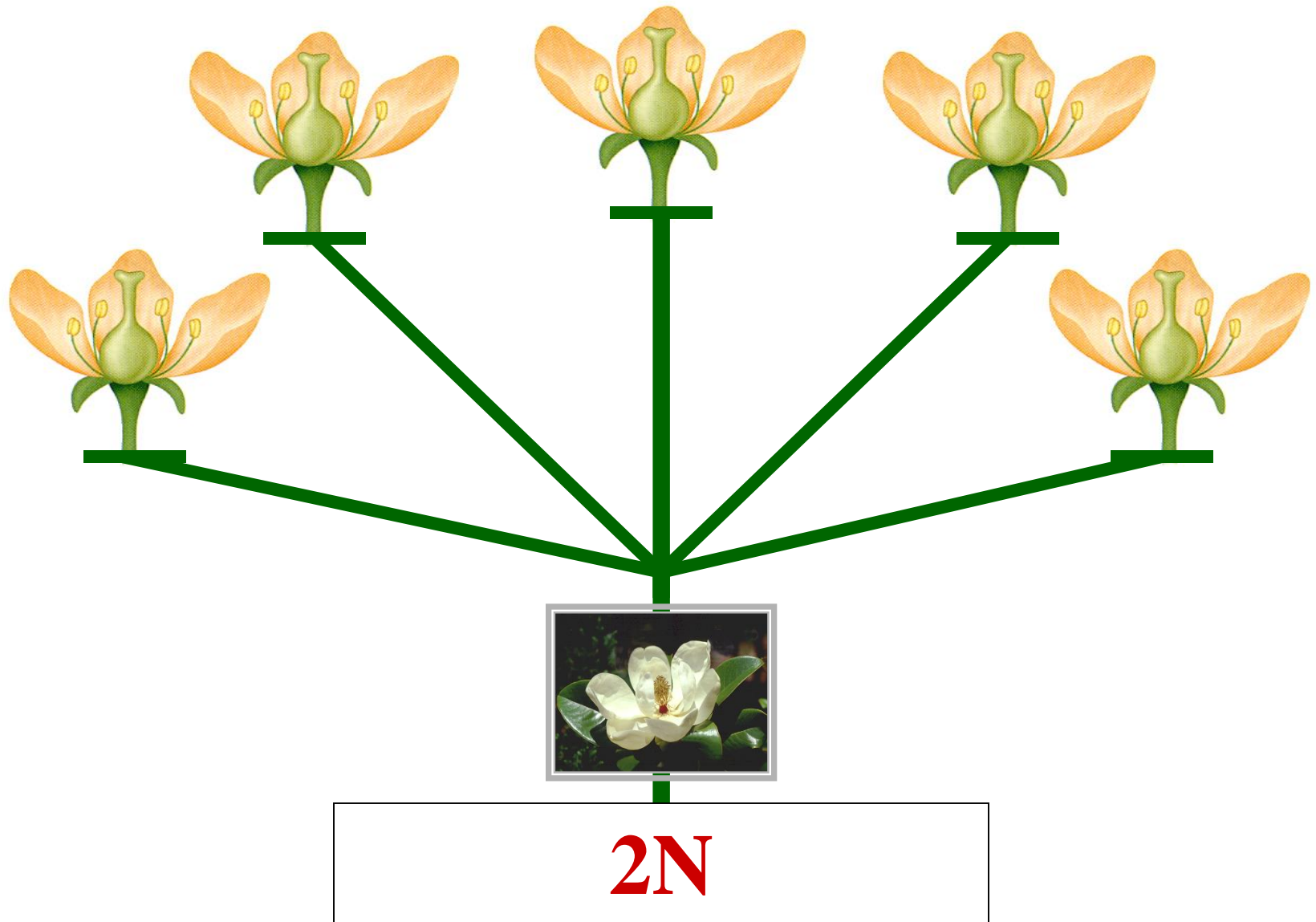




**ANGIOSPERM
LIFE CYCLE
CONSULT: 472-473**

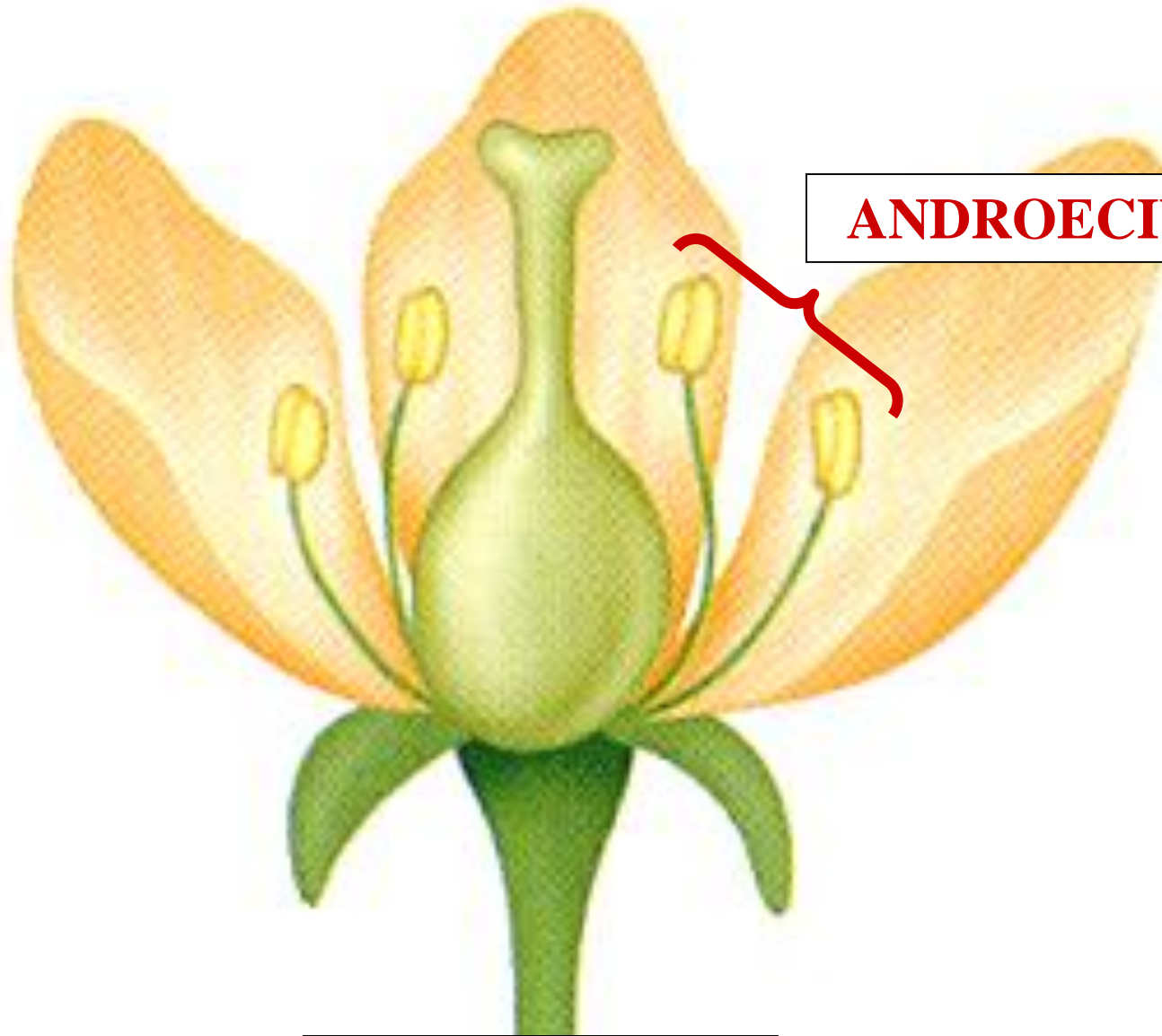


SPOROPHYTE



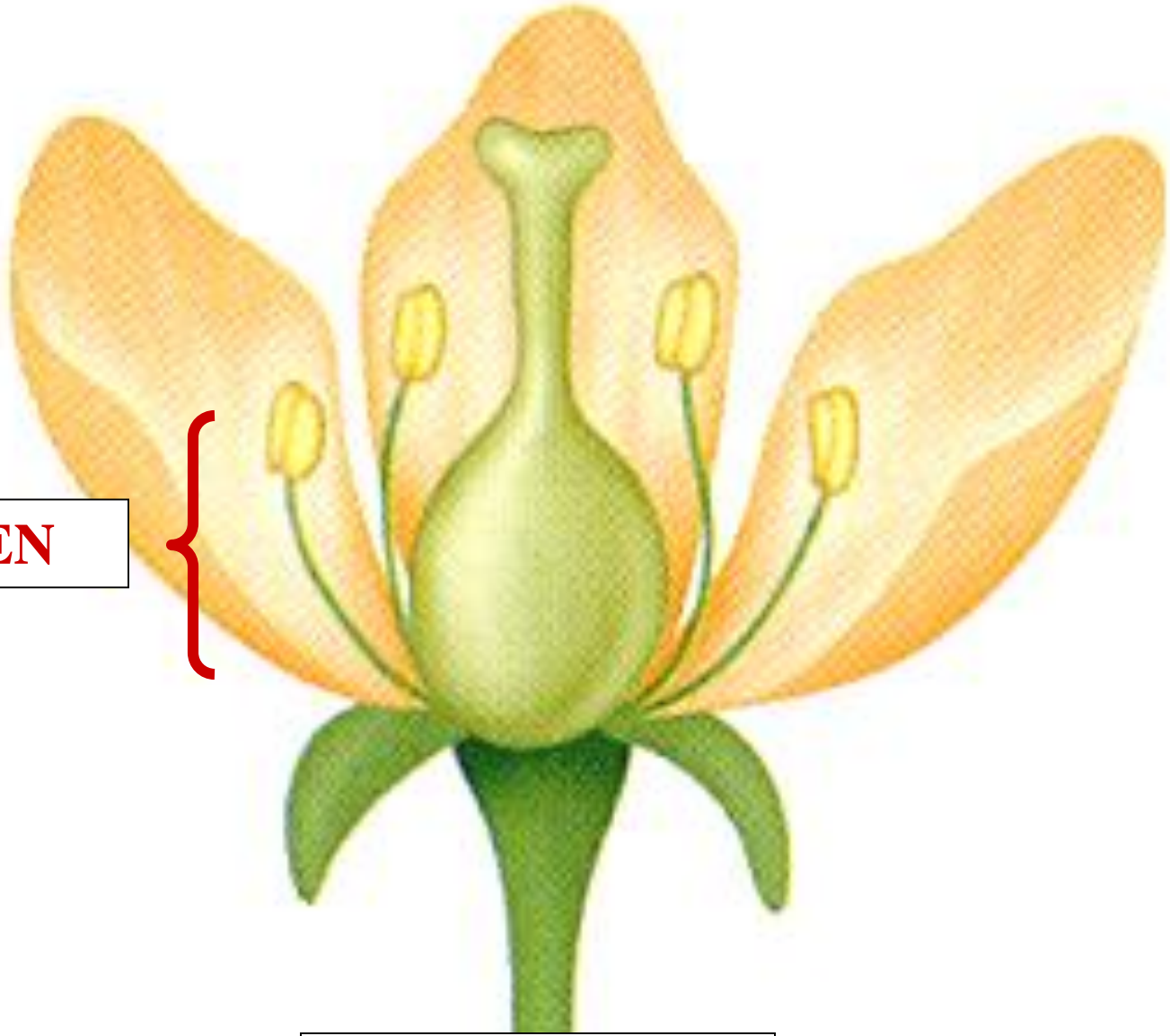


FLOWER



ANDROECIUM

FLOWER



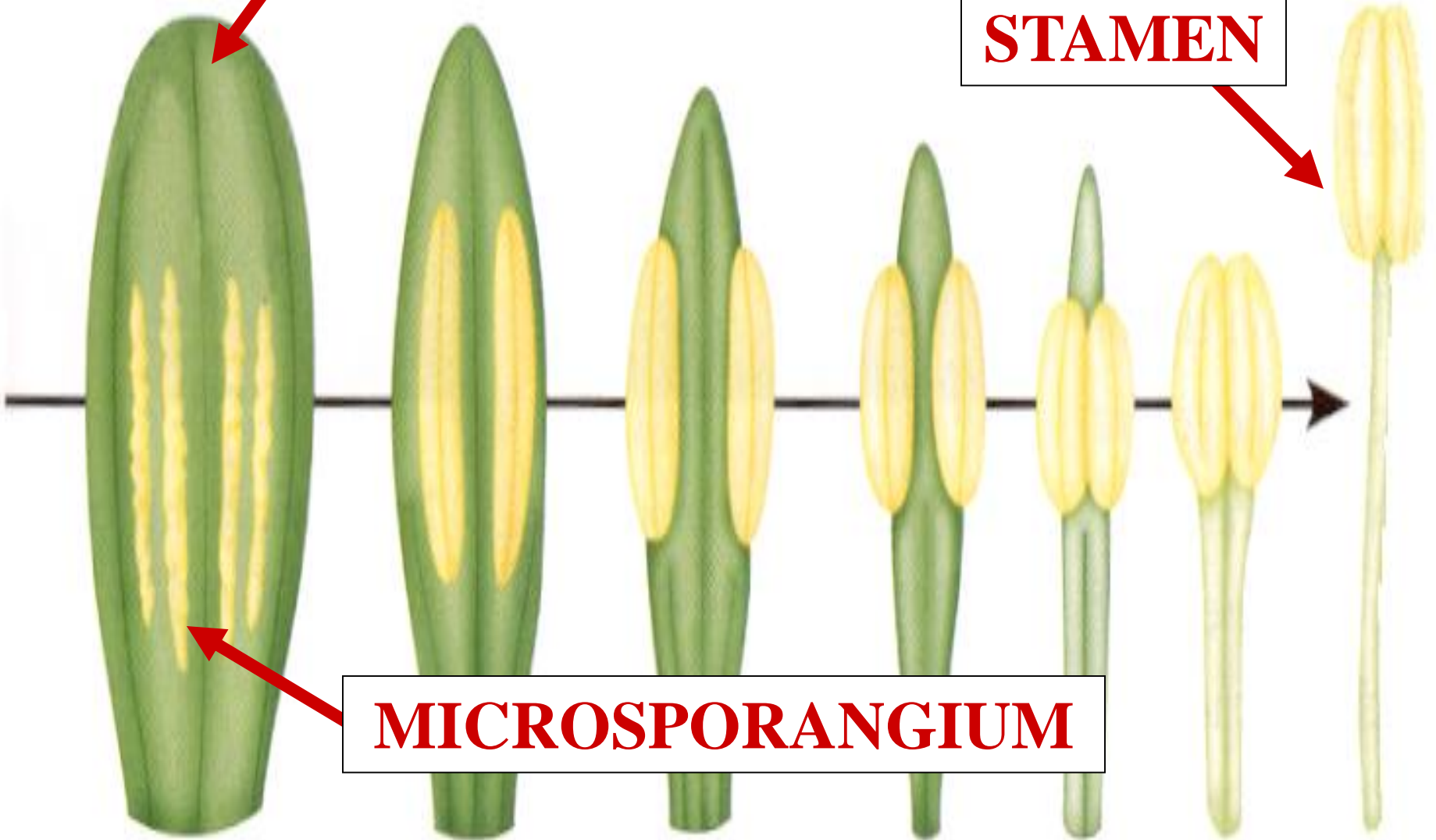
STAMEN

FLOWER

LEAF

STAMEN

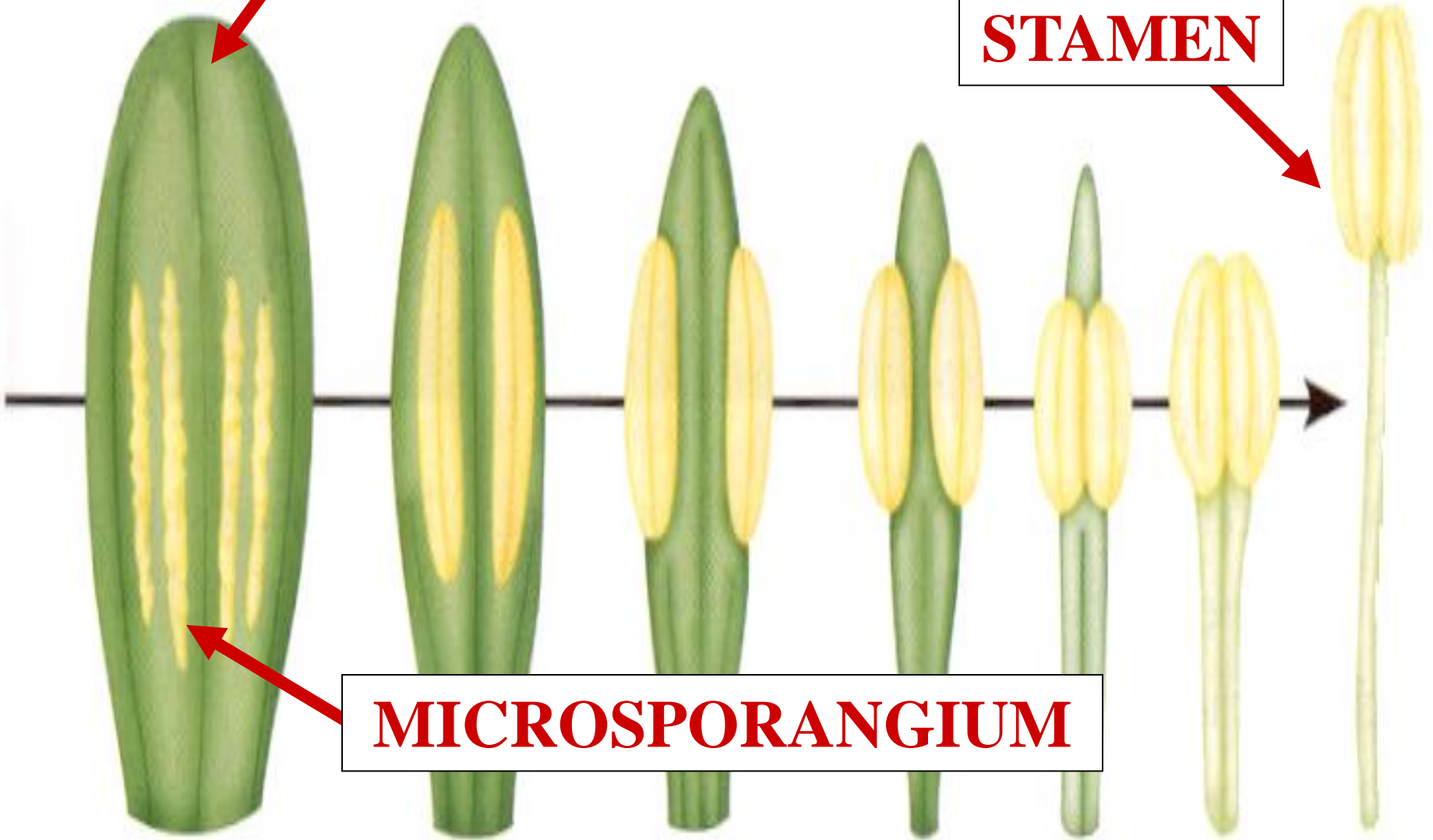
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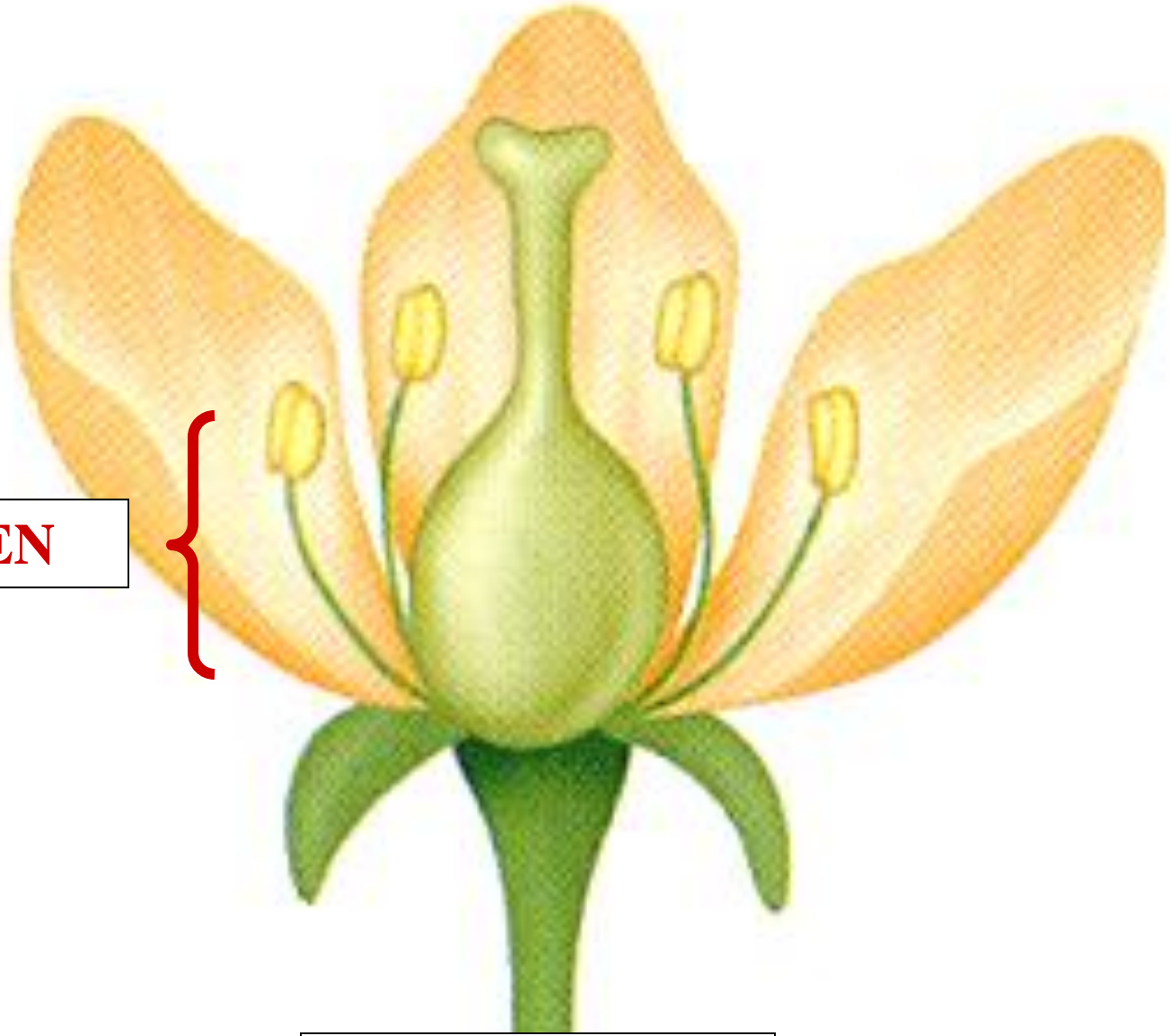


MICROSPOROPHYLL

STAMEN

MICROSPORANGIUM



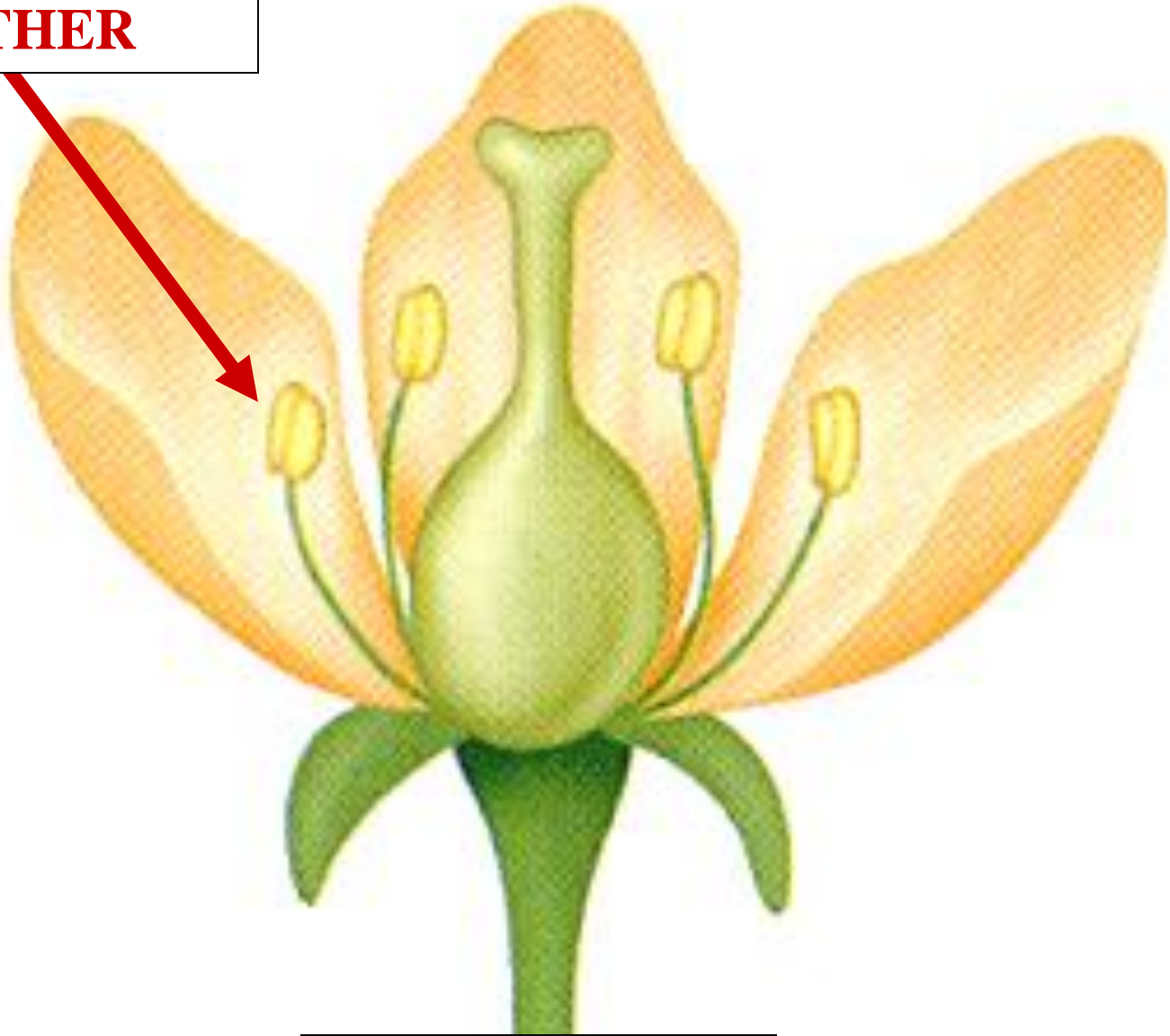
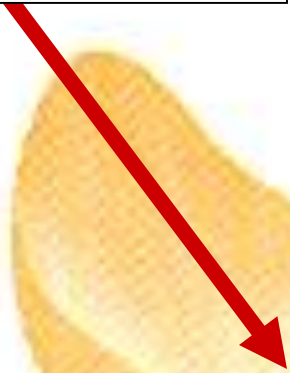


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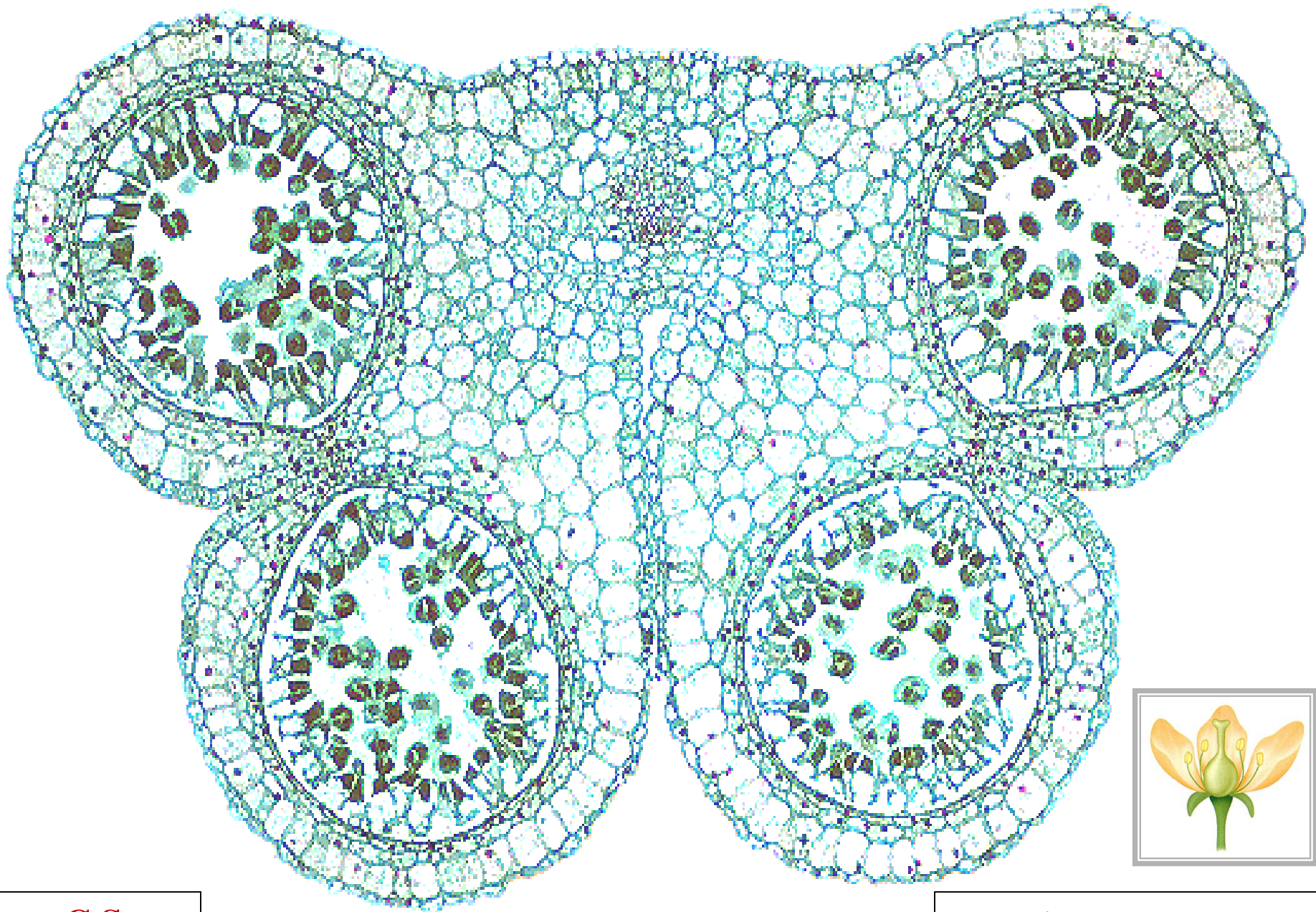
FLOWER



ANTHER

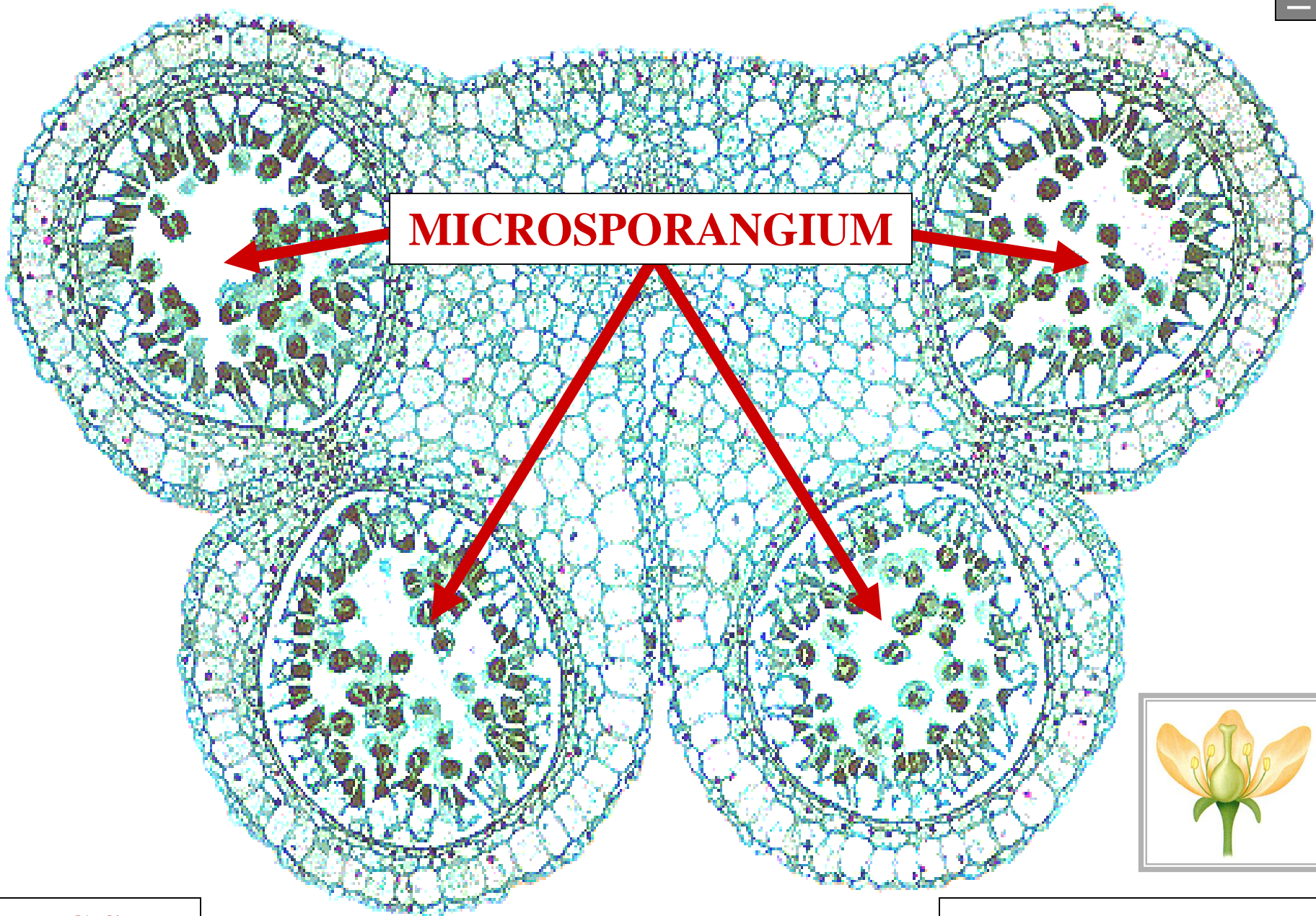


FLOWER



C.S.

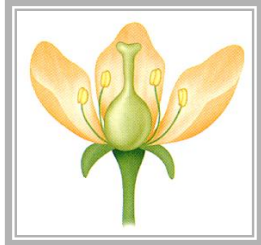
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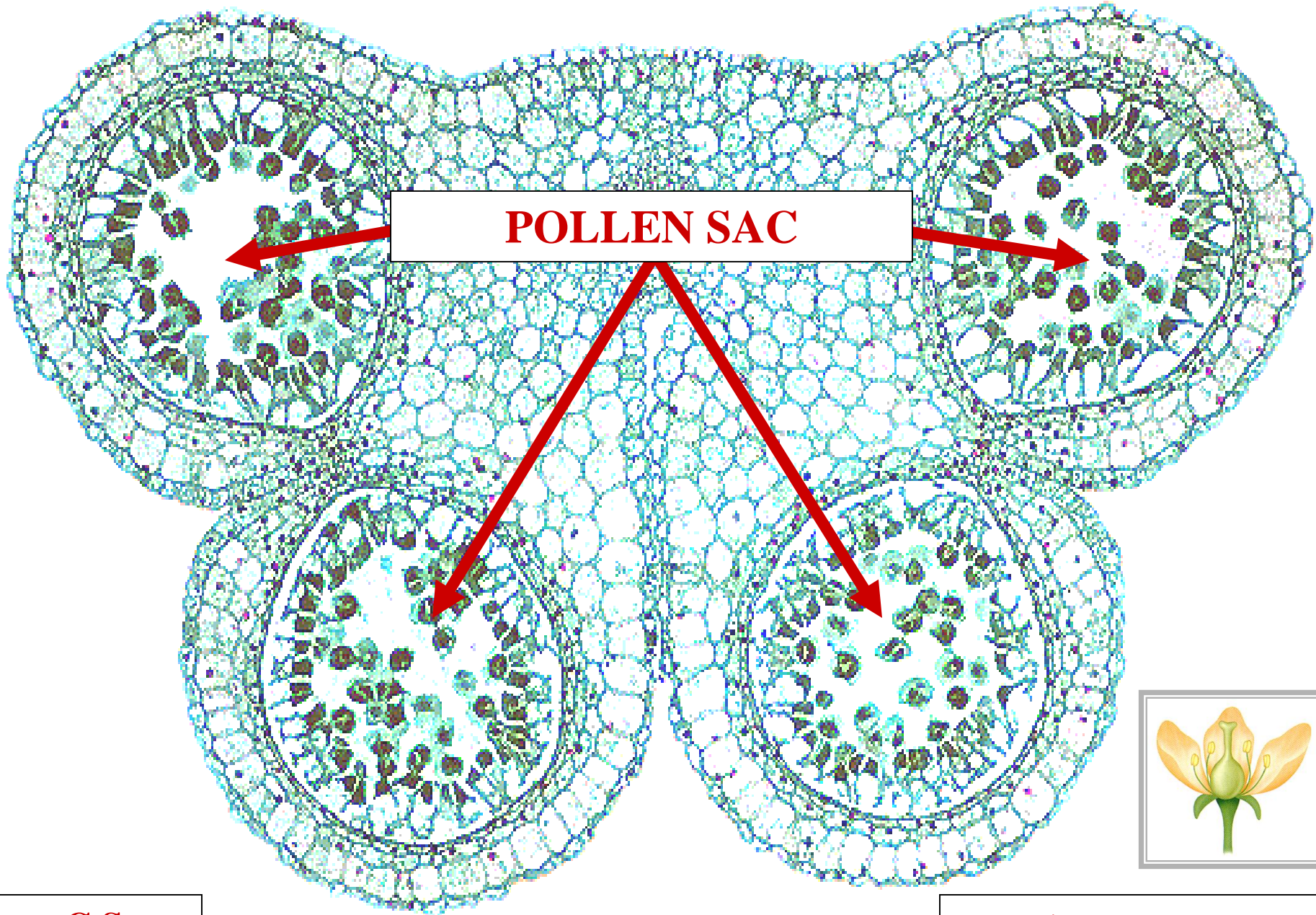


MICROSPORANGIUM

C.S.

ANTHER



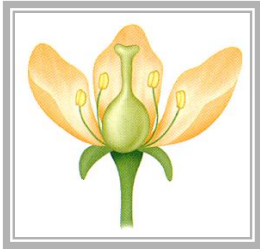
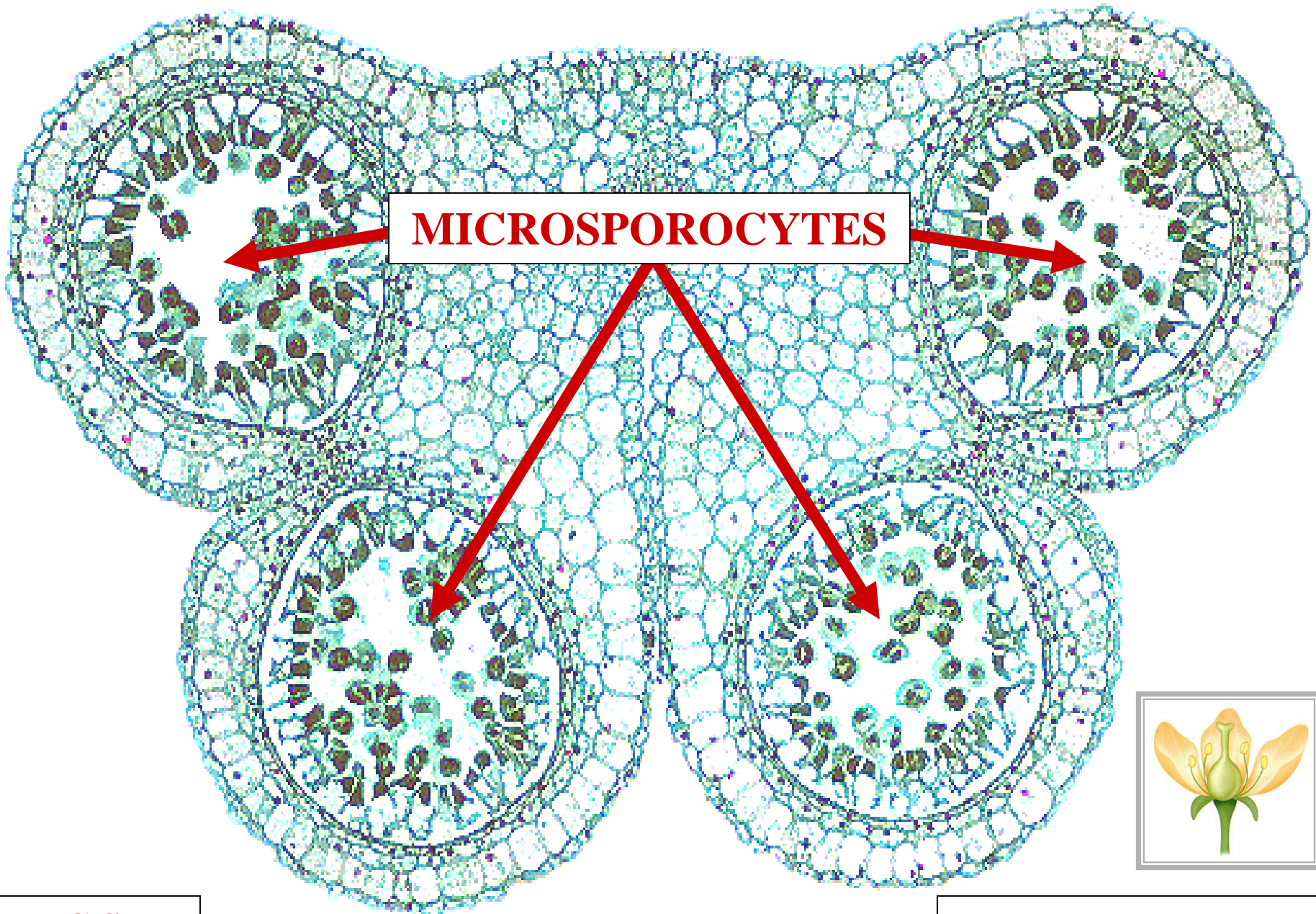


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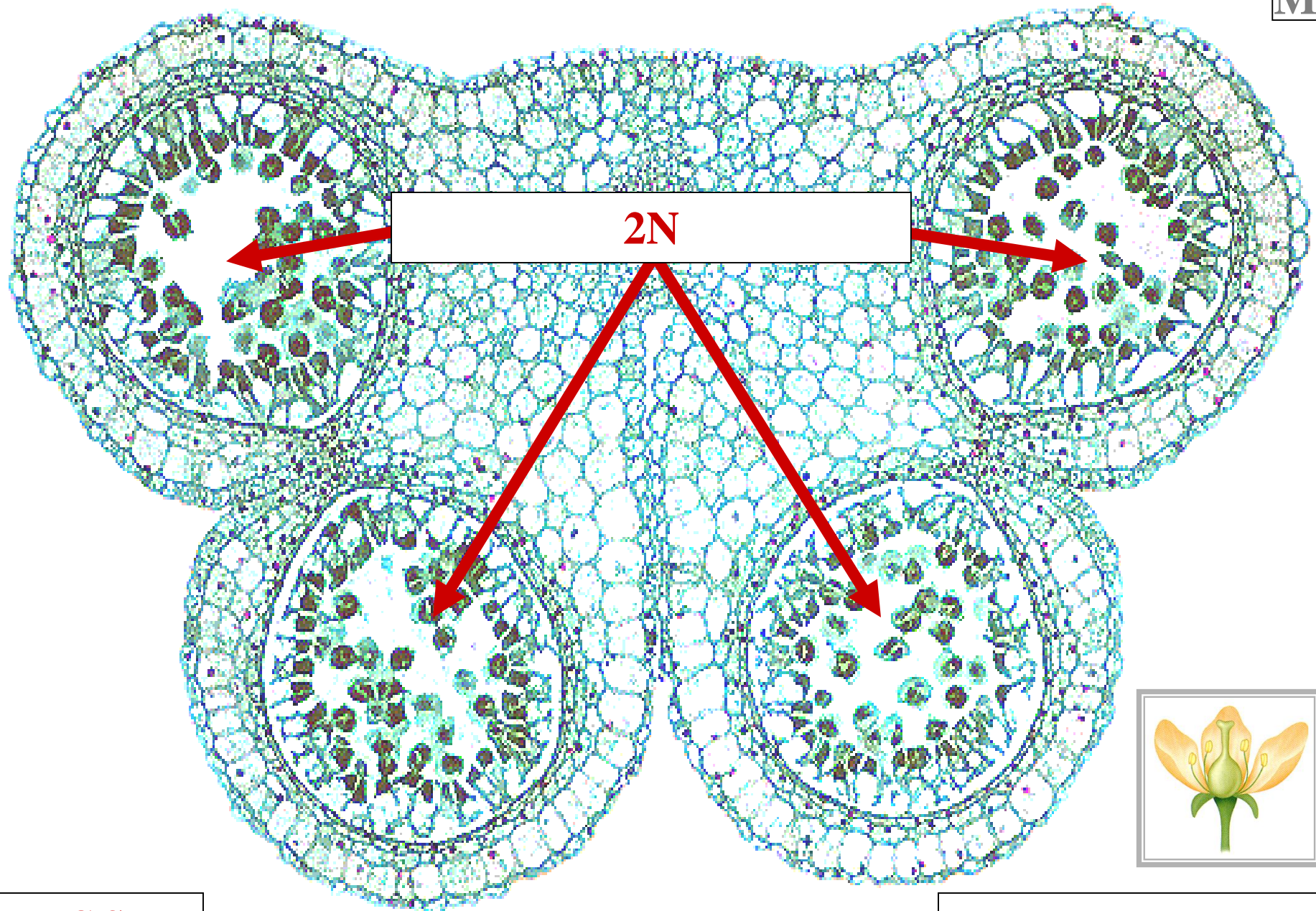
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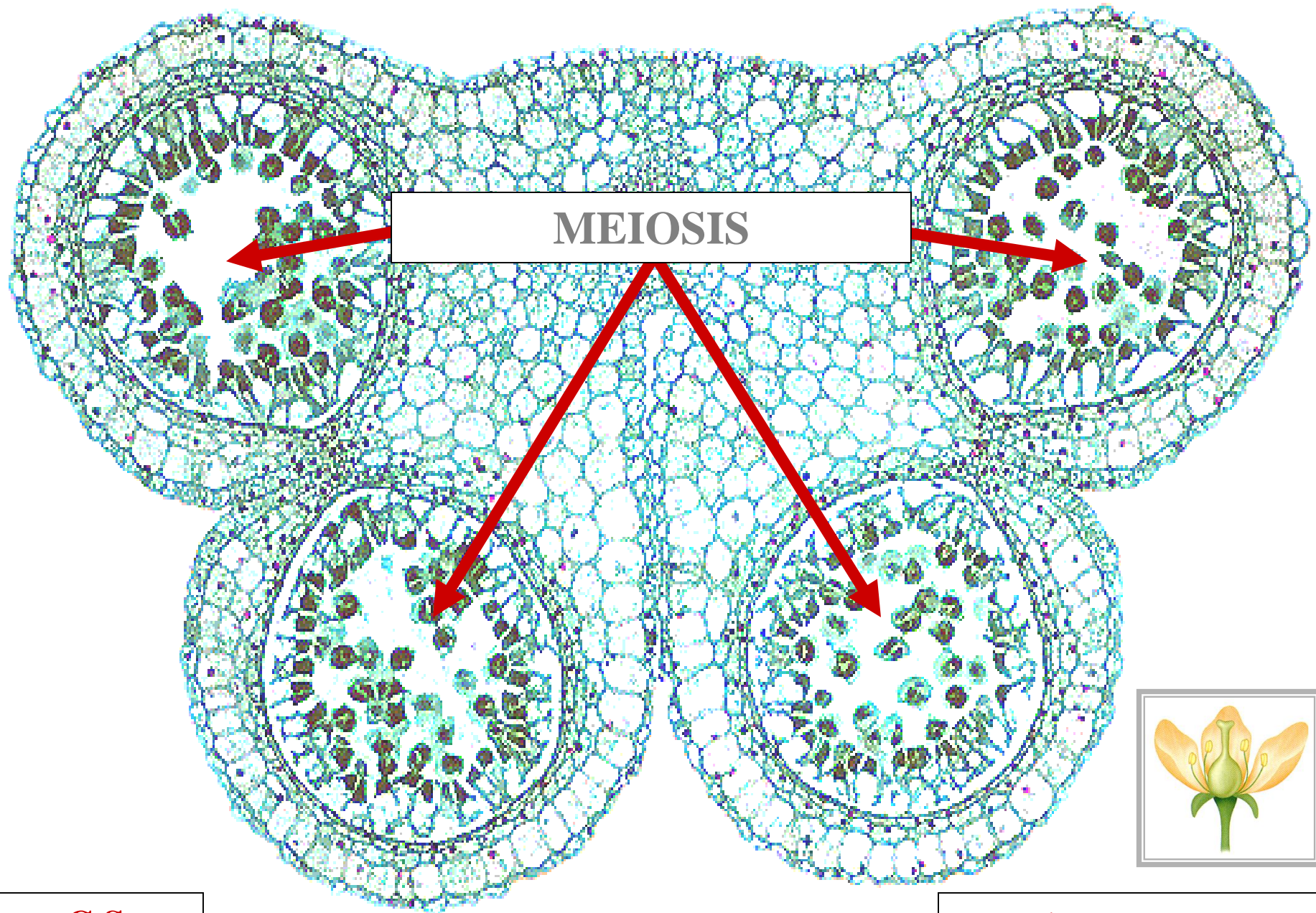
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C.S.

ANTHER

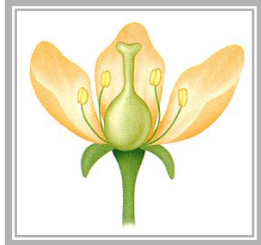


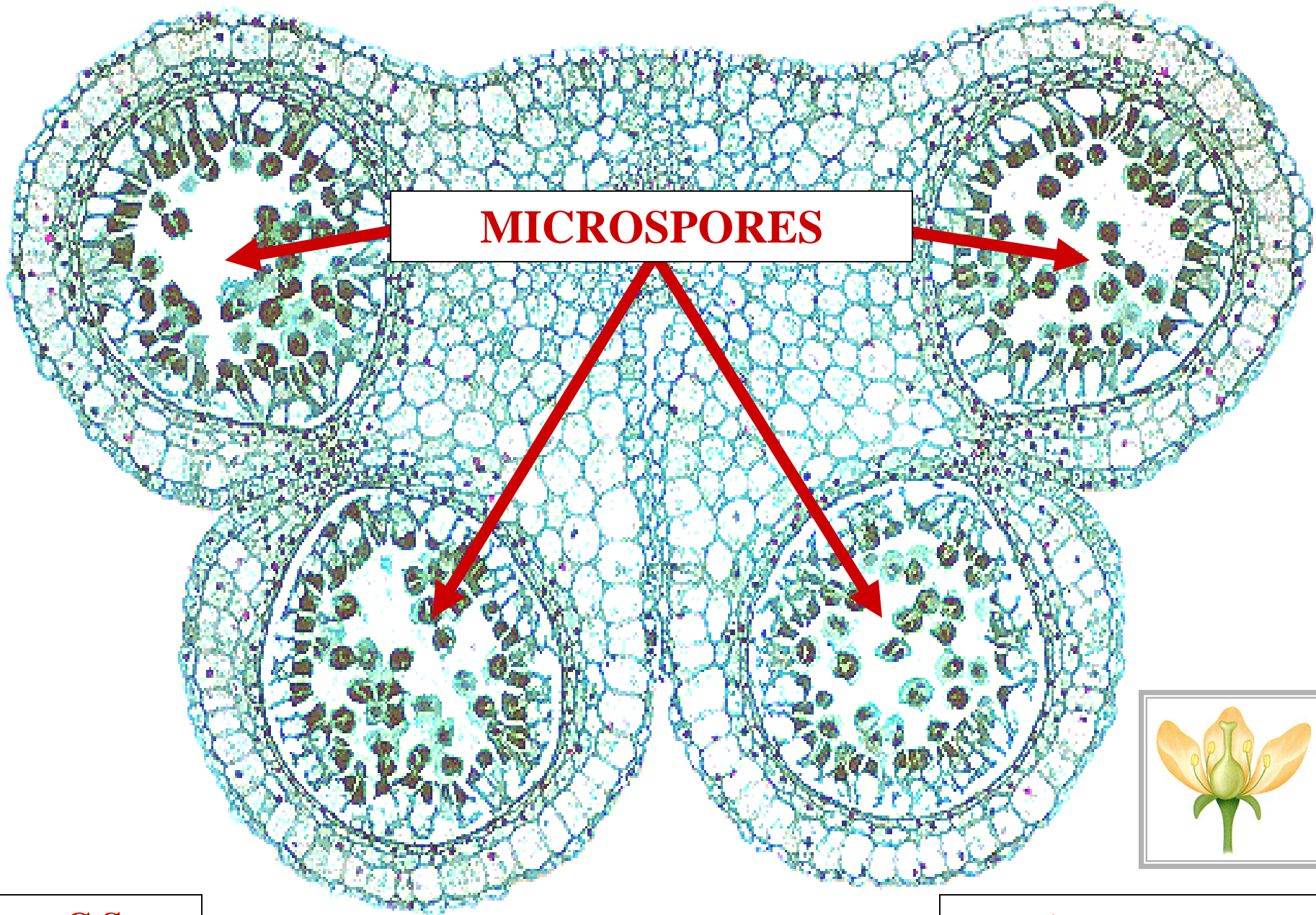


MEIOSIS

C.S.

ANTHER



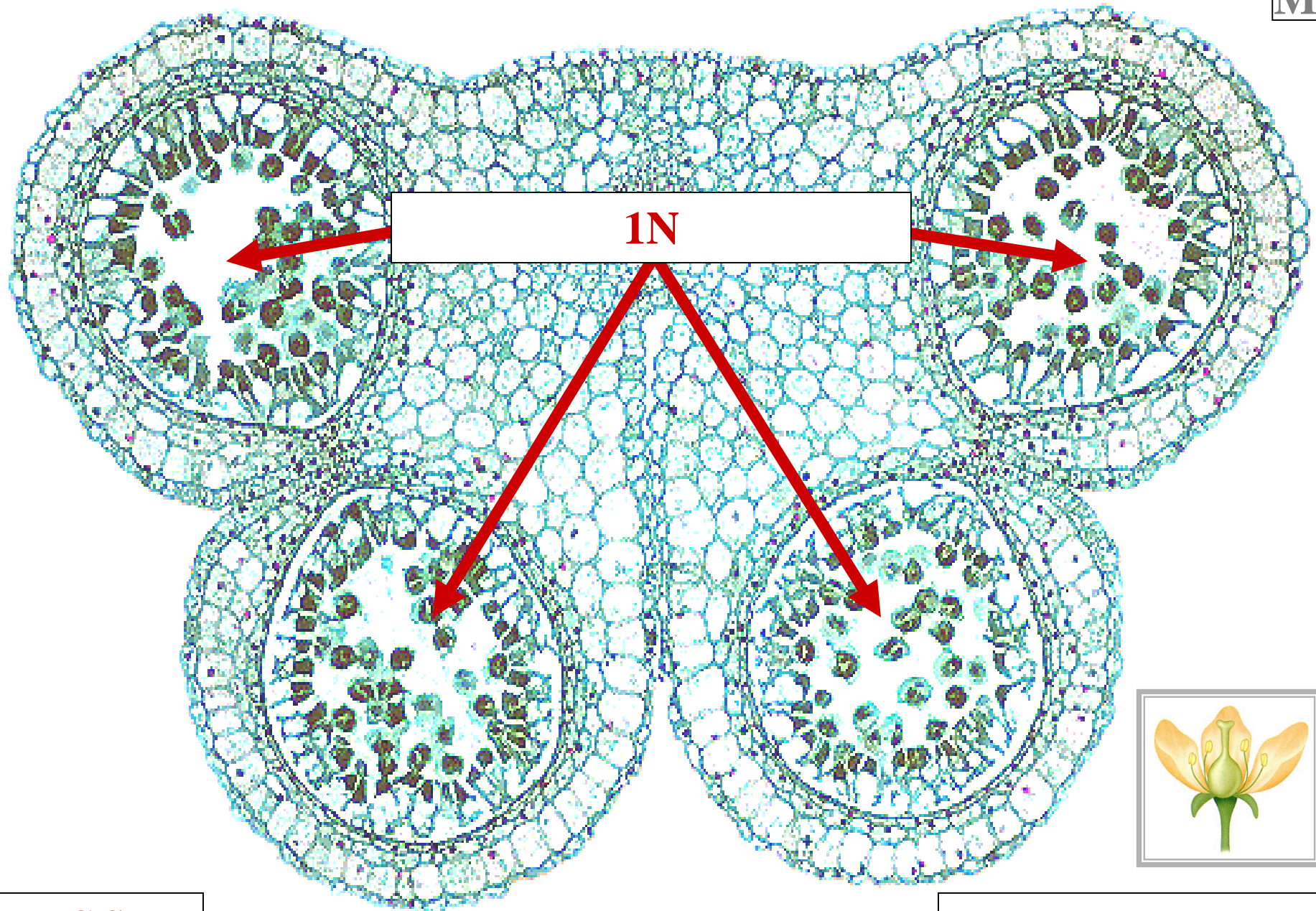


MICROSPORES

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ANTHER

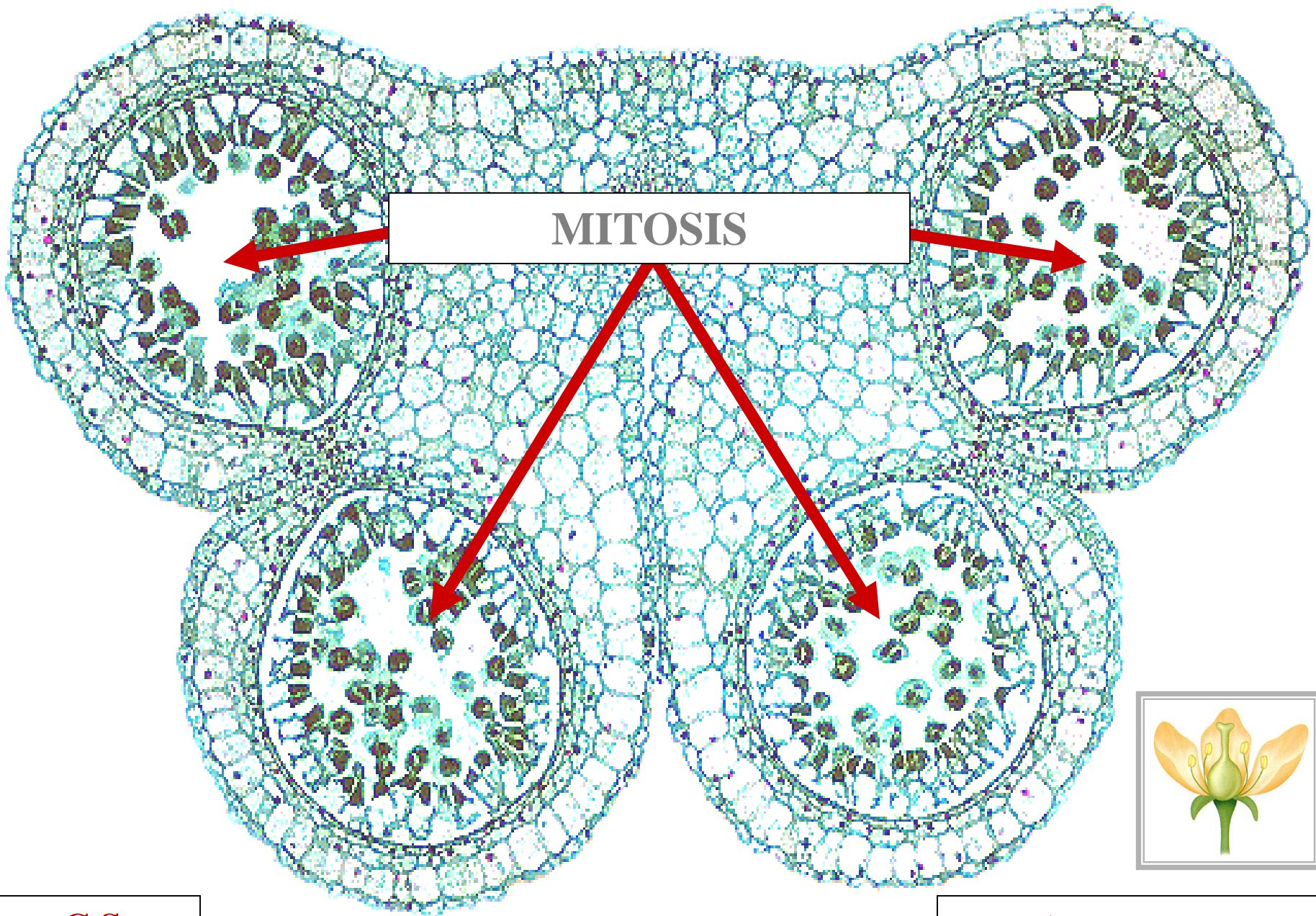




C.S.

ANTHER



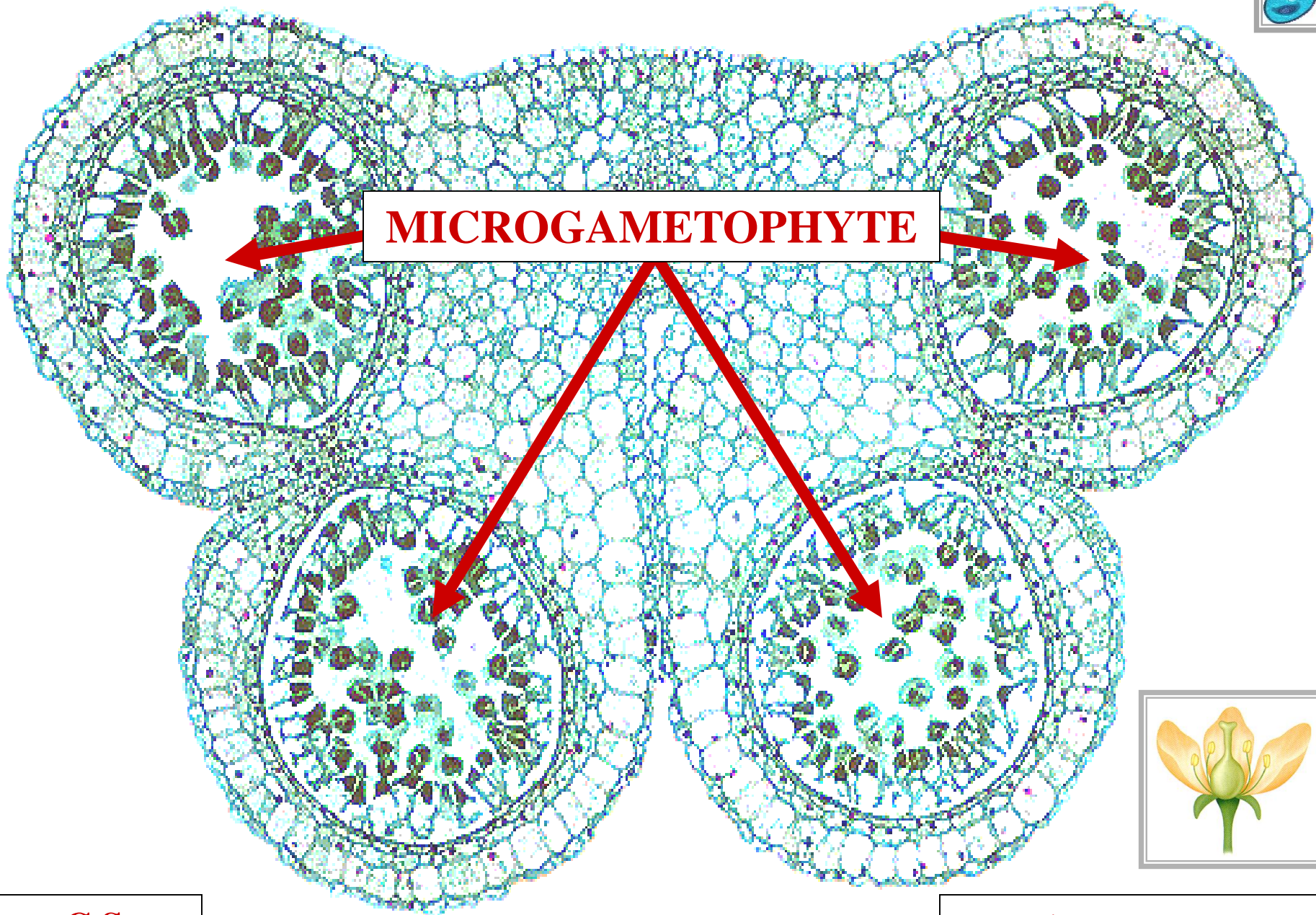


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ANTHER

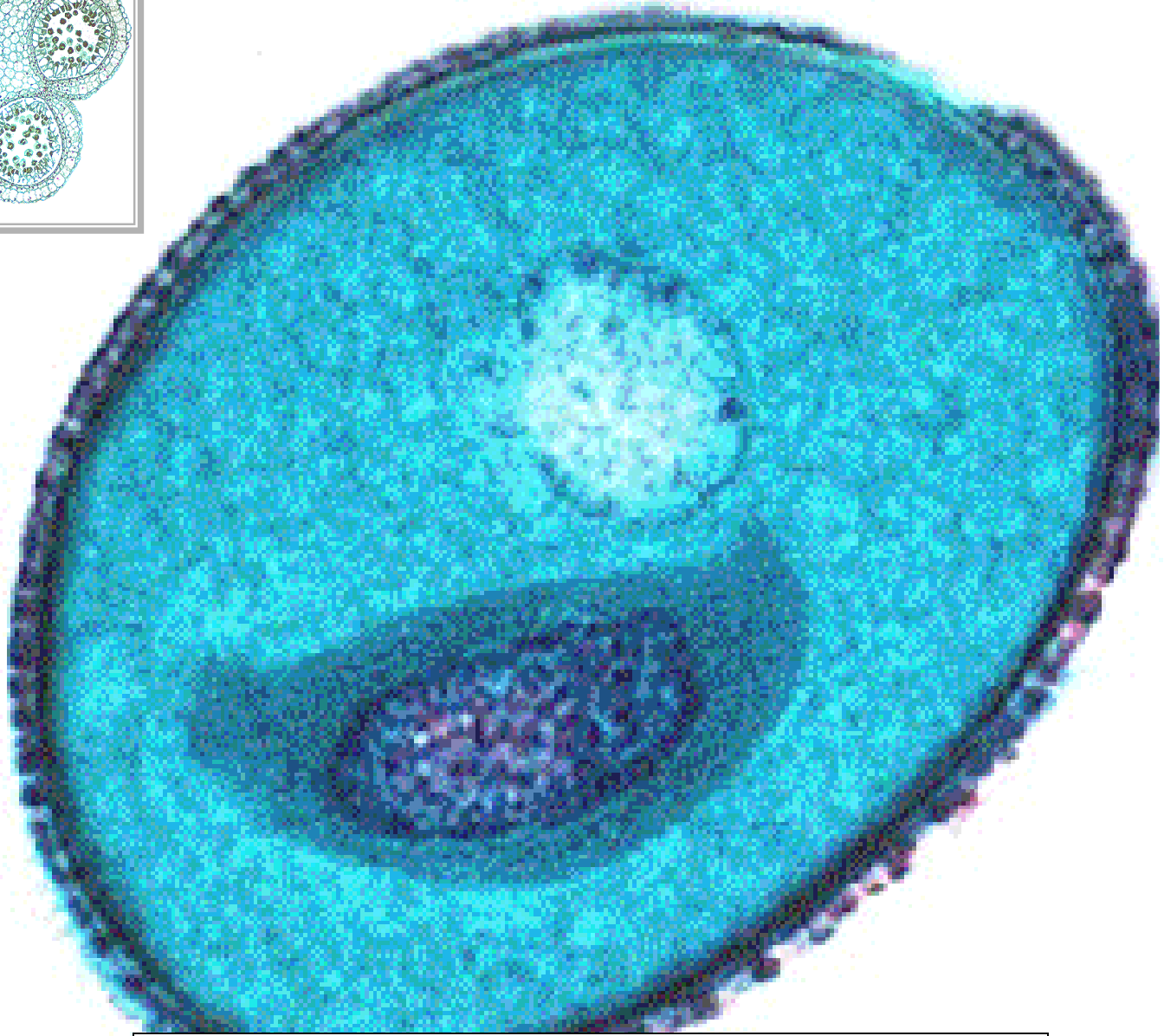
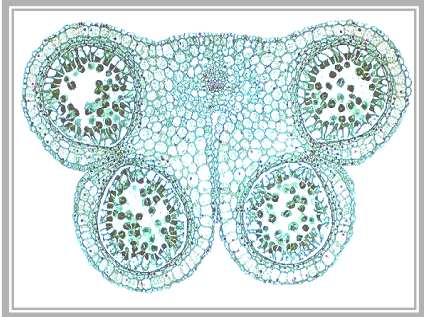


MICROGAMETOPHYTE



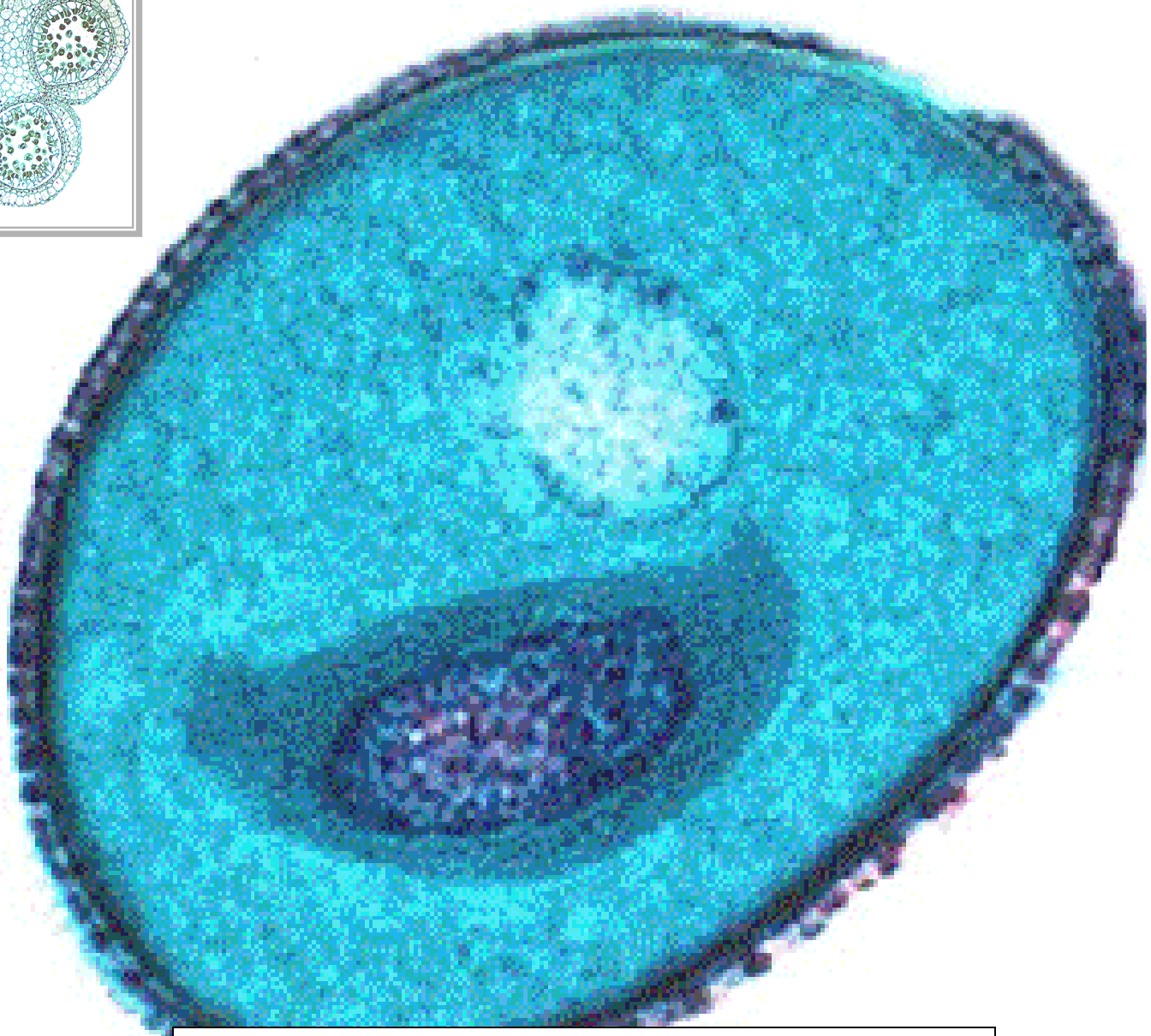
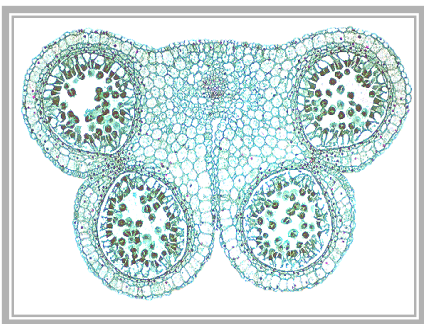
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ANTHER



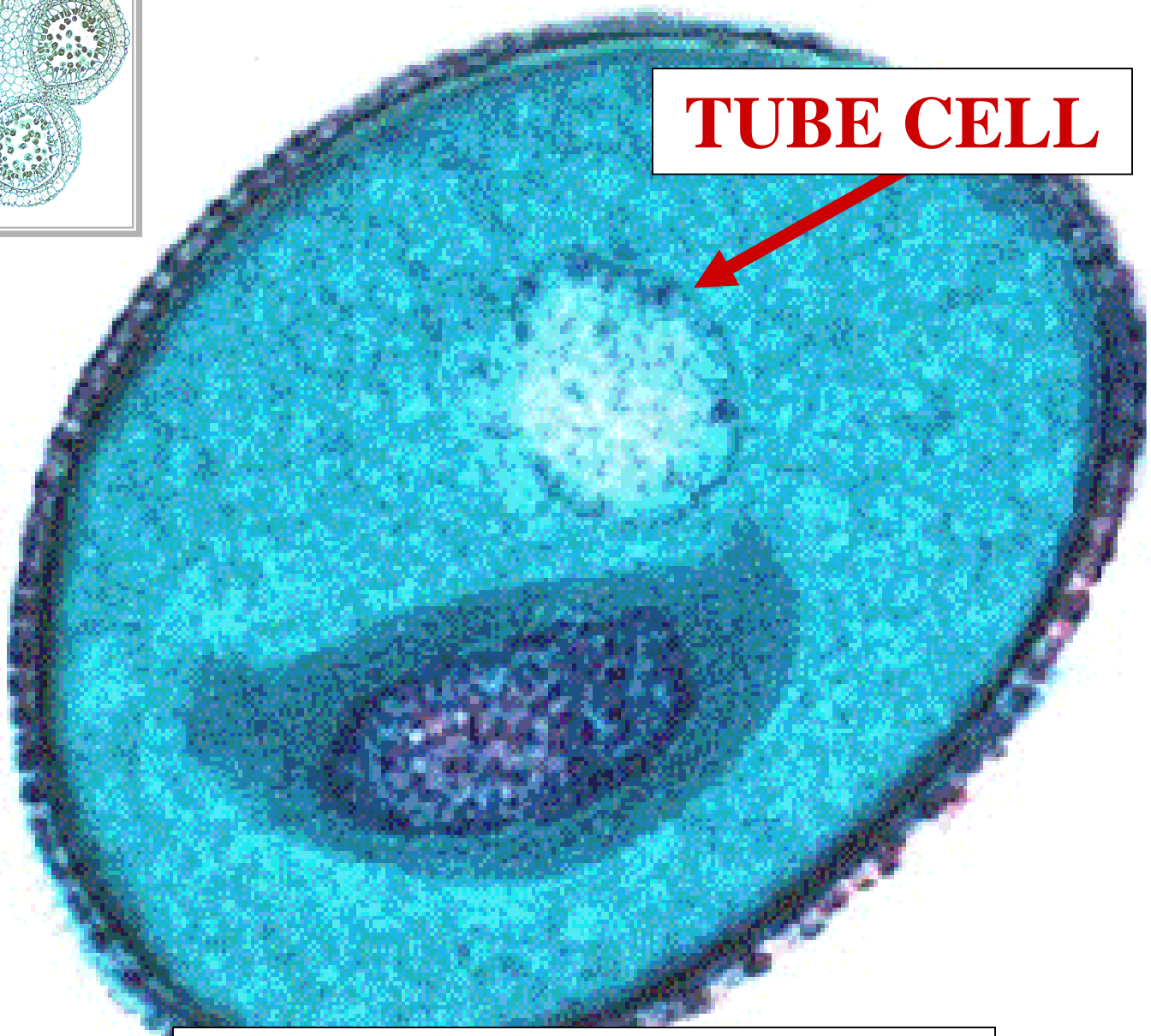
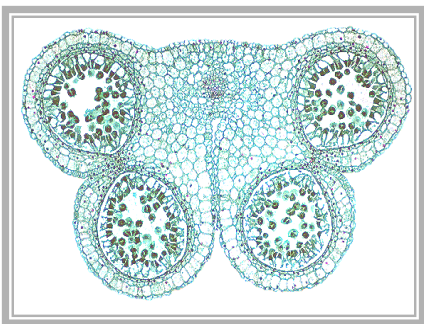
L.S.

MICROGAMETOPHYTE



L.S.

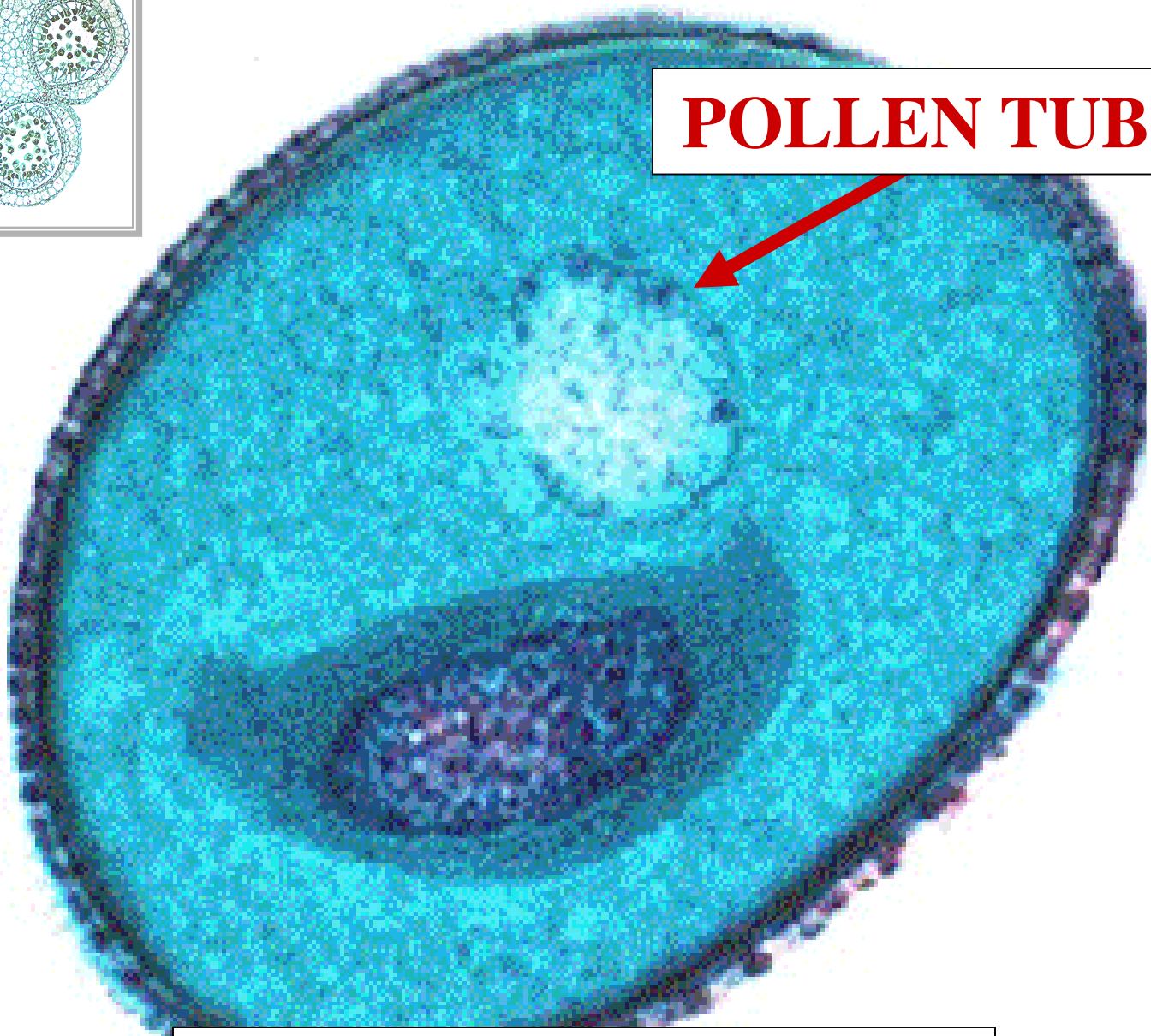
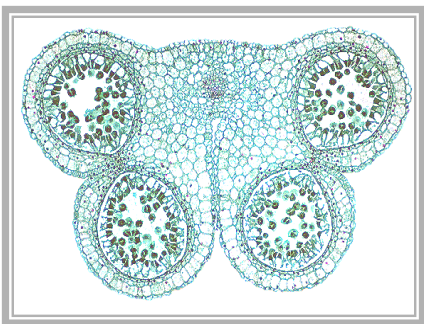
POLLEN GRAIN



TUBE CELL

L.S.

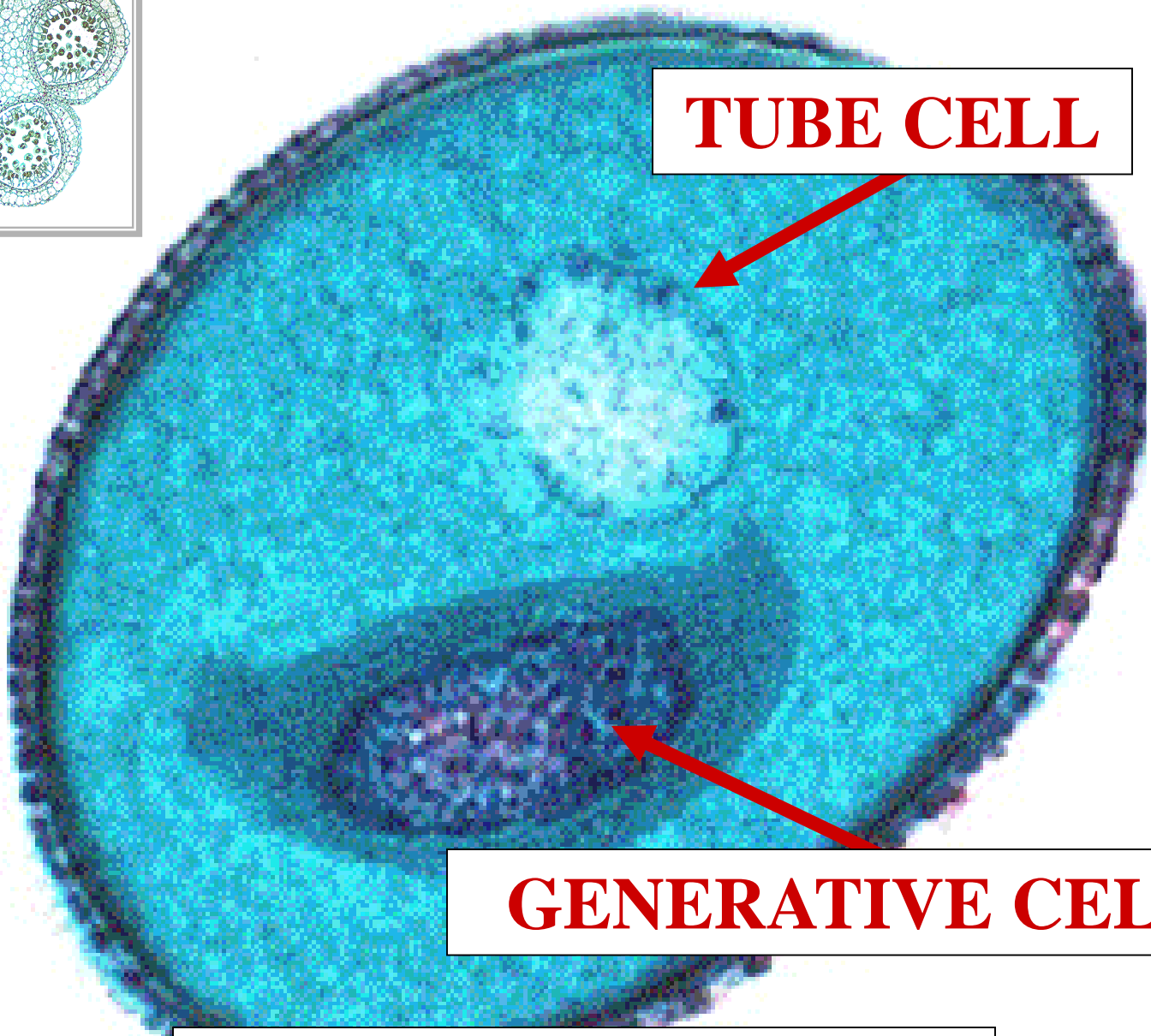
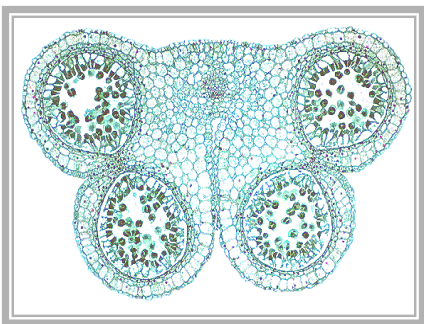
POLLEN GRAIN



POLLEN TUBE

L.S.

POLLEN GRAIN

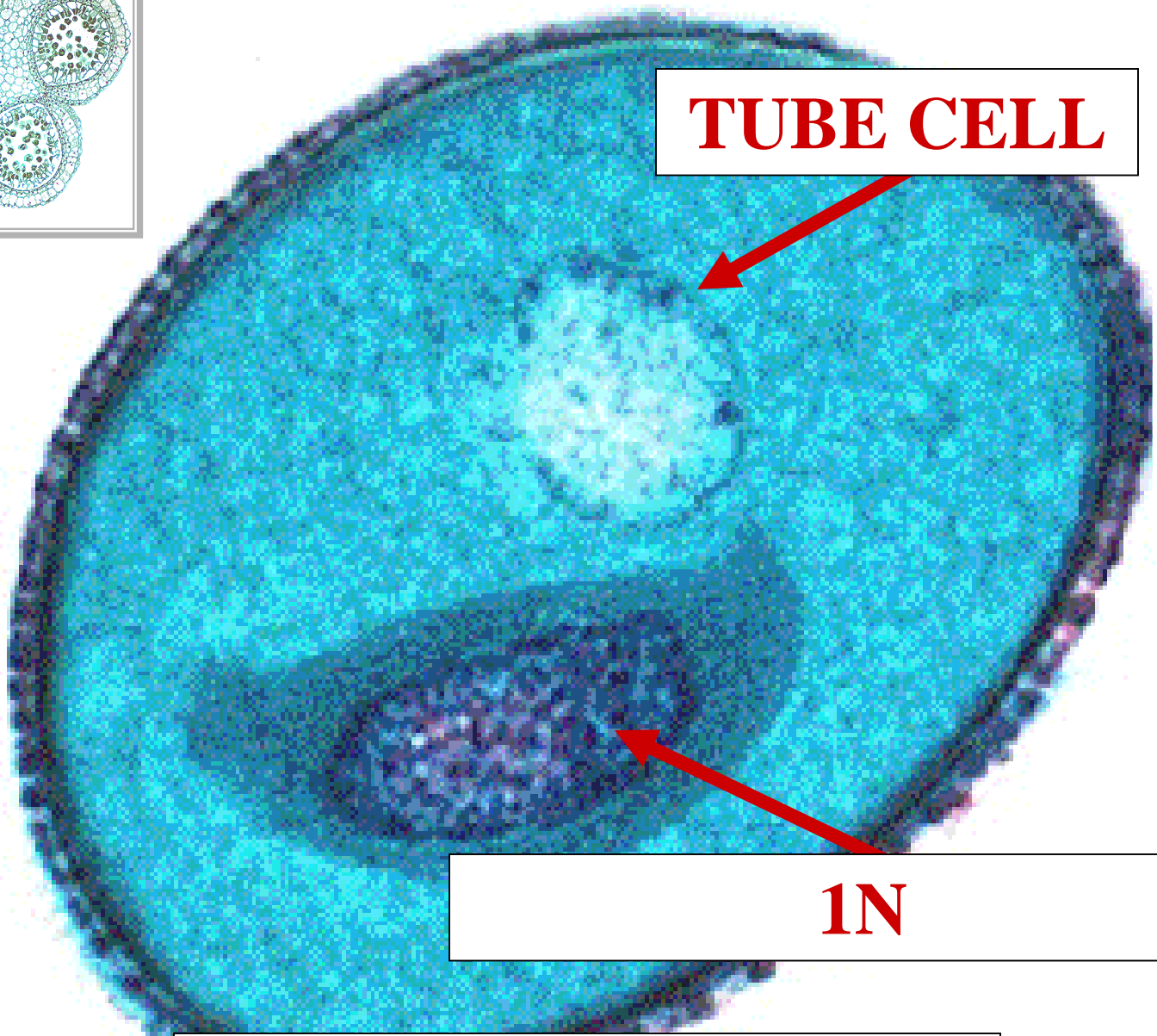
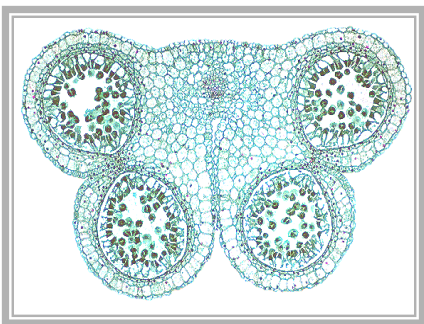


TUBE CELL

GENERATIVE CELL

L.S.

POLLEN GRAIN

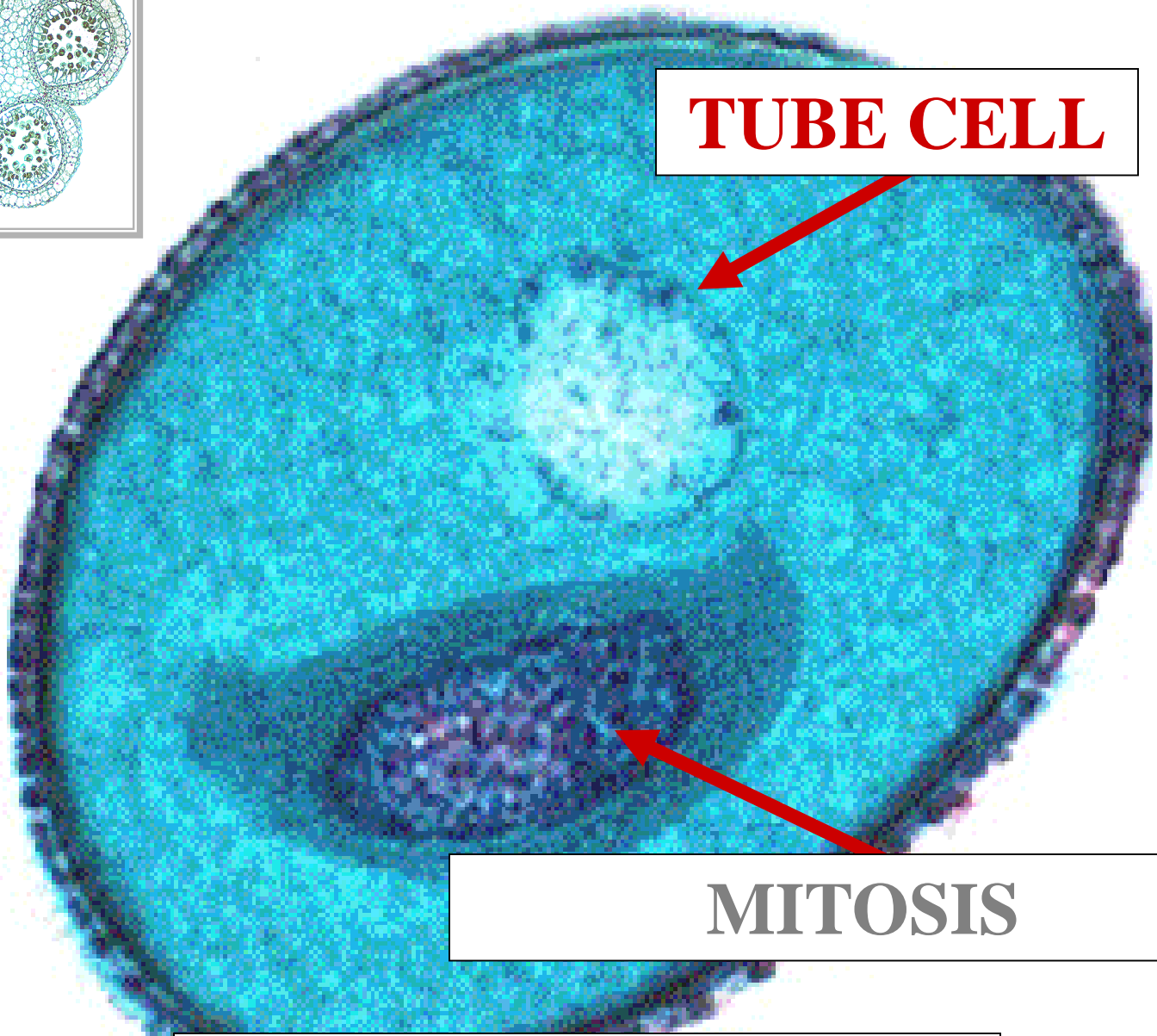
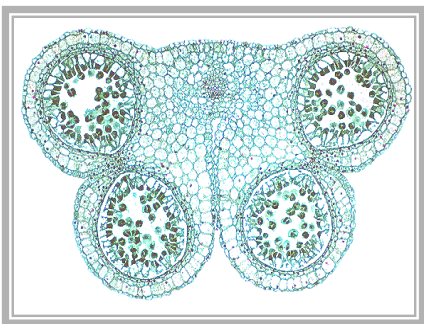


TUBE CELL

1N

L.S.

POLLEN GRAIN

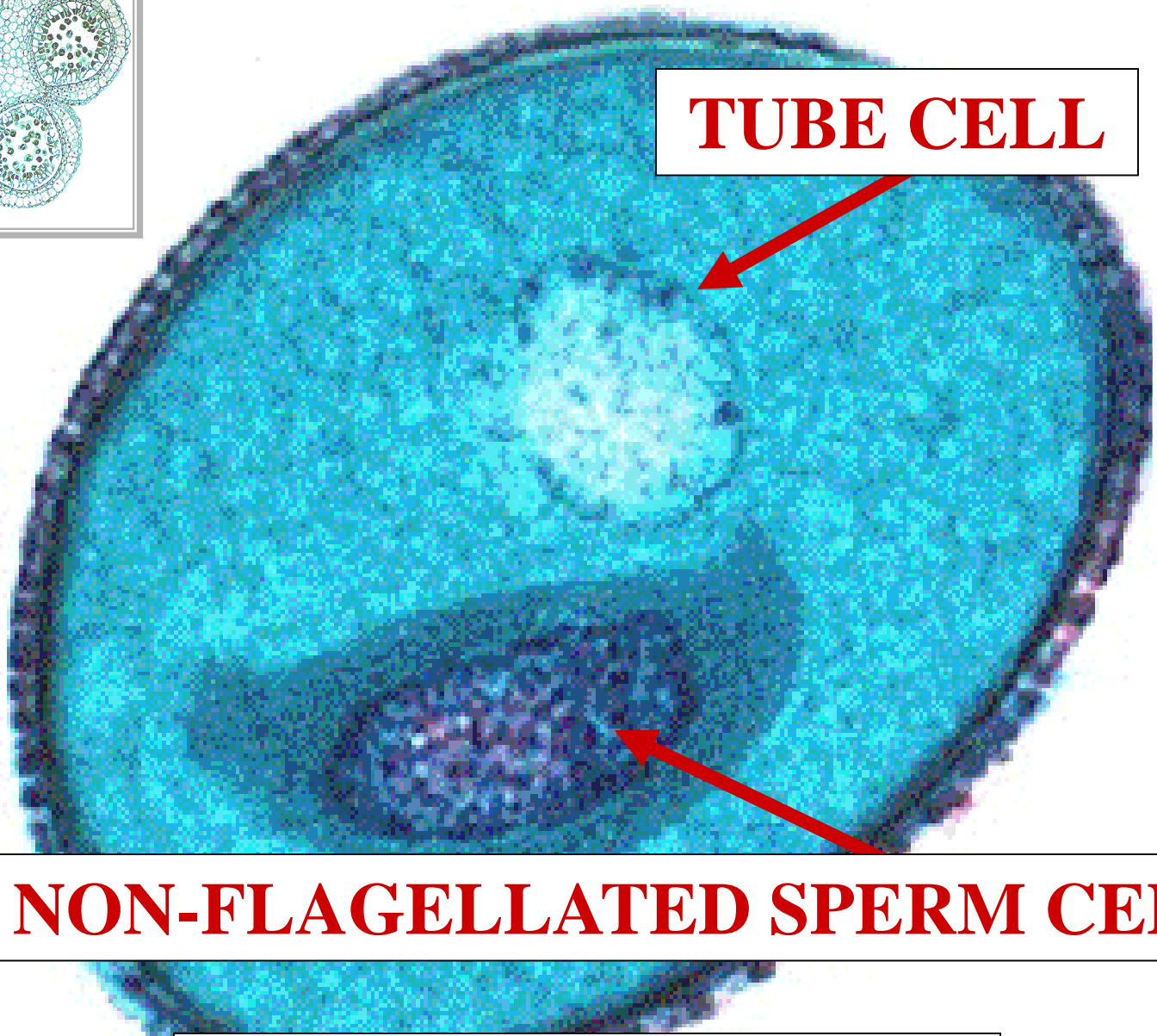
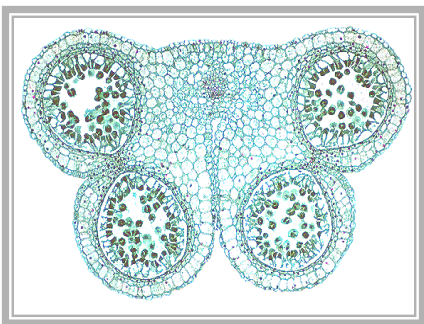


TUBE CELL

MITOSIS

L.S.

POLLEN GRAIN

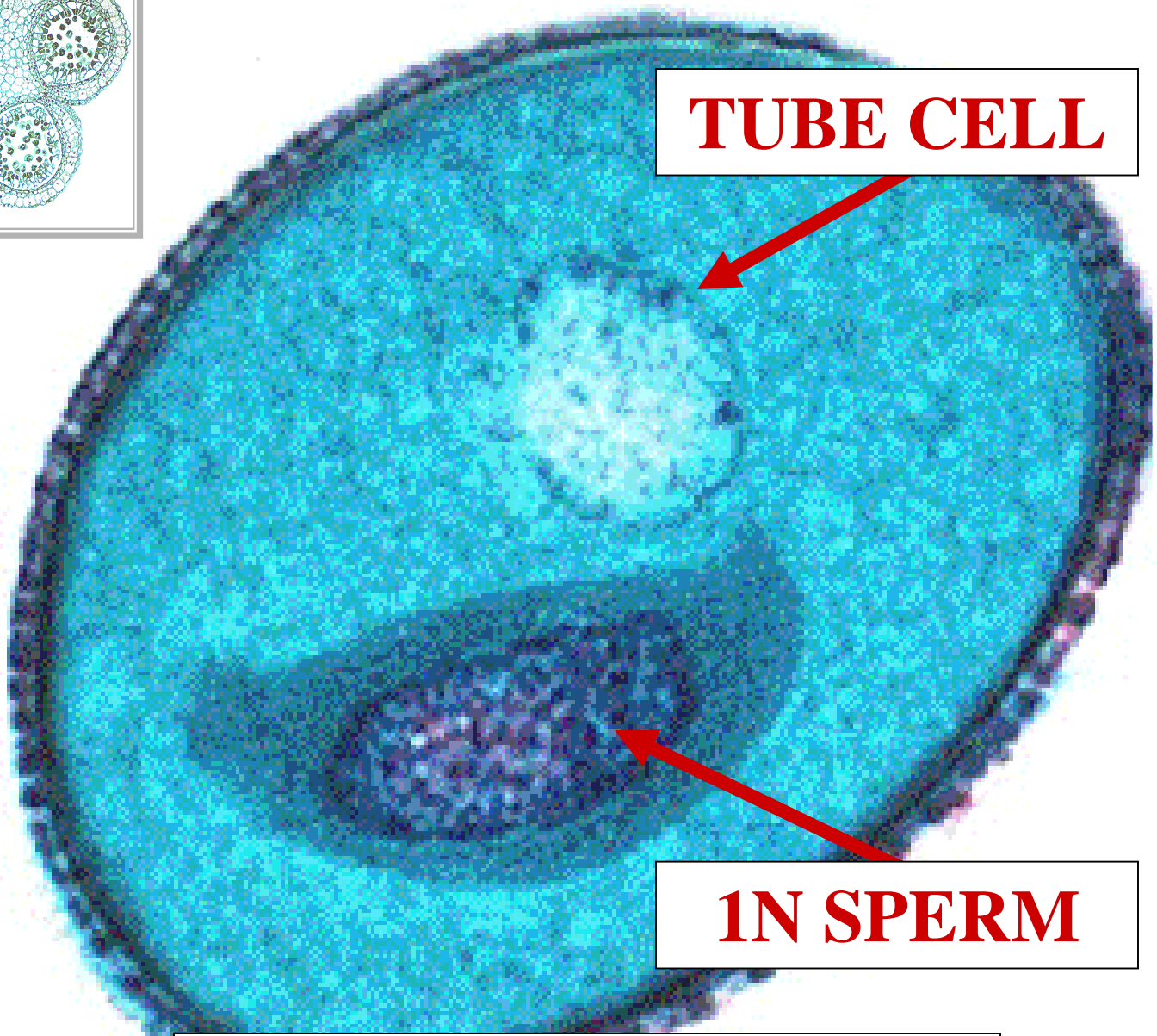
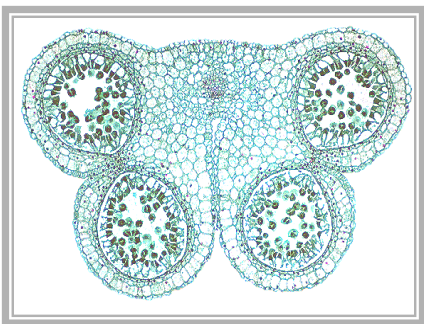


TUBE CELL

2 NON-FLAGELLATED SPERM CELLS

L.S.

POLLEN GRAIN



TUBE CELL

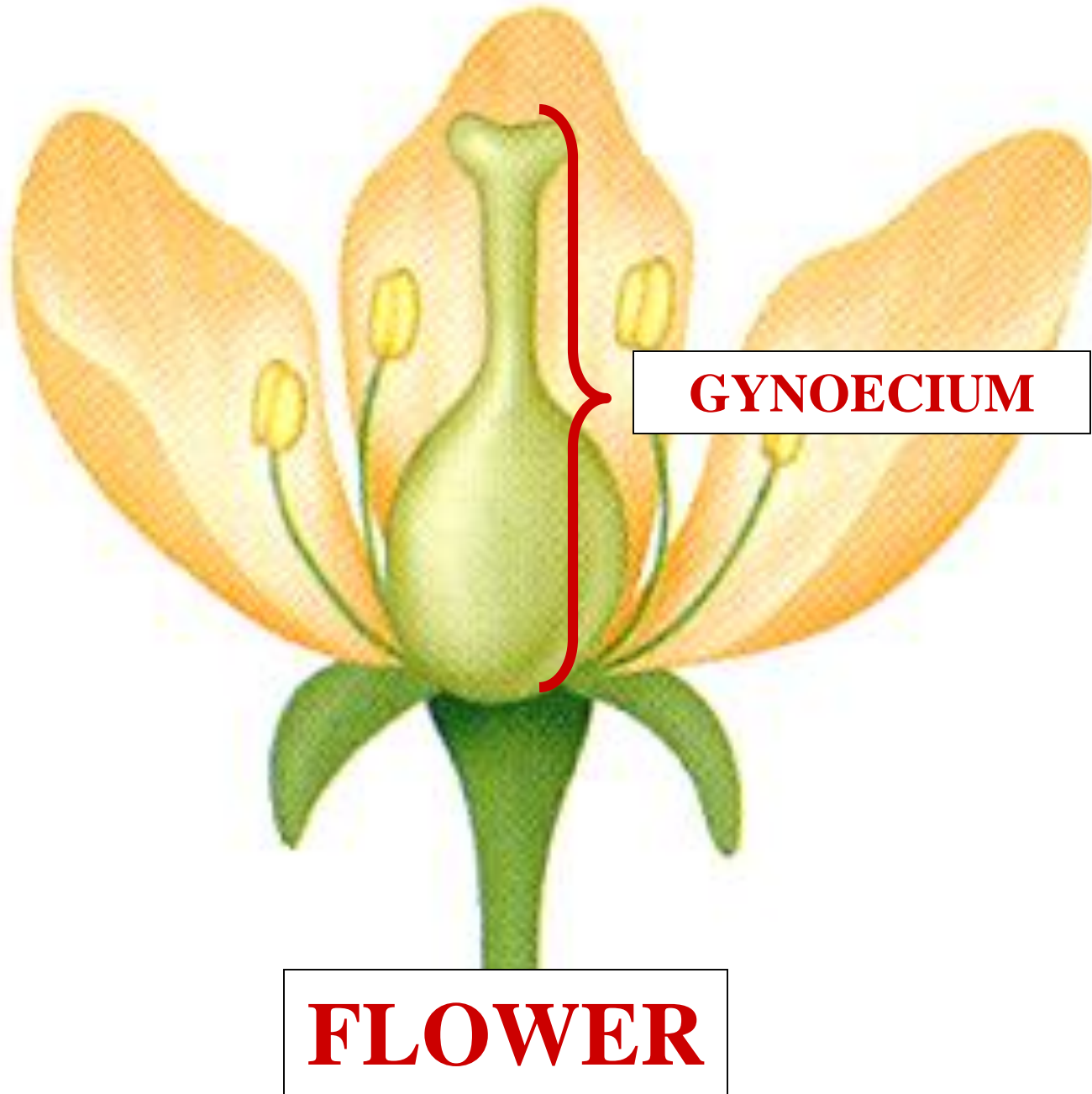
1N SPERM

L.S.

POLLEN GRAIN

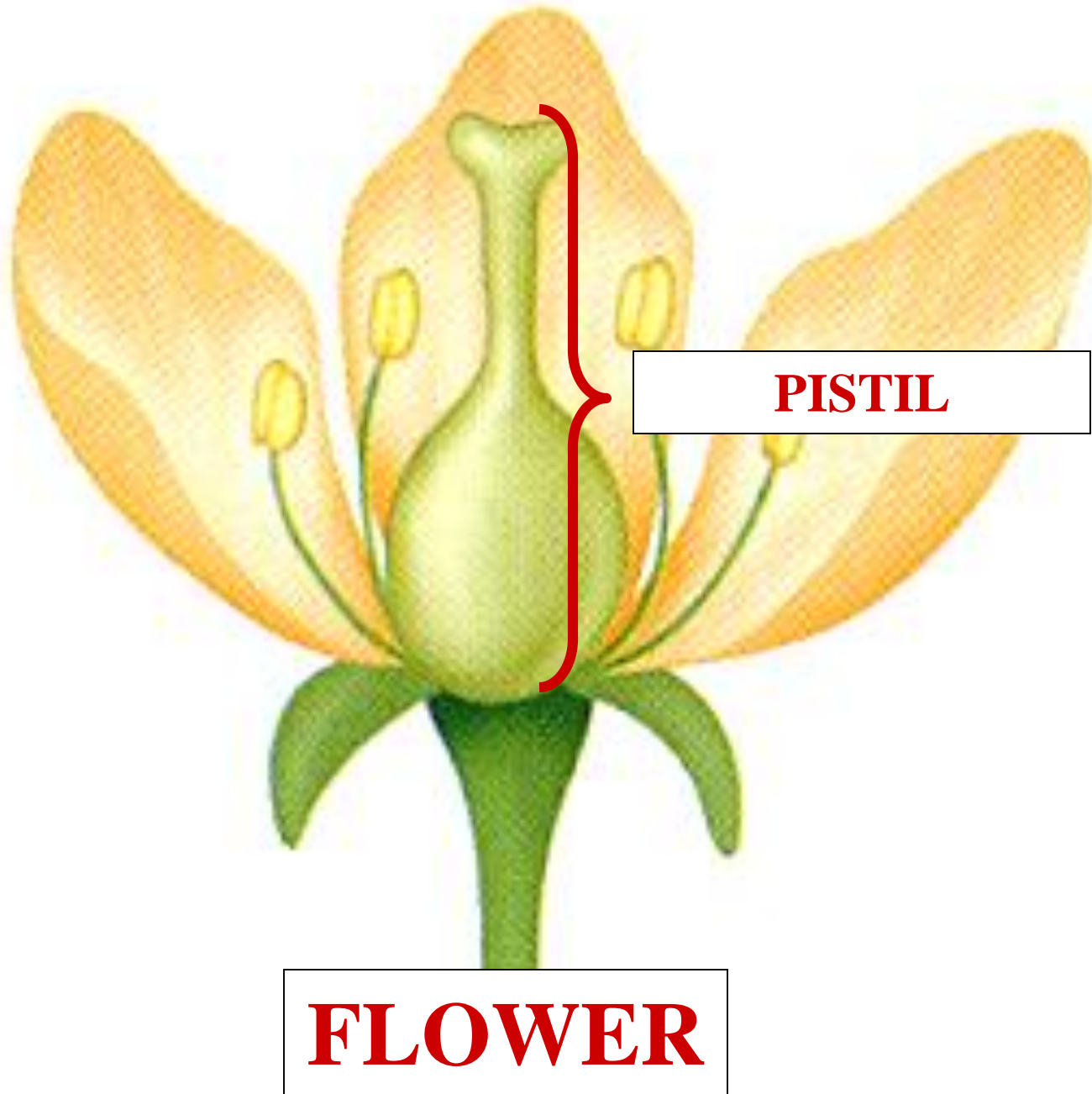


FLOWER



GYNOECIUM

FLOWER



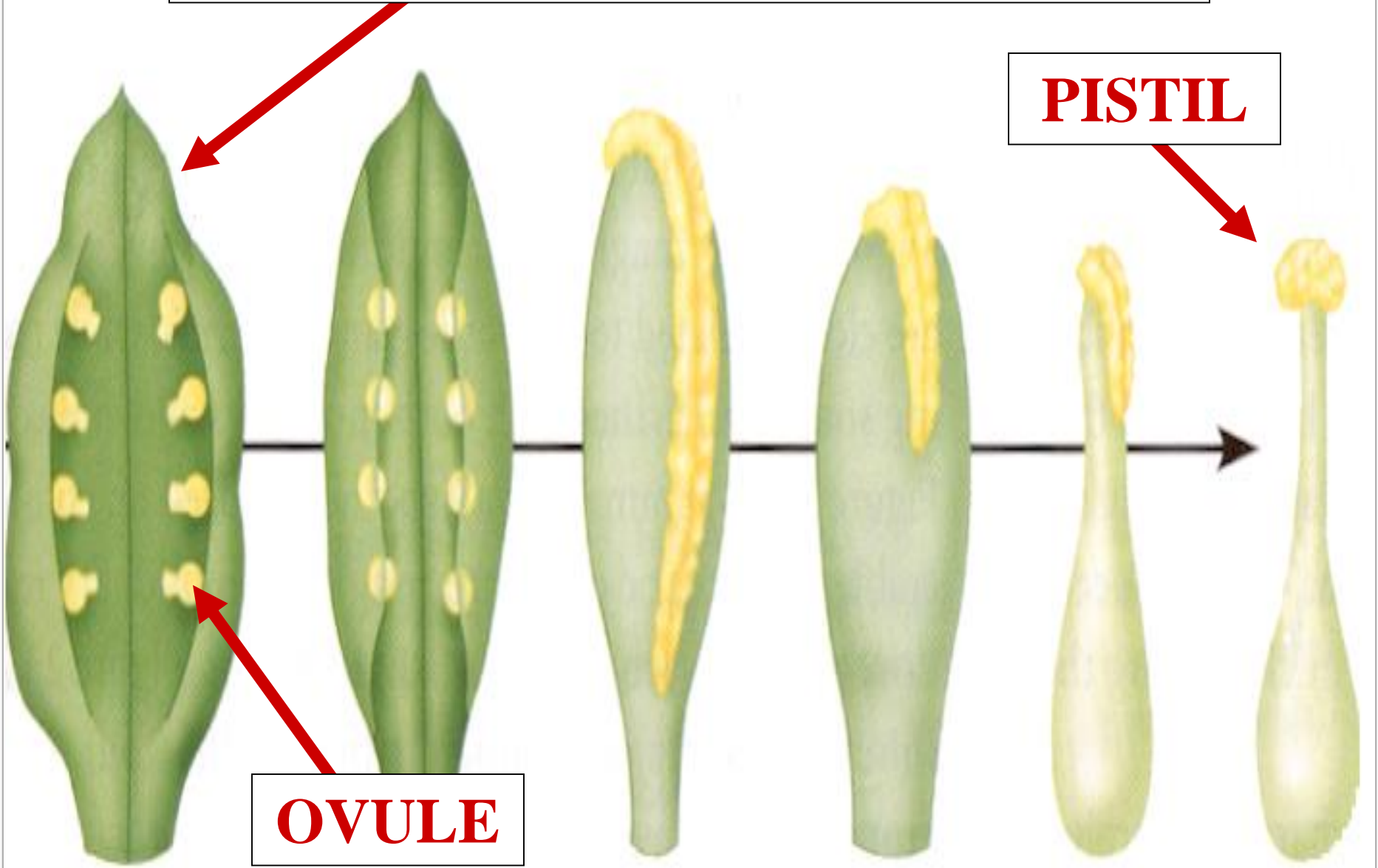
PISTIL

FLOWER

LEAF

PISTIL

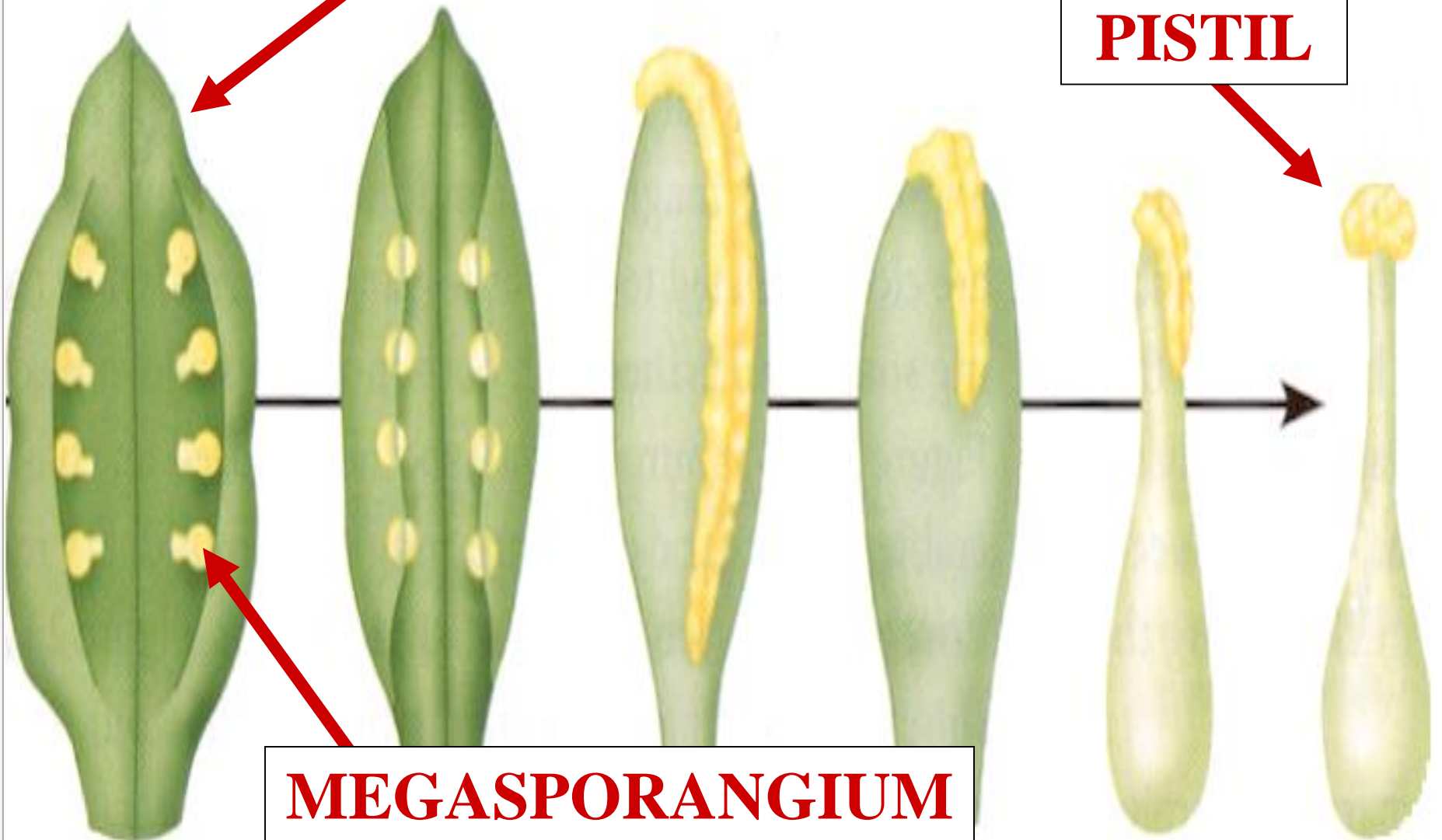
OVULE



LEAF

PISTIL

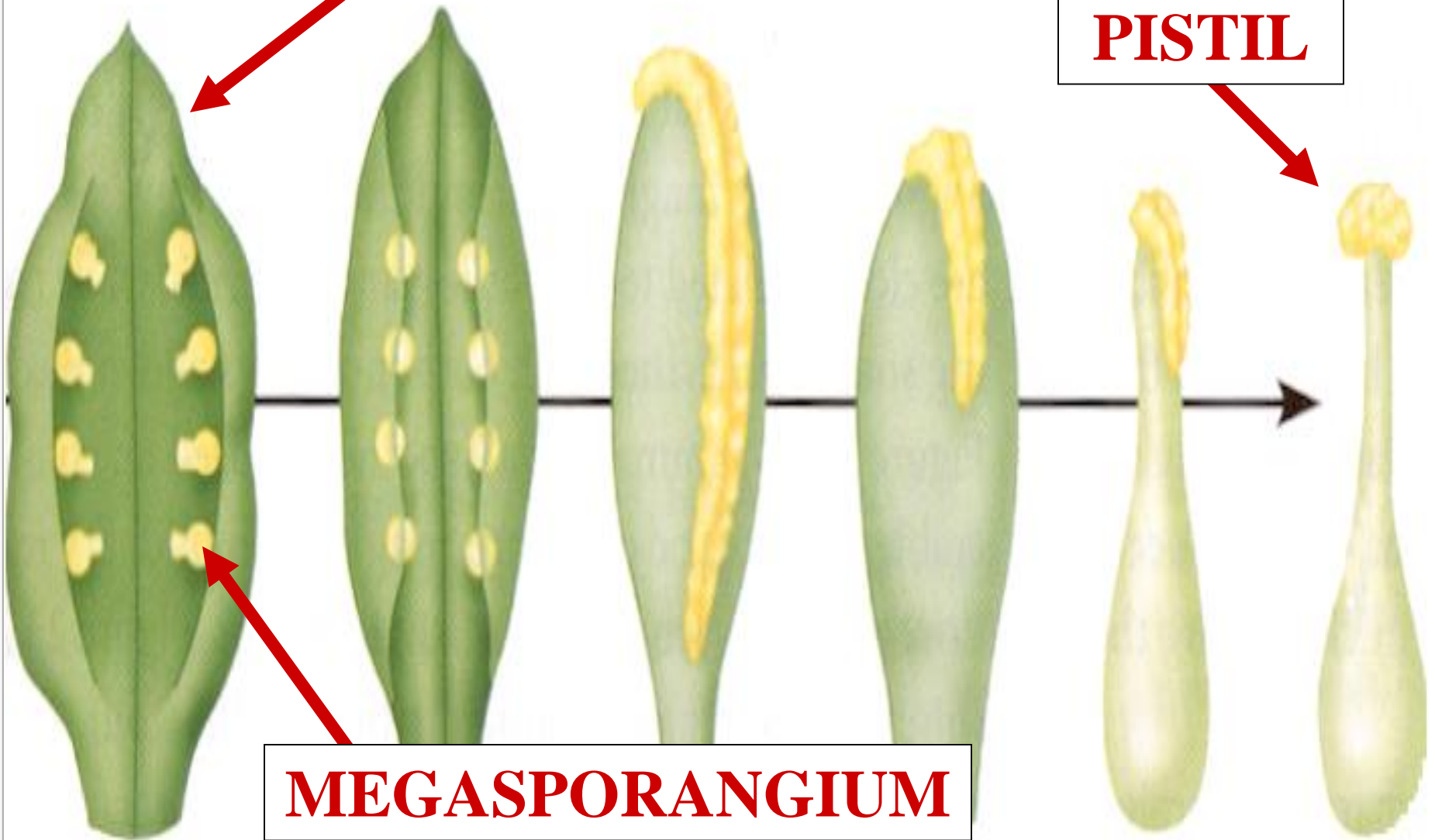
MEGASPORANGIUM



MEGASPOROPHYLL

PISTIL

MEGASPORANGIUM

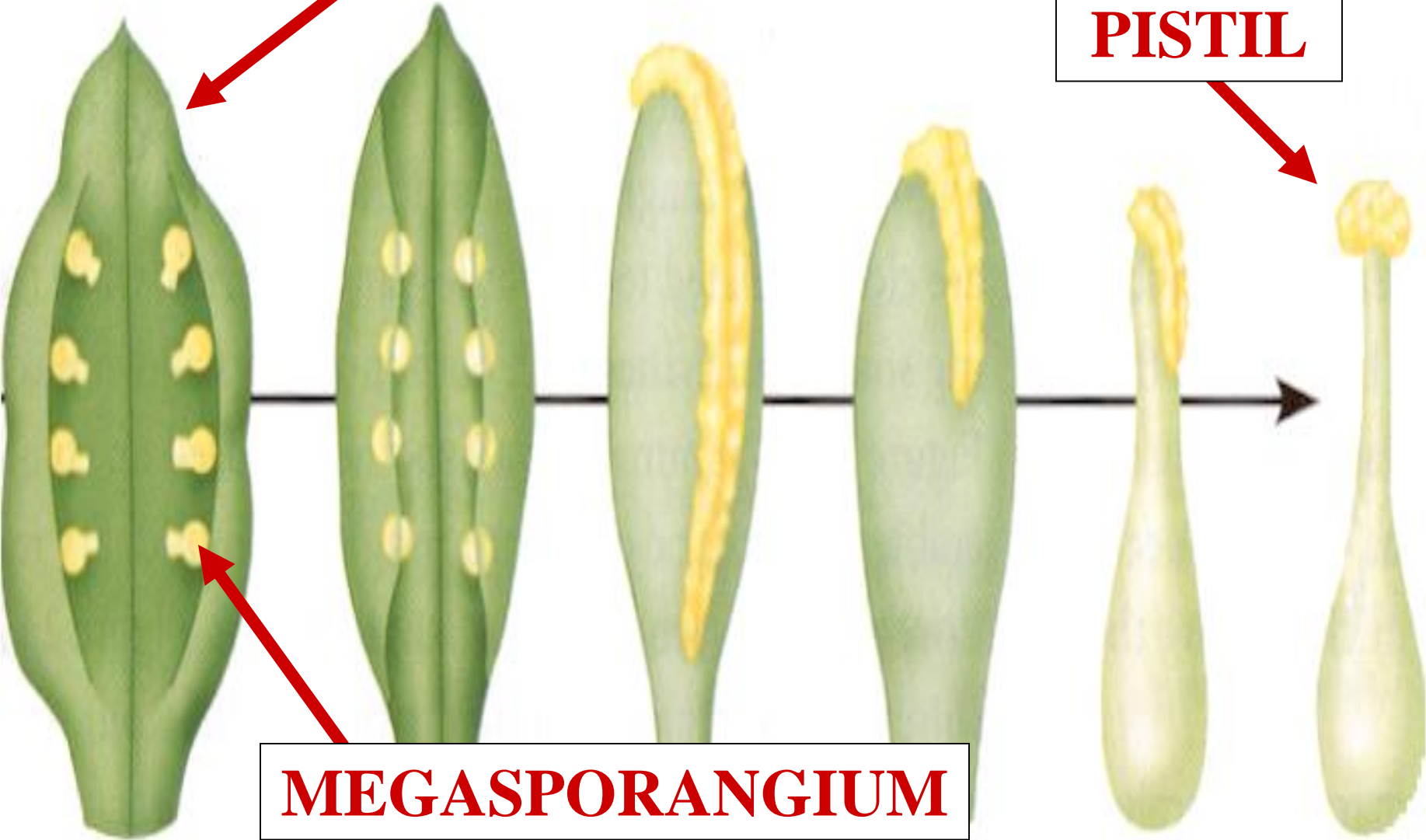


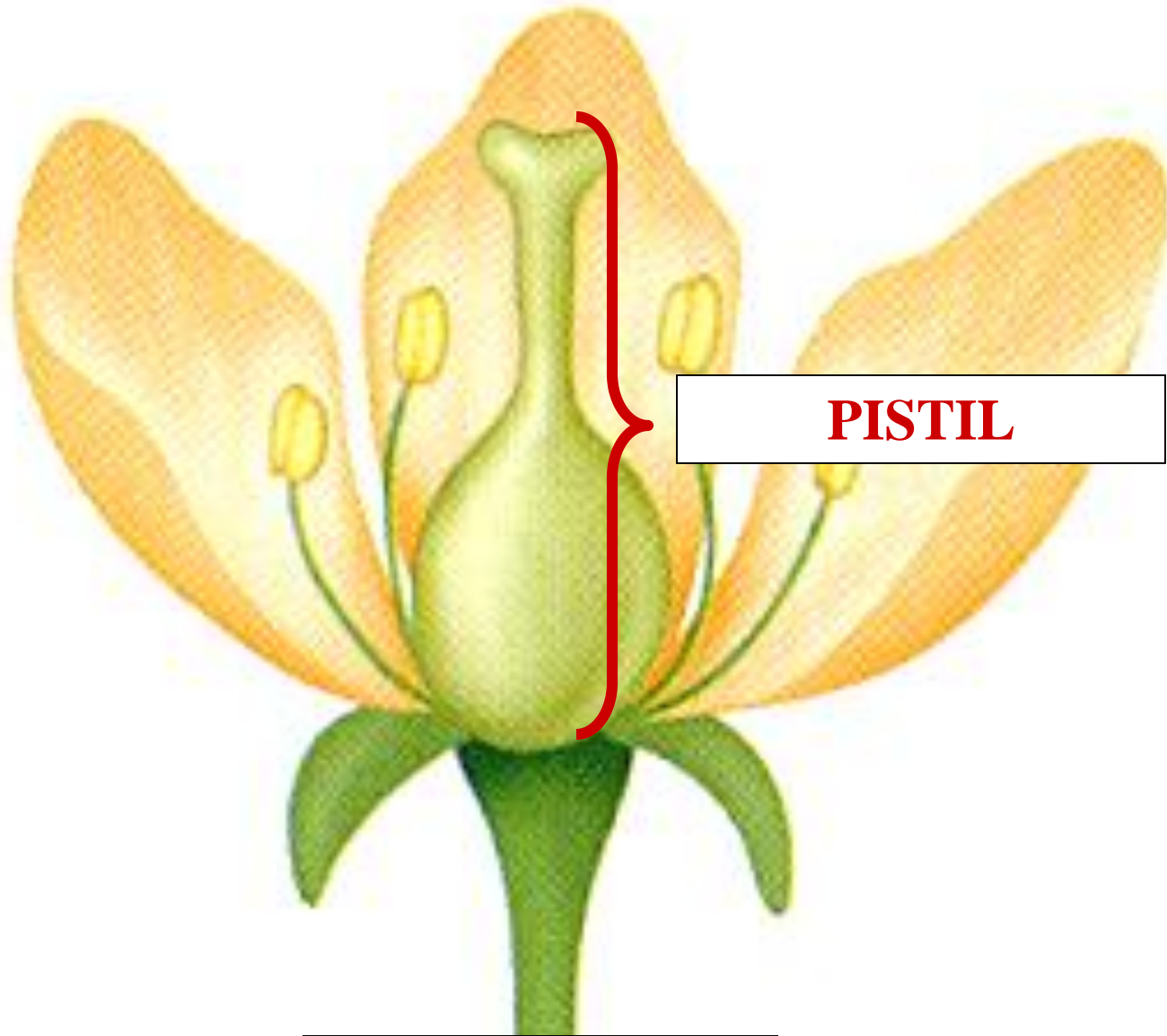


CARPEL

PISTIL

MEGASPORANGIUM

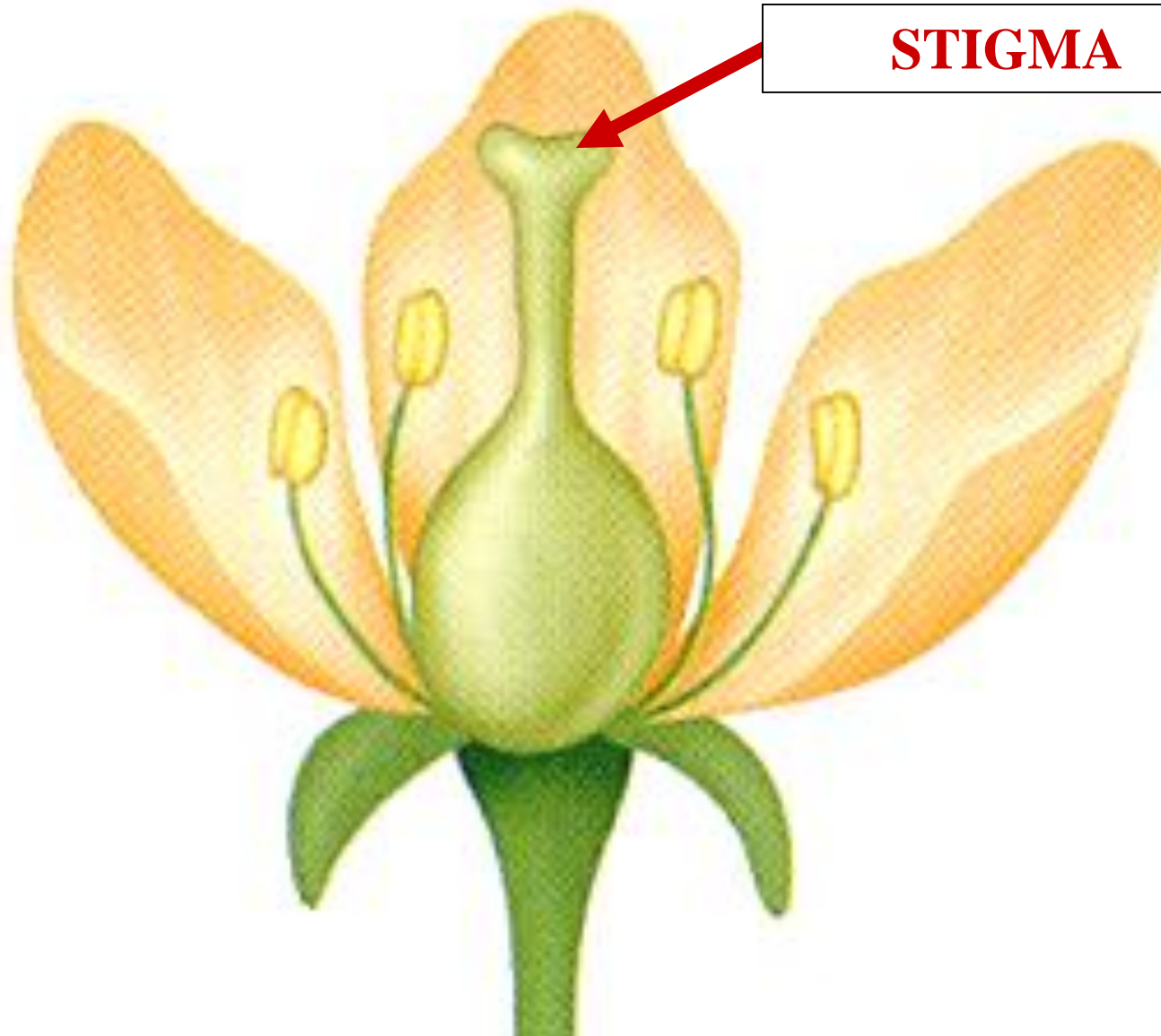




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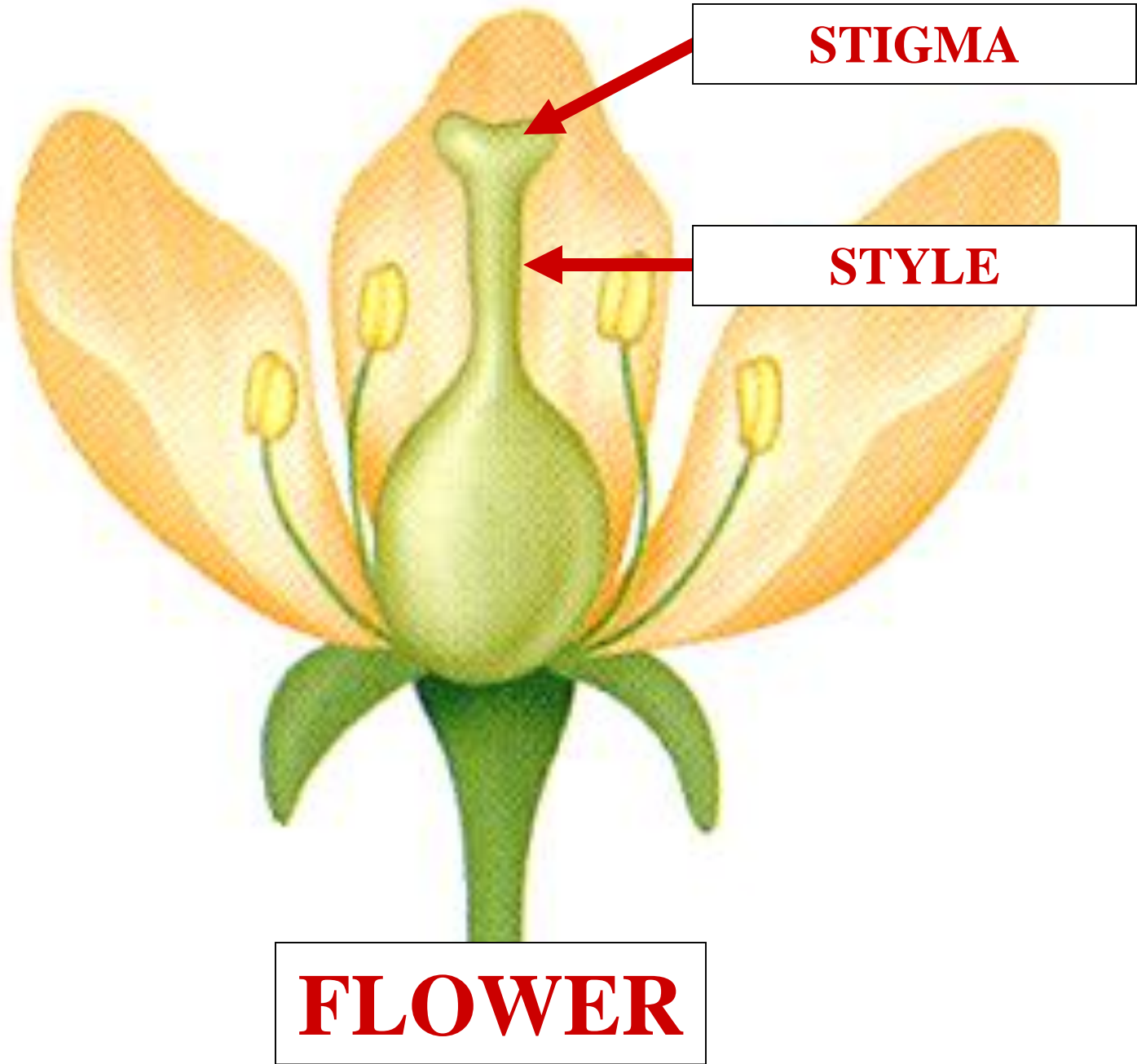
FLOWER

L.S.



STIGMA

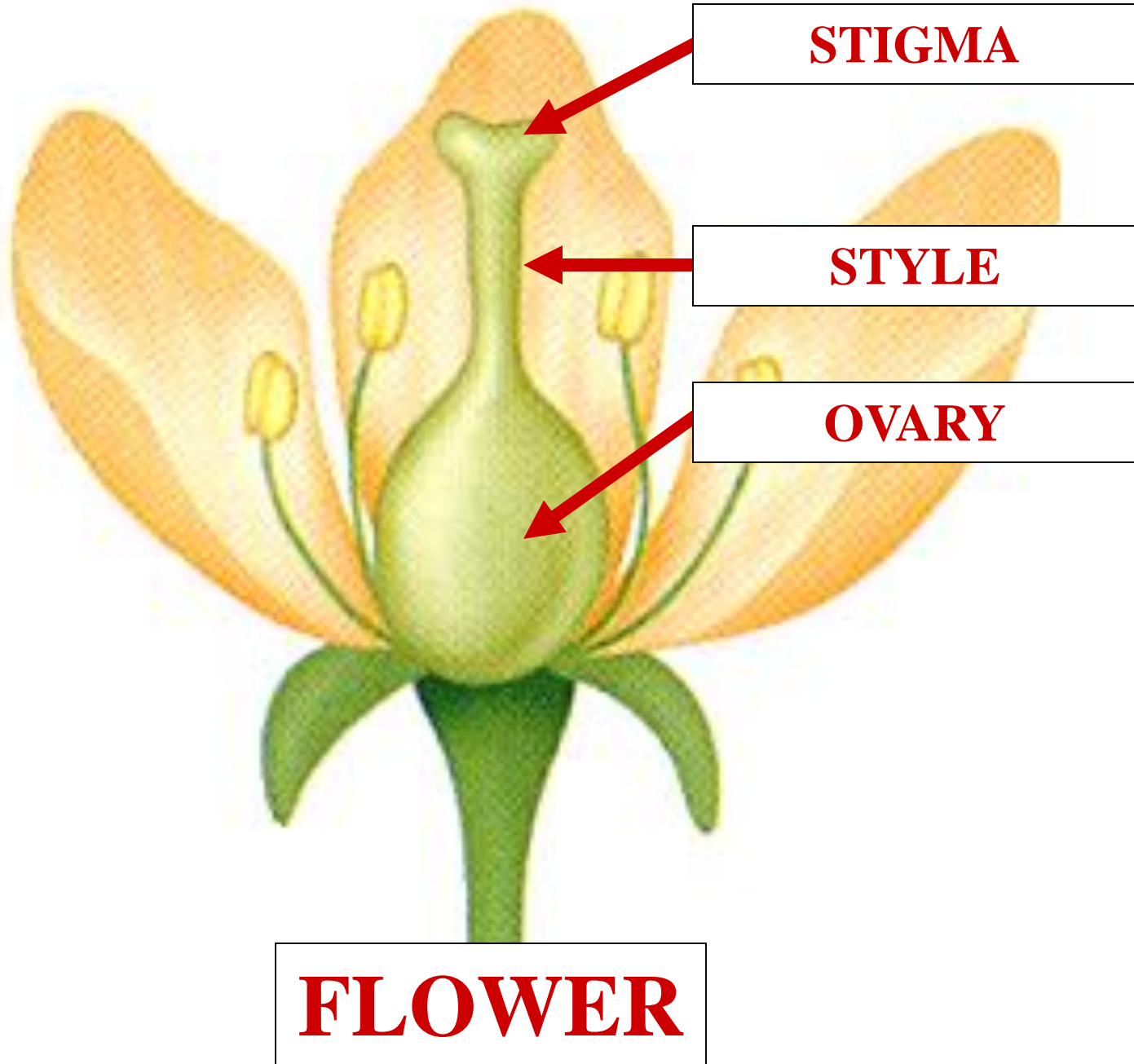
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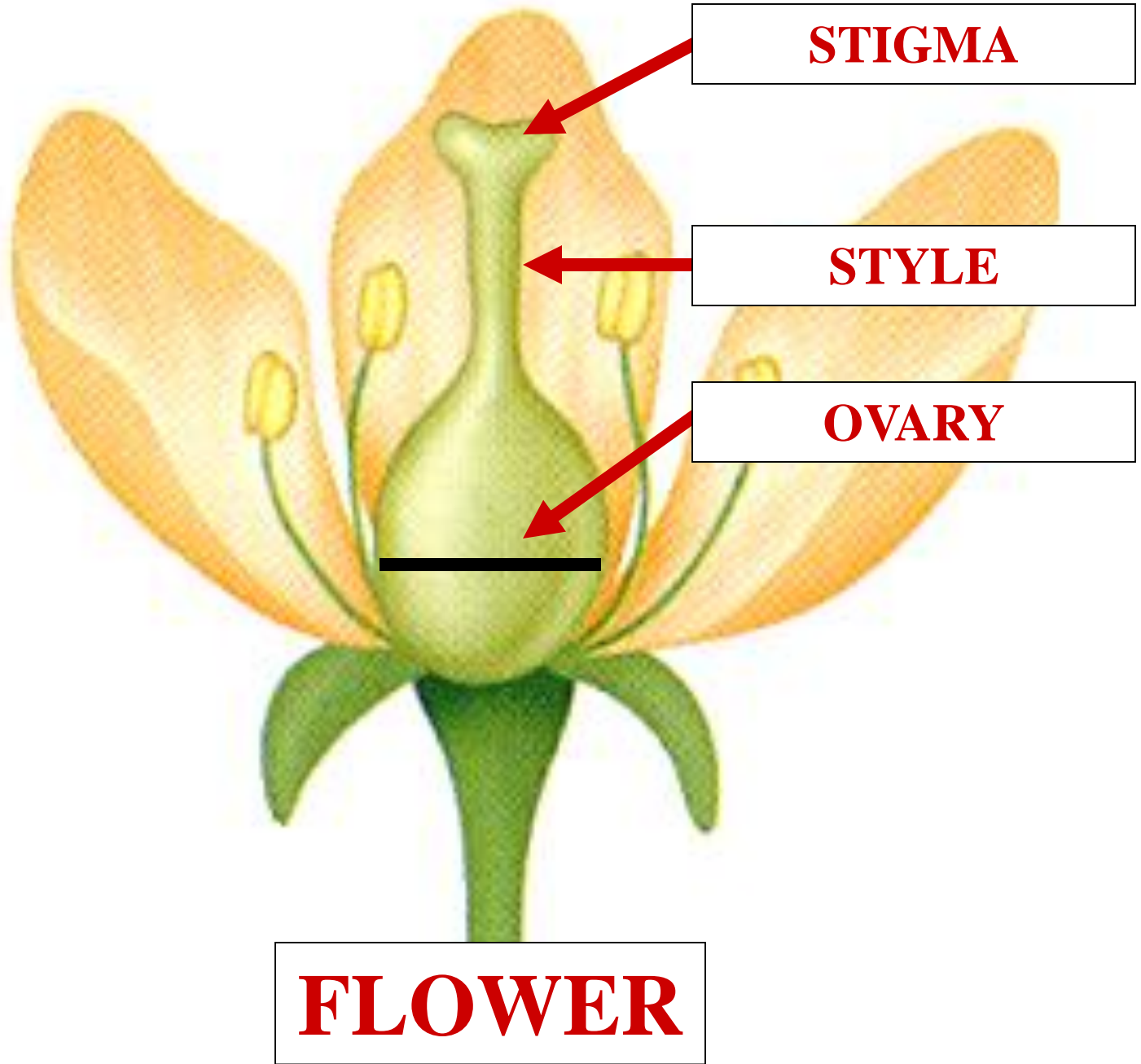


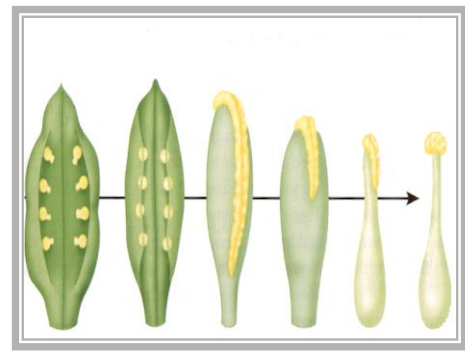
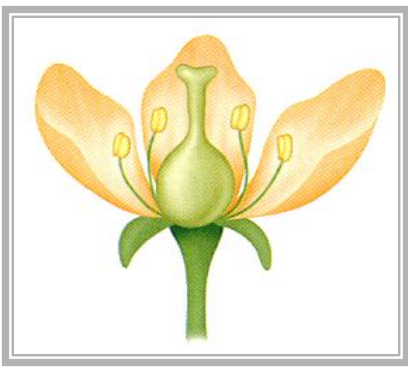
STIGMA

STYLE

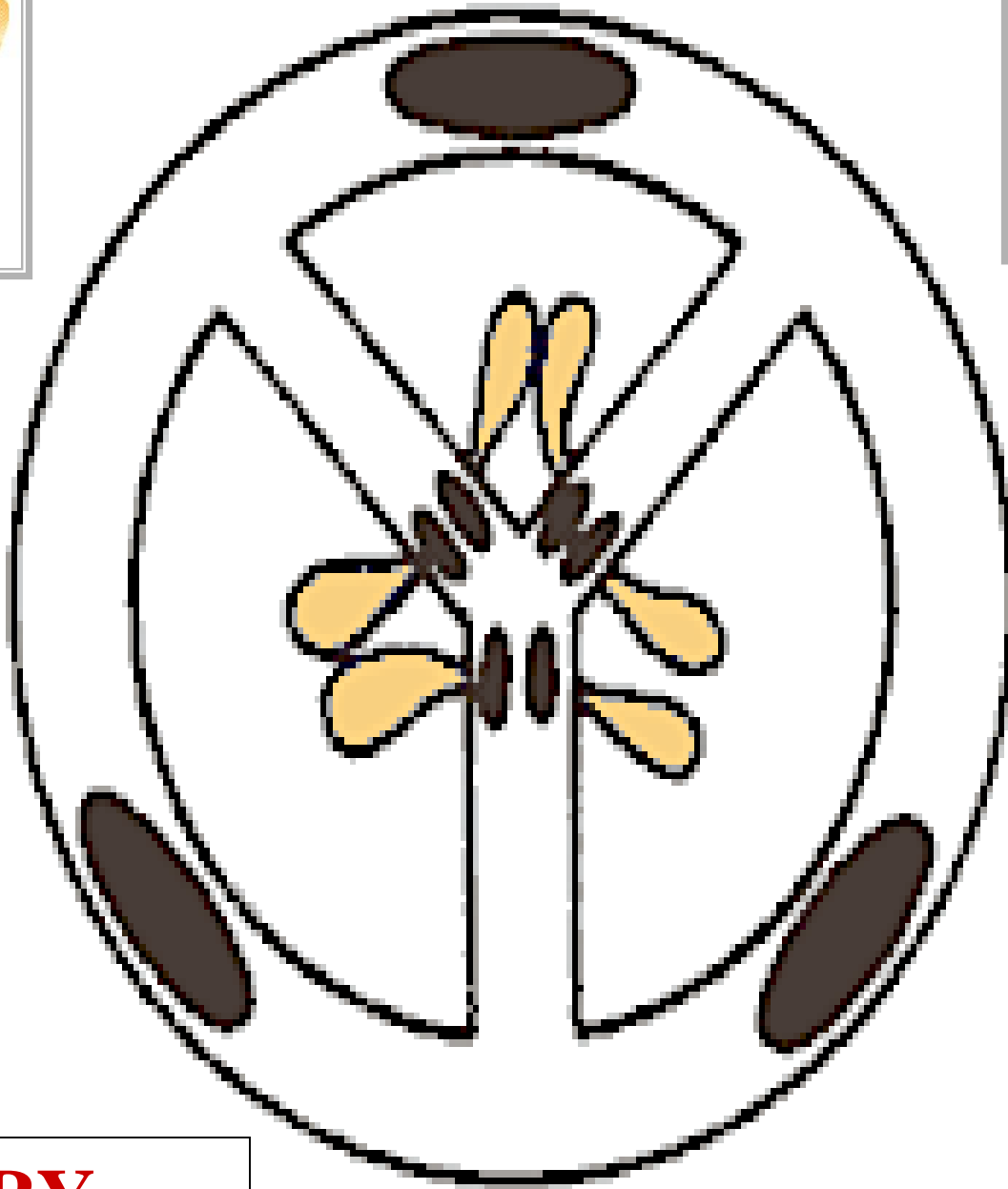
FLOWER





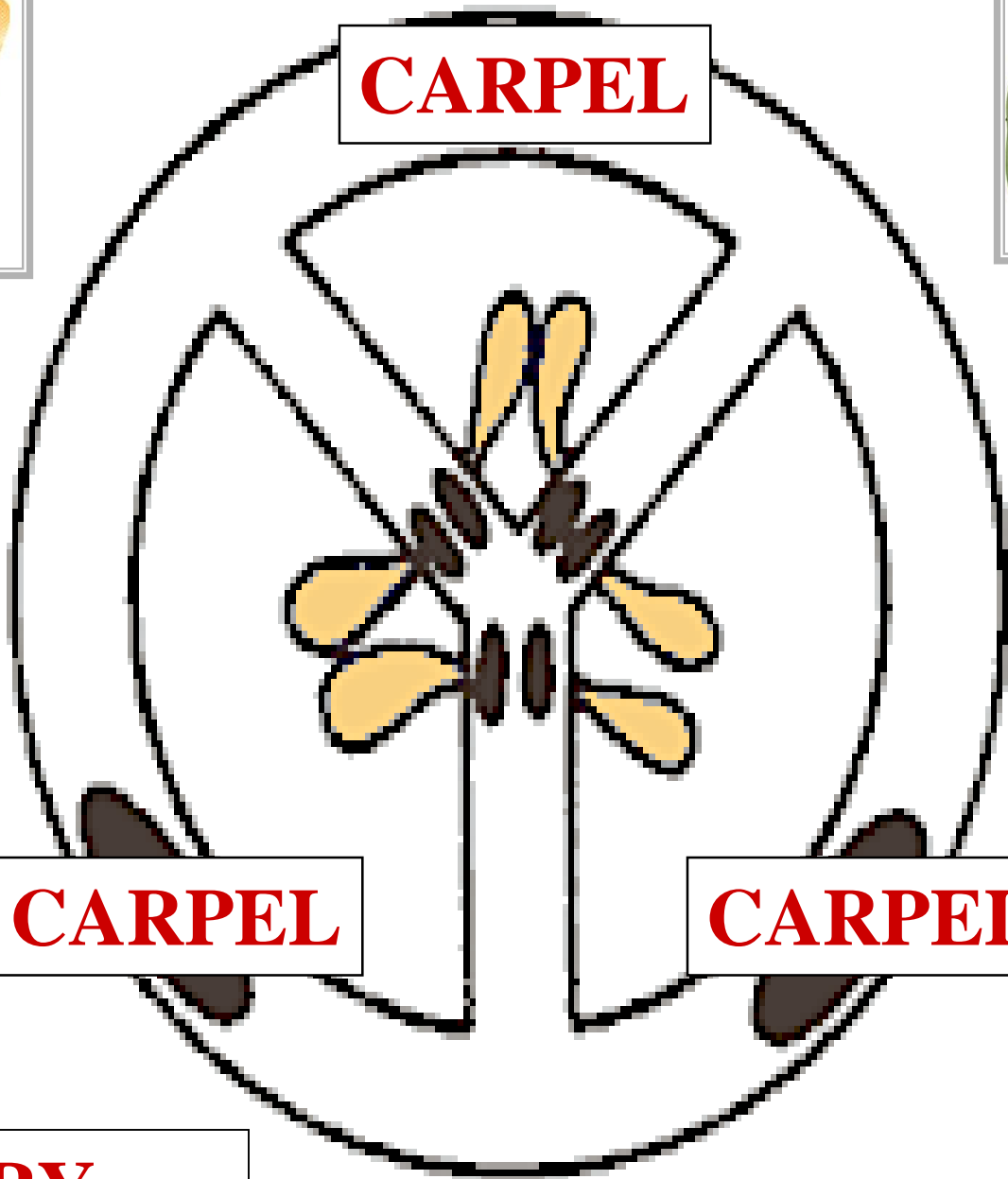
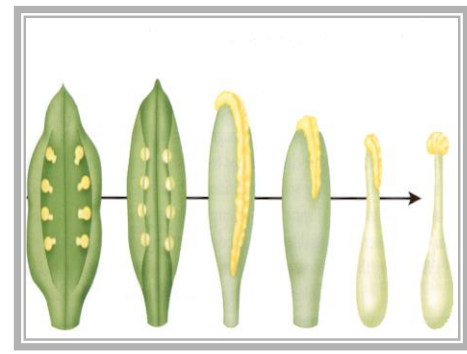
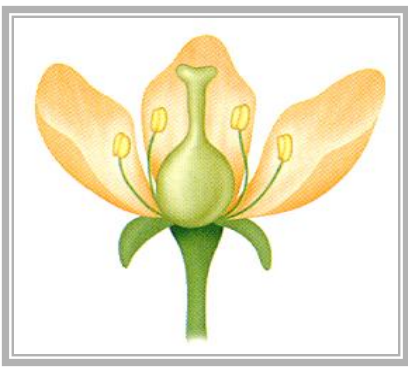


3C



OVARY

C.S.



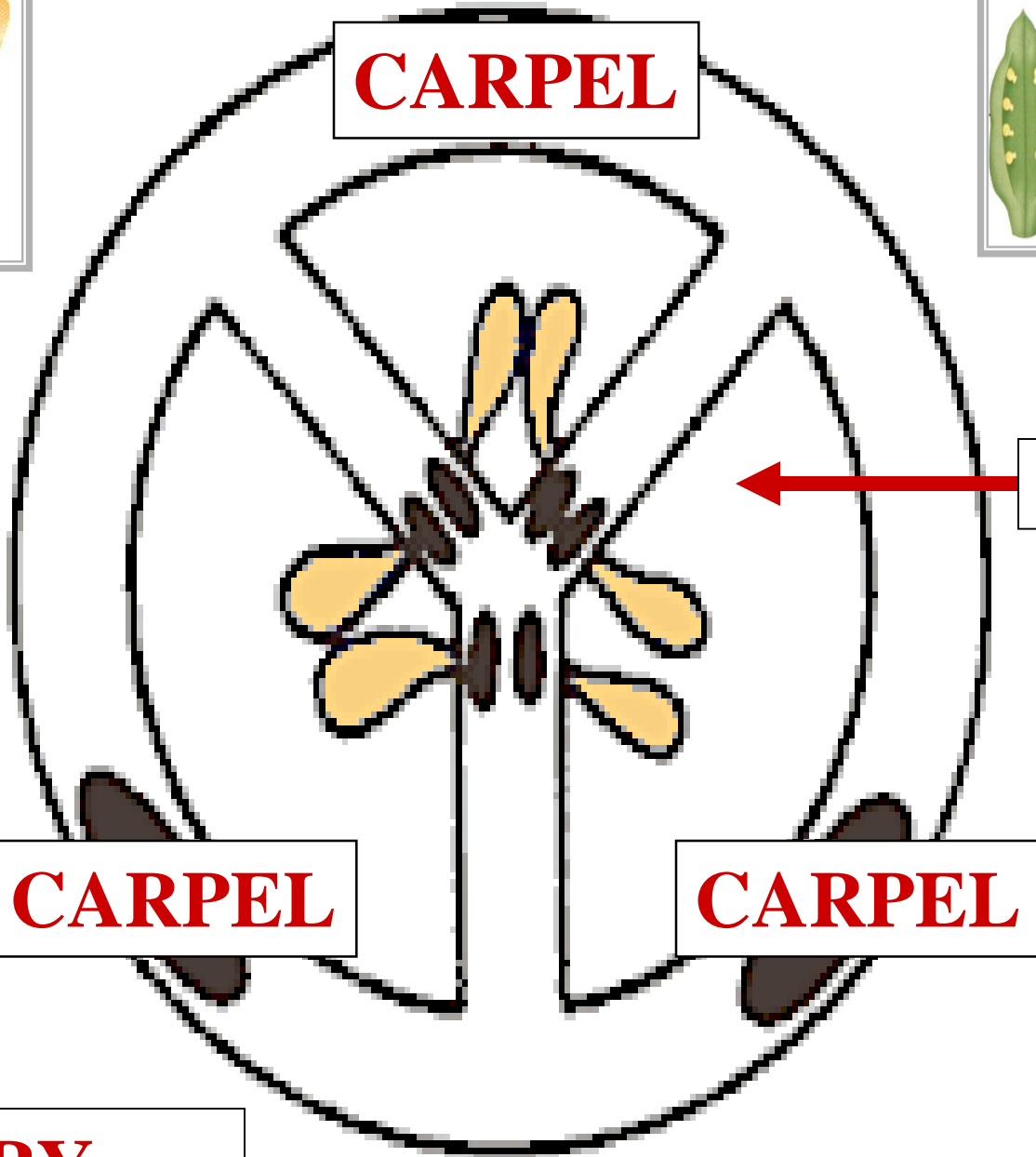
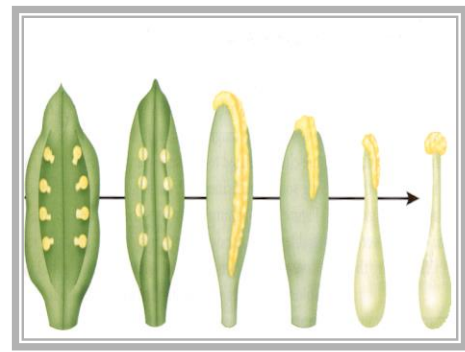
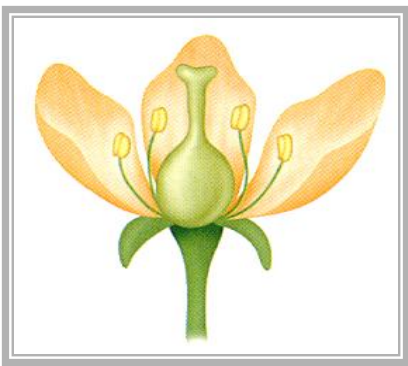
CARPEL

CARPEL

CARPEL

OVARY

C.S.



CARPEL

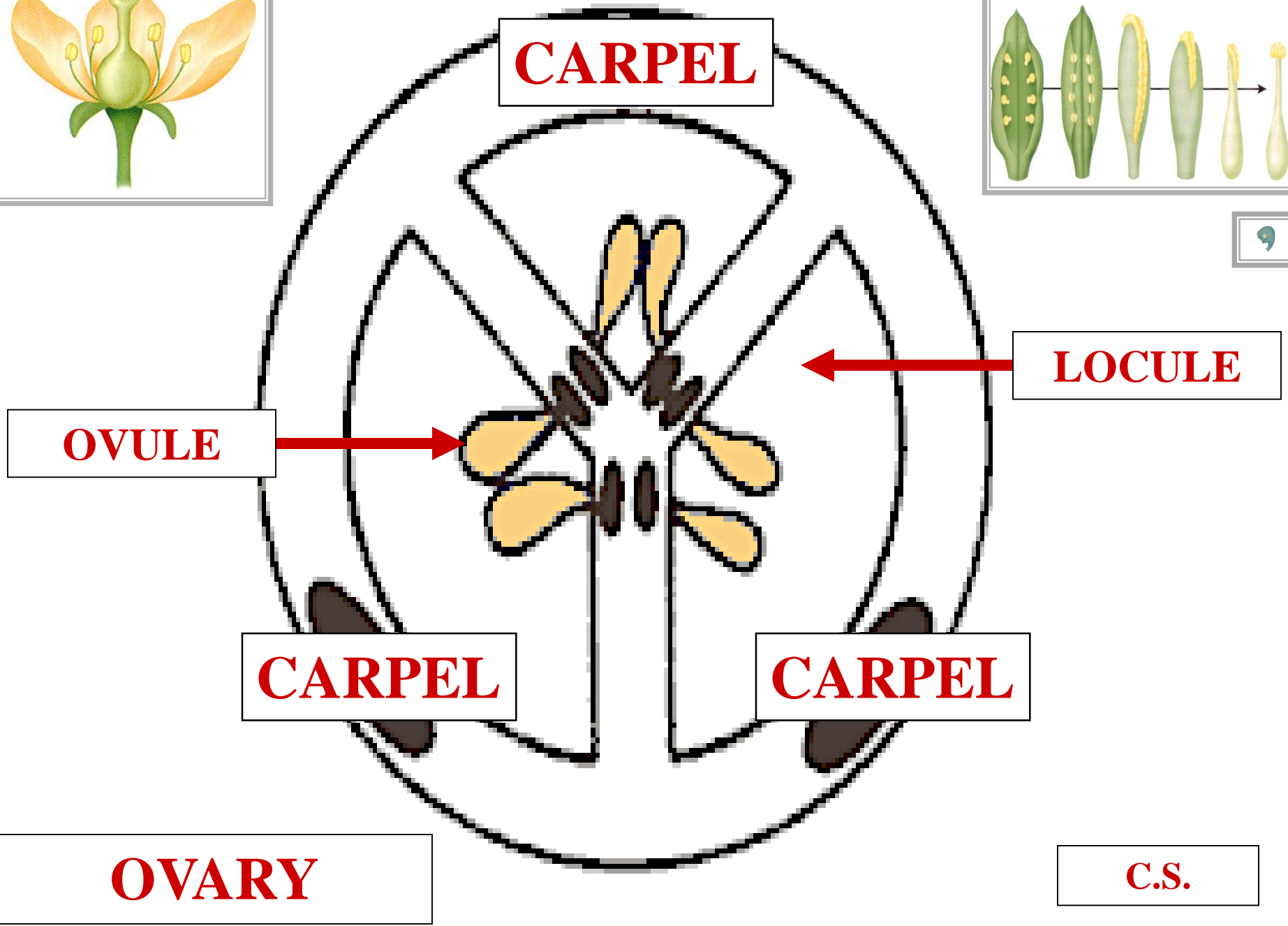
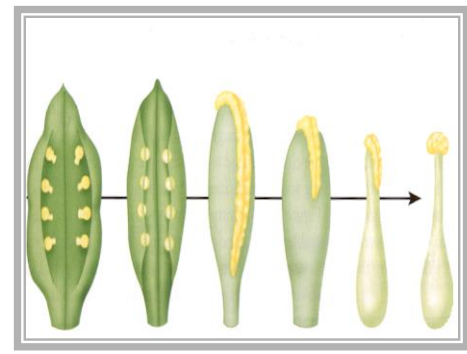
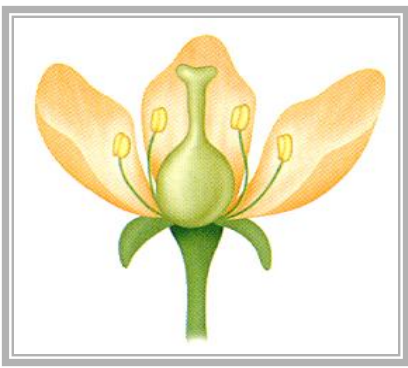
LOCULE

CARPEL

CARPEL

OVARY

C.S.



CARPEL

LOCULE

OVULE

CARPEL

CARPEL

OVARY

C.S.



OVULE



L.S.



OVULE

L.S.

INTEGUMENT





MEGASPORANGIUM

OVULE



L.S.



OVULE

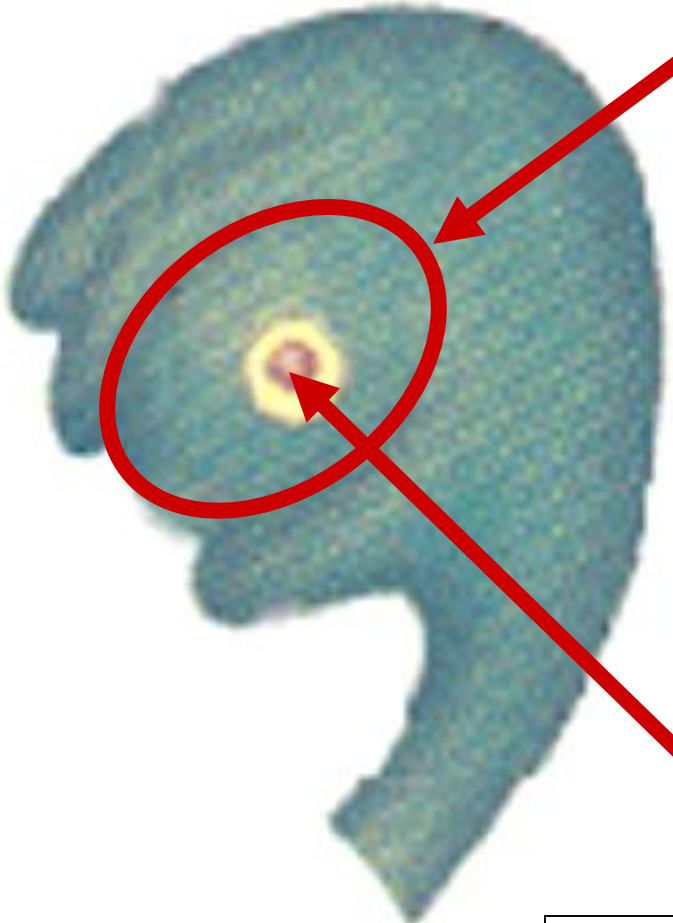


NUCELLUS

L.S.



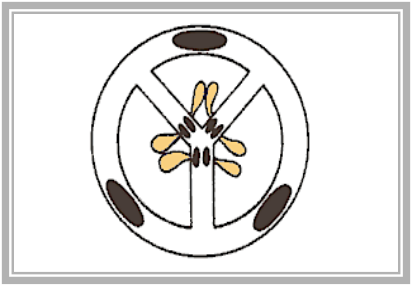
OVULE



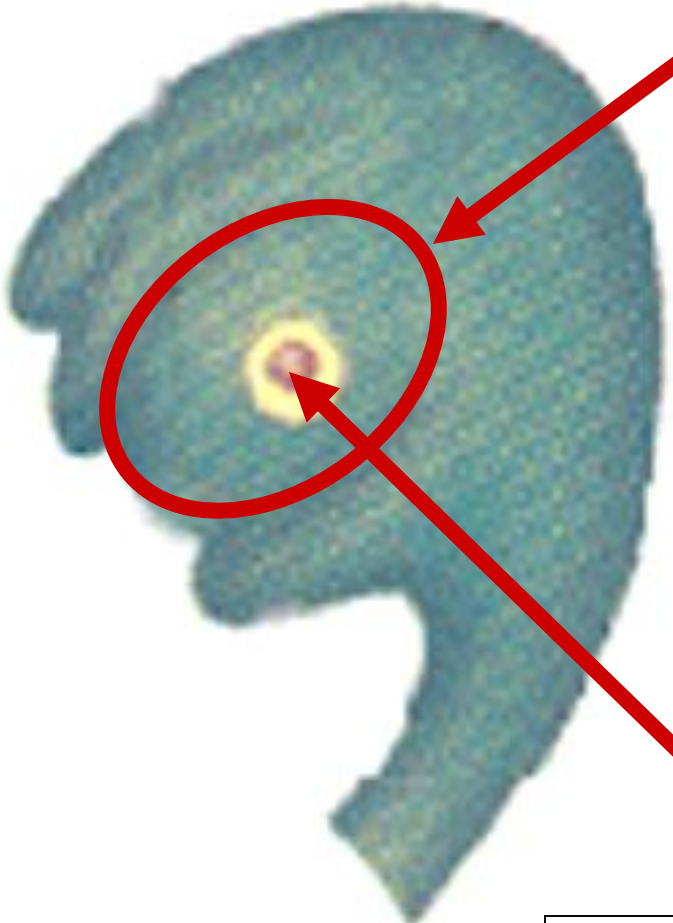
MEGASPORANGIUM

MEGASPOROCYTE

L.S.



OVULE



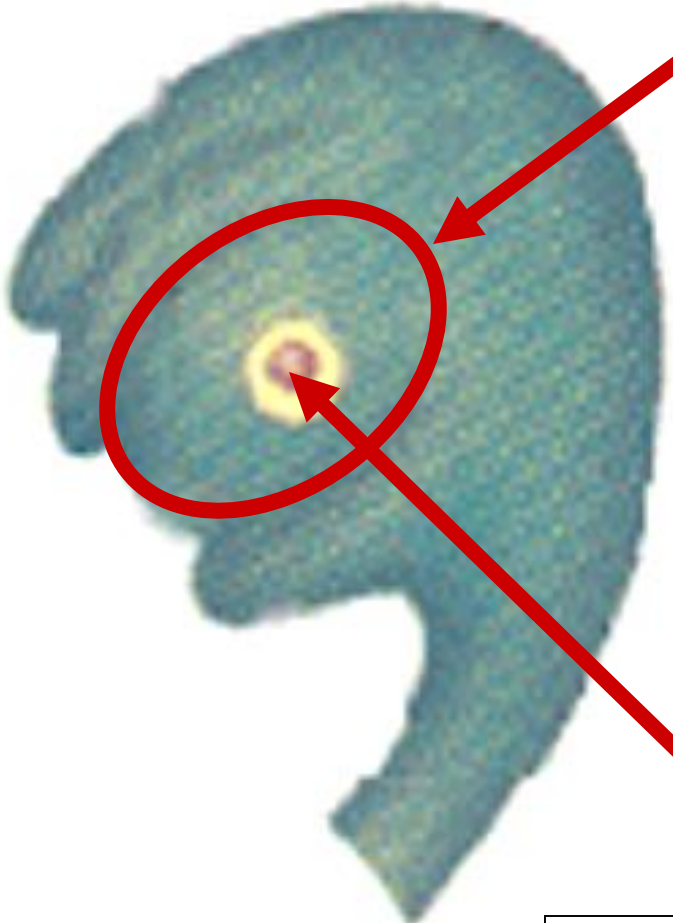
MEGASPORANGIUM

2N

L.S.



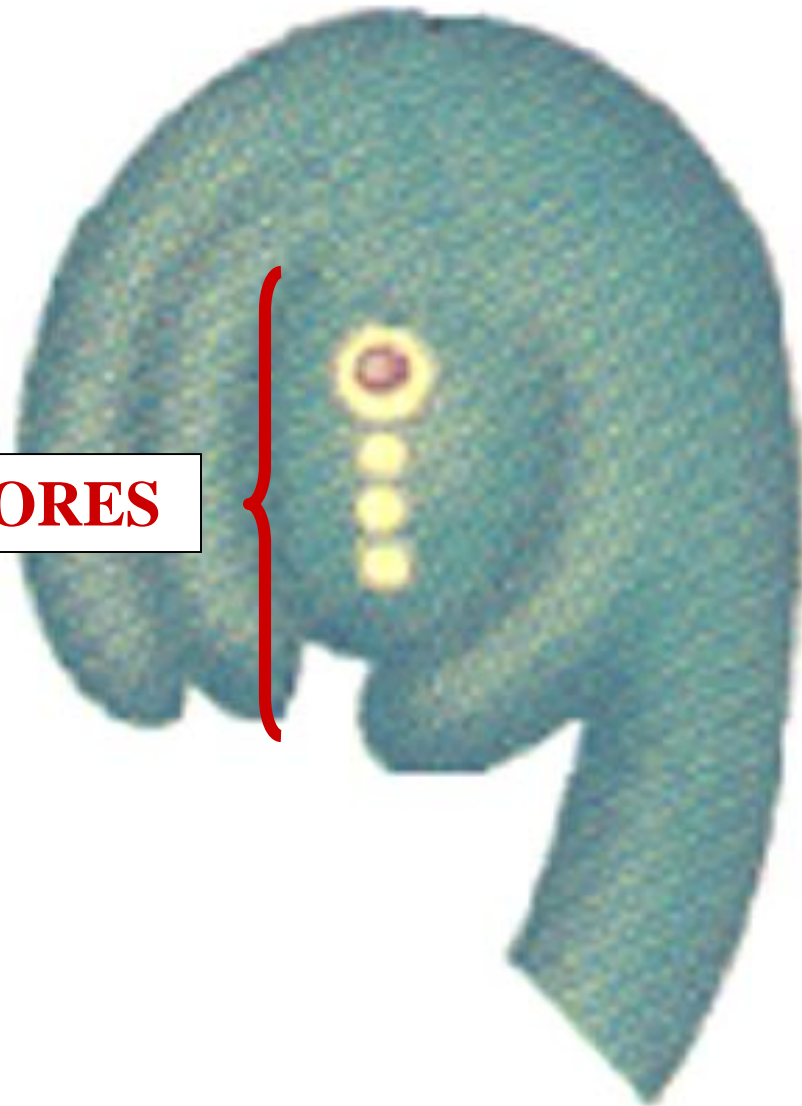
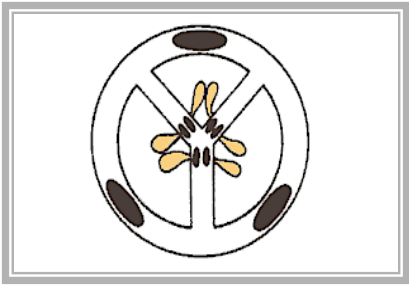
OVULE



MEGASPORANGIUM

MEIOSIS

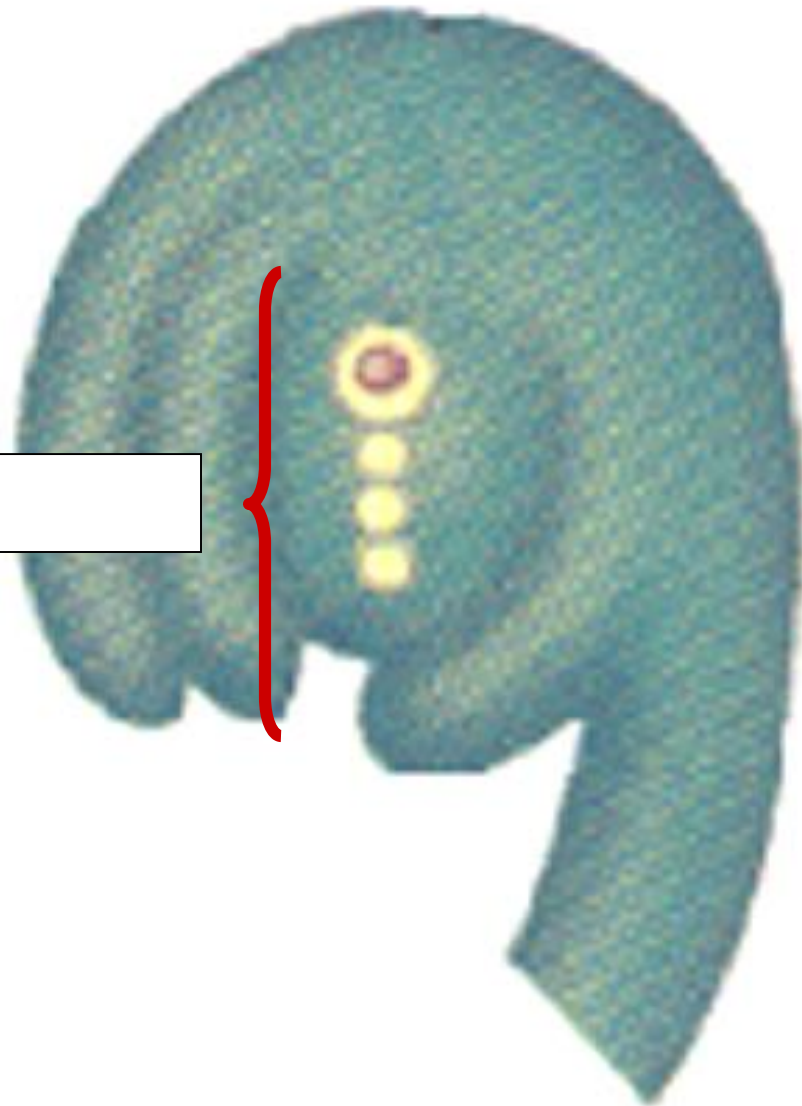
L.S.



MEGASPORES

L.S.

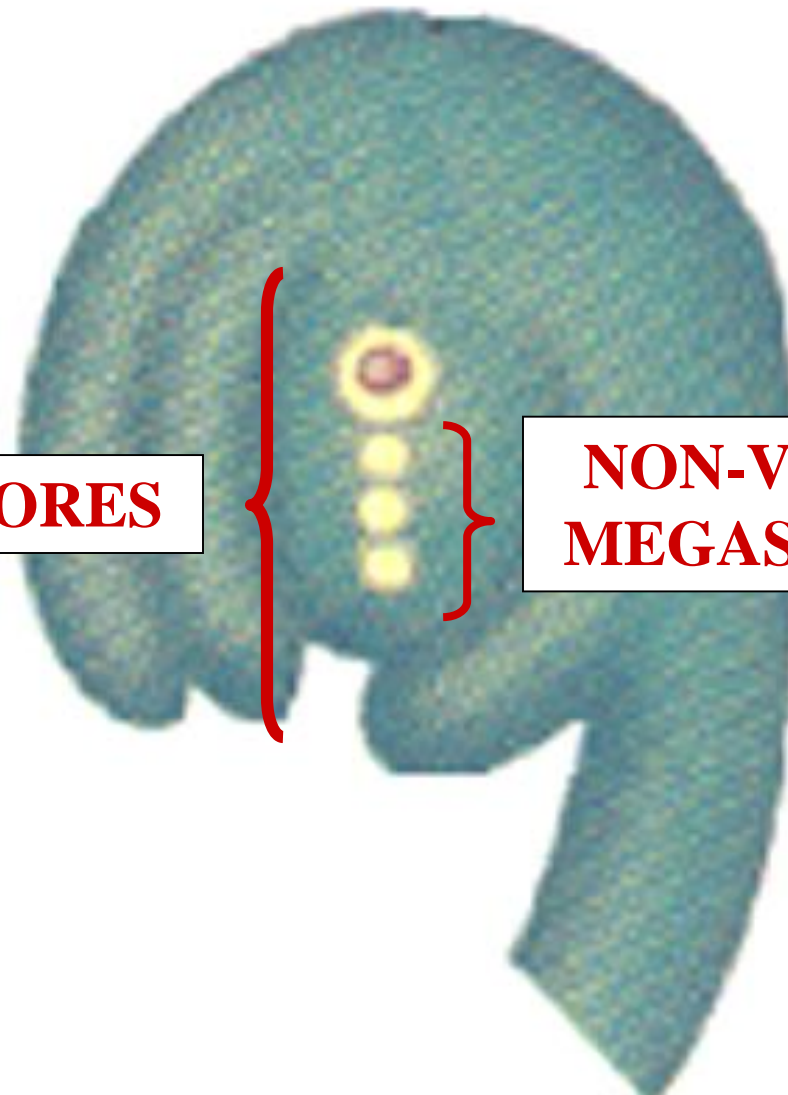
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1N

L.S.

OVULE



MEGASPORES

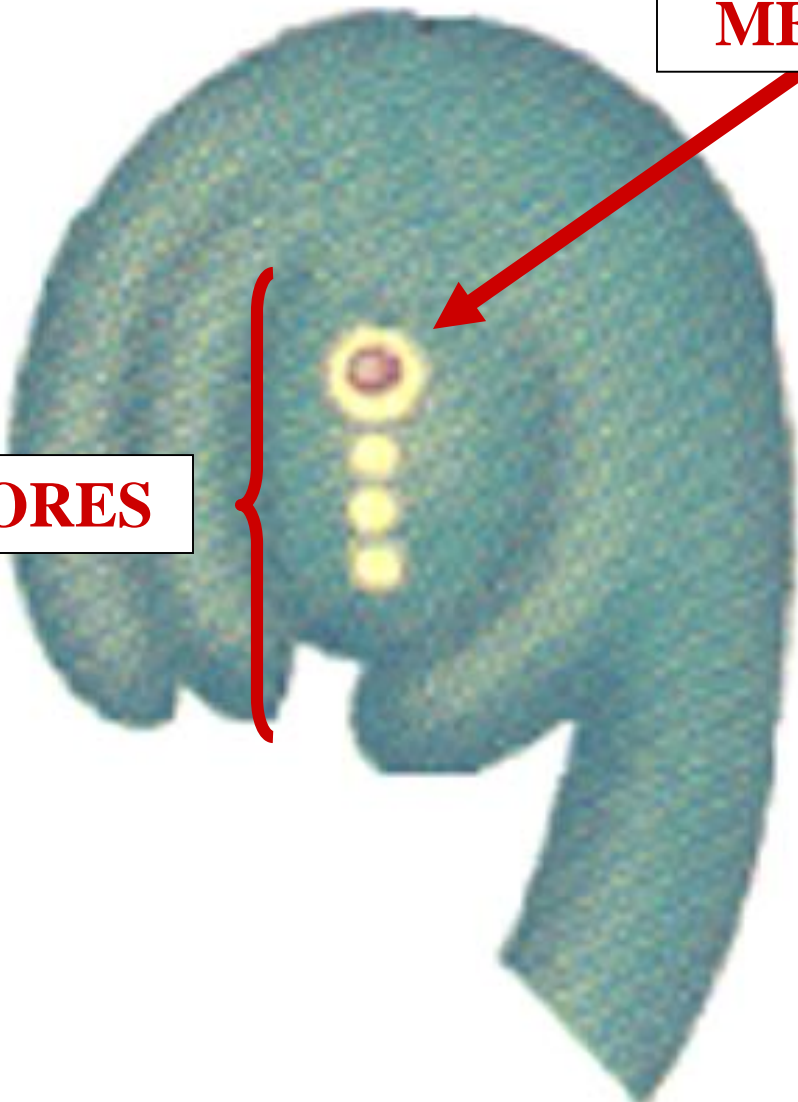
**NON-VIABLE
MEGASPORES**

L.S.

OVULE



**VIABLE
MEGASPORE**



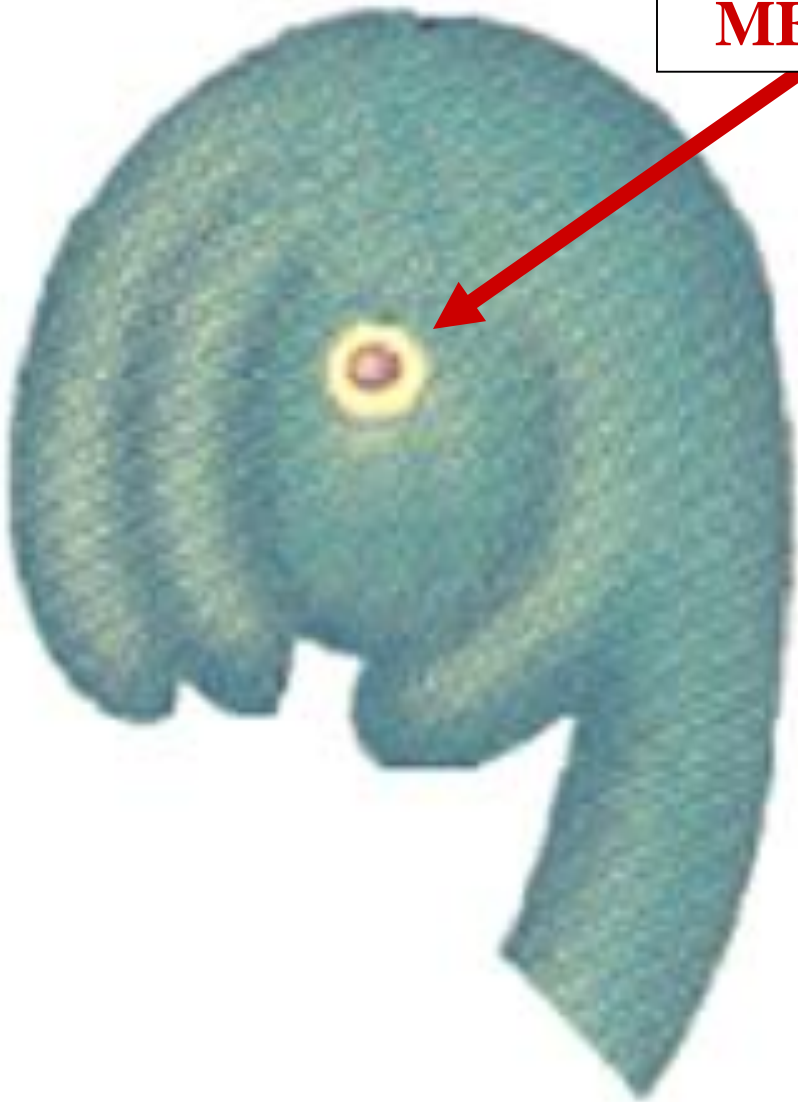
MEGASPORES

L.S.

OVULE



**VIABLE
MEGASPORE**

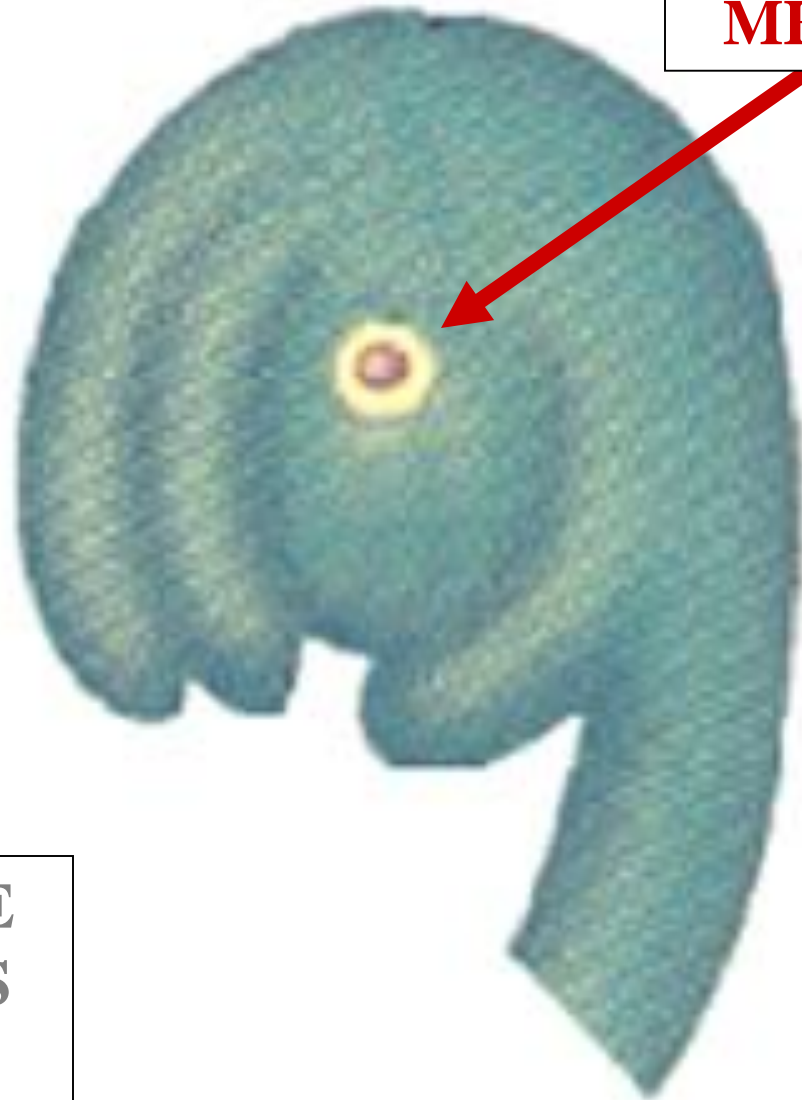


L.S.

OVULE



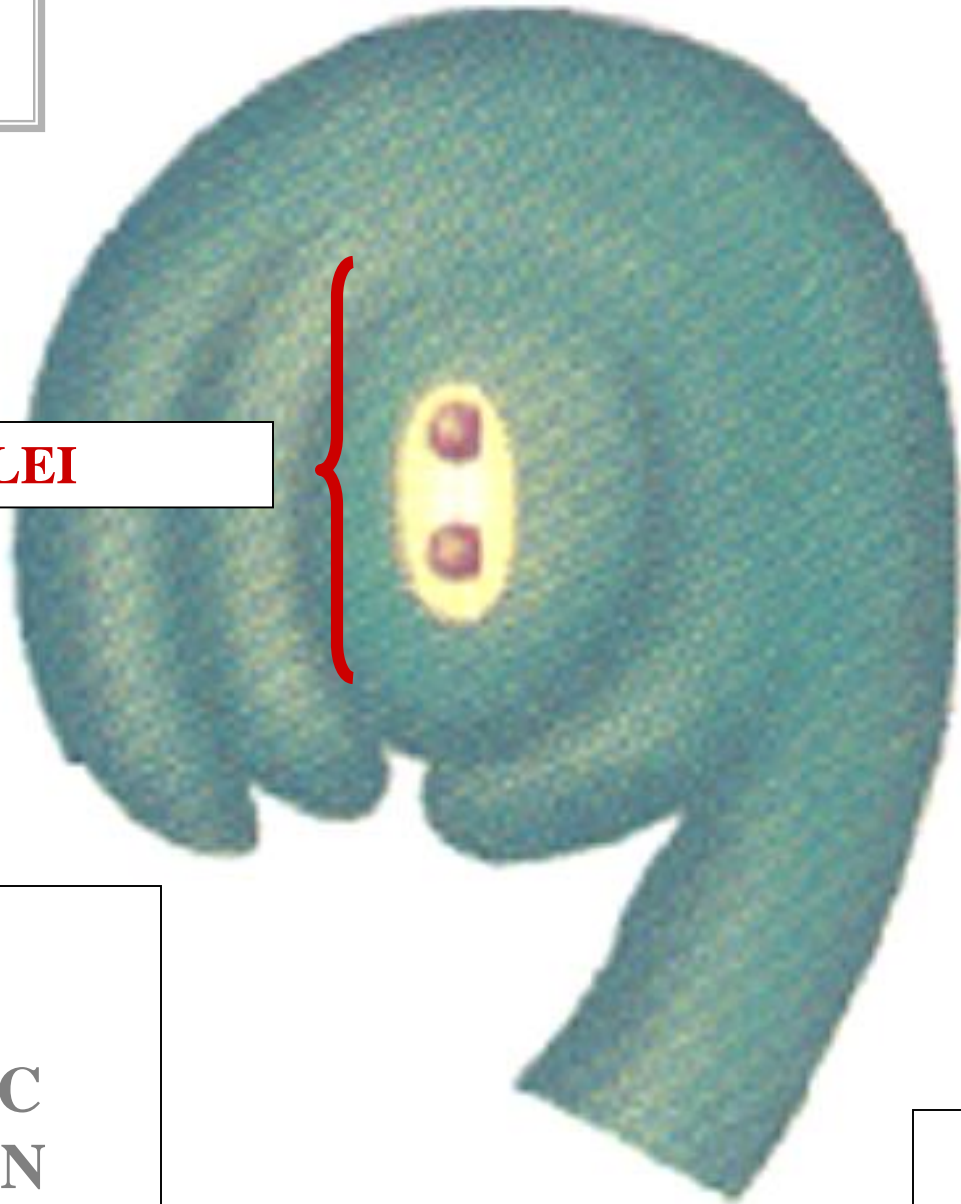
**VIABLE
MEGASPORE**



**MEGASPORE
UNDERGOES
3 MITOTIC
DIVISIONS**

L.S.

OVULE

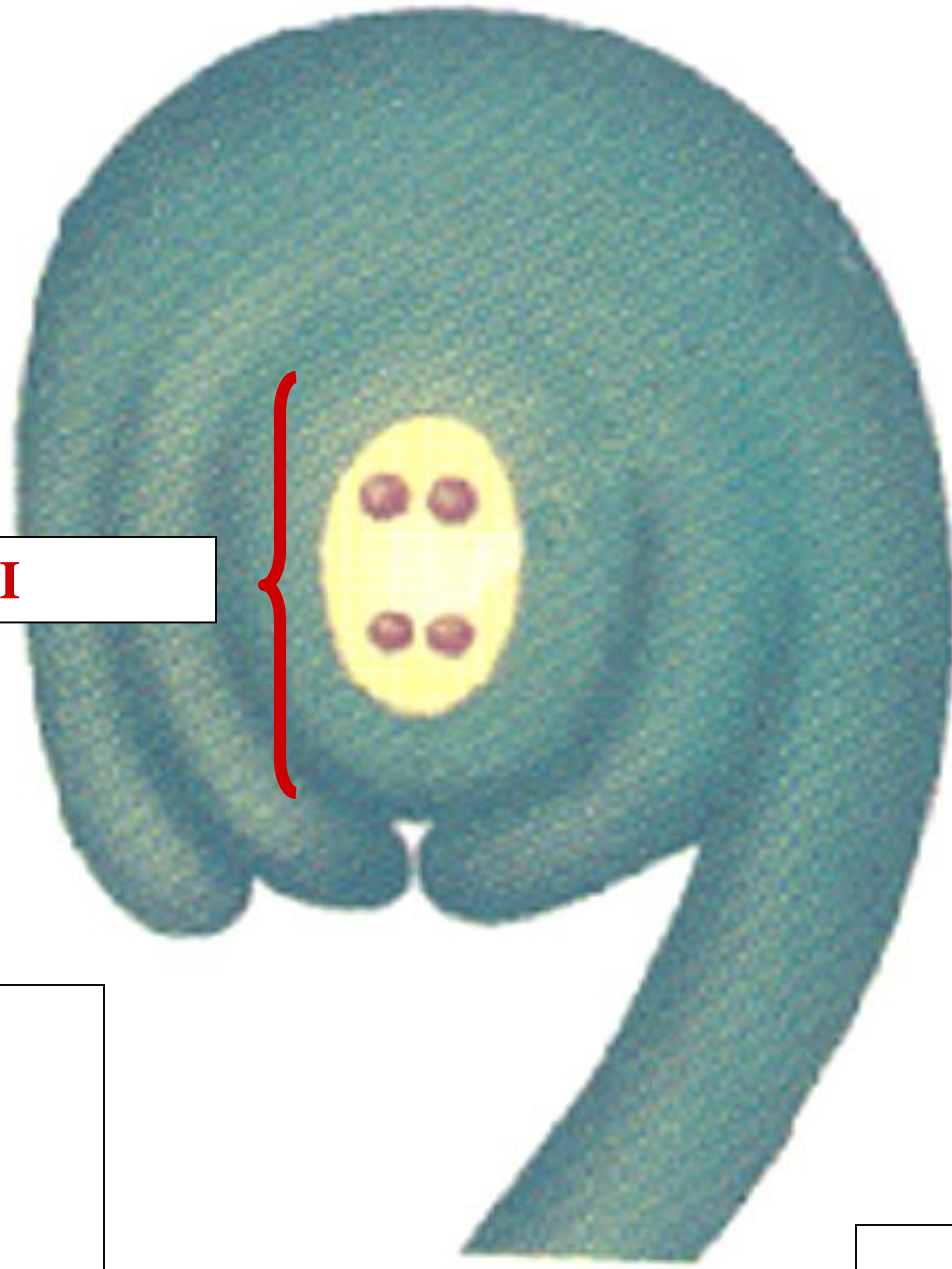


2 NUCLEI

**POST
1ST
MITOTIC
DIVISION**

L.S.

OVULE



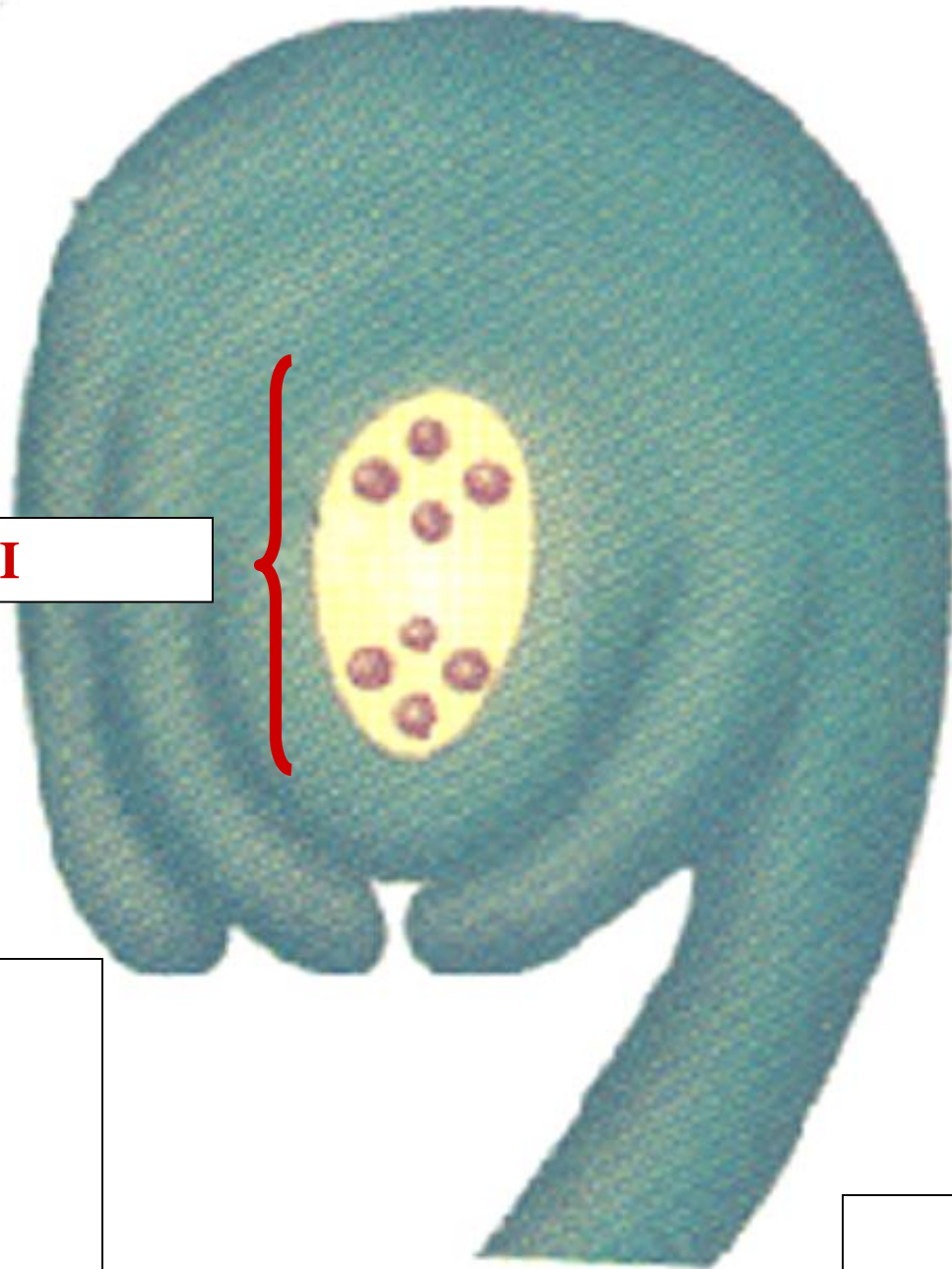
4 NUCLEI



**POST
2ND
MITOTIC
DIVISION**

L.S.

OVULE



8 NUCLEI

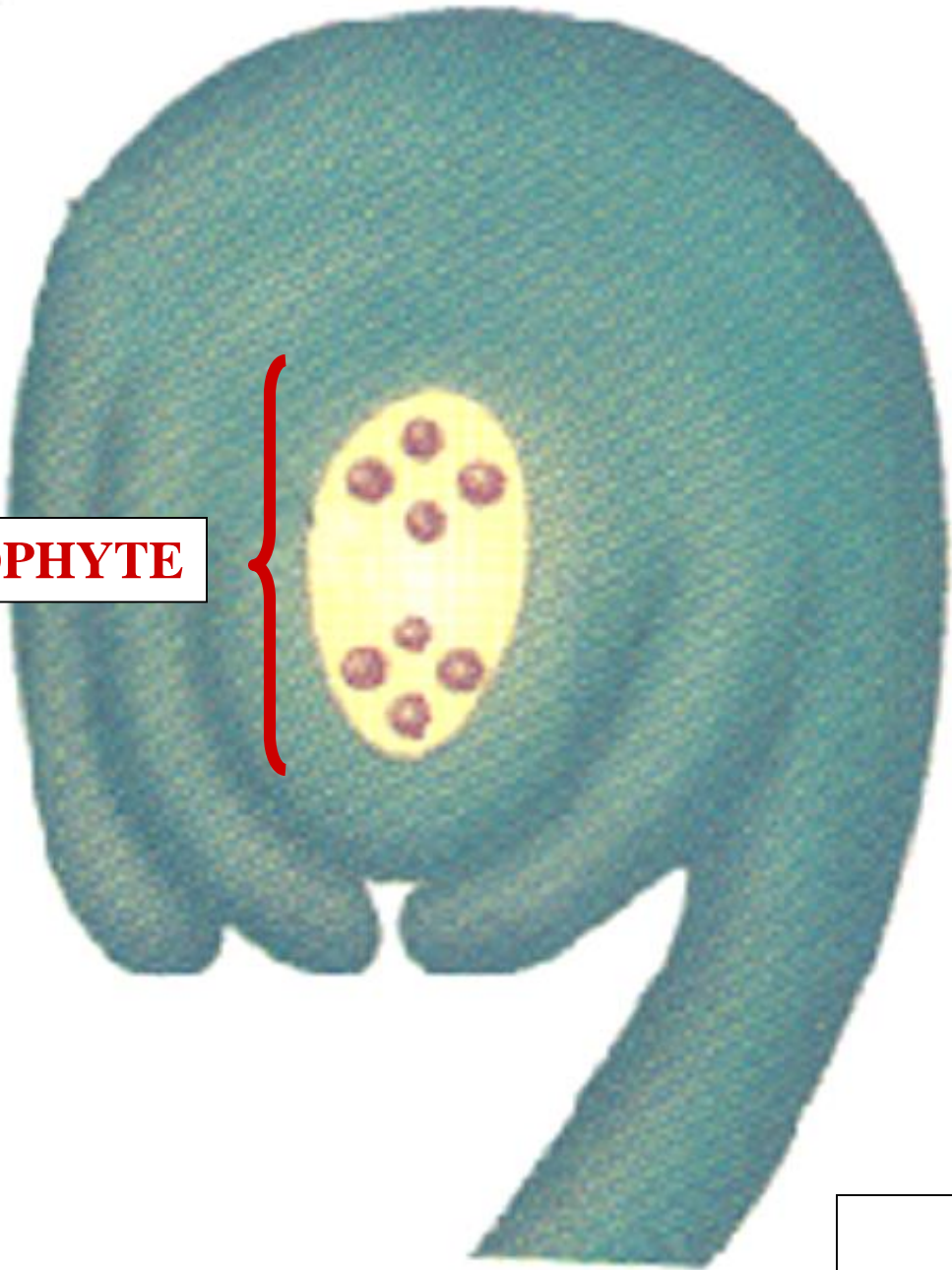
**POST
3RD
MITOTIC
DIVISION**

L.S.

OVULE

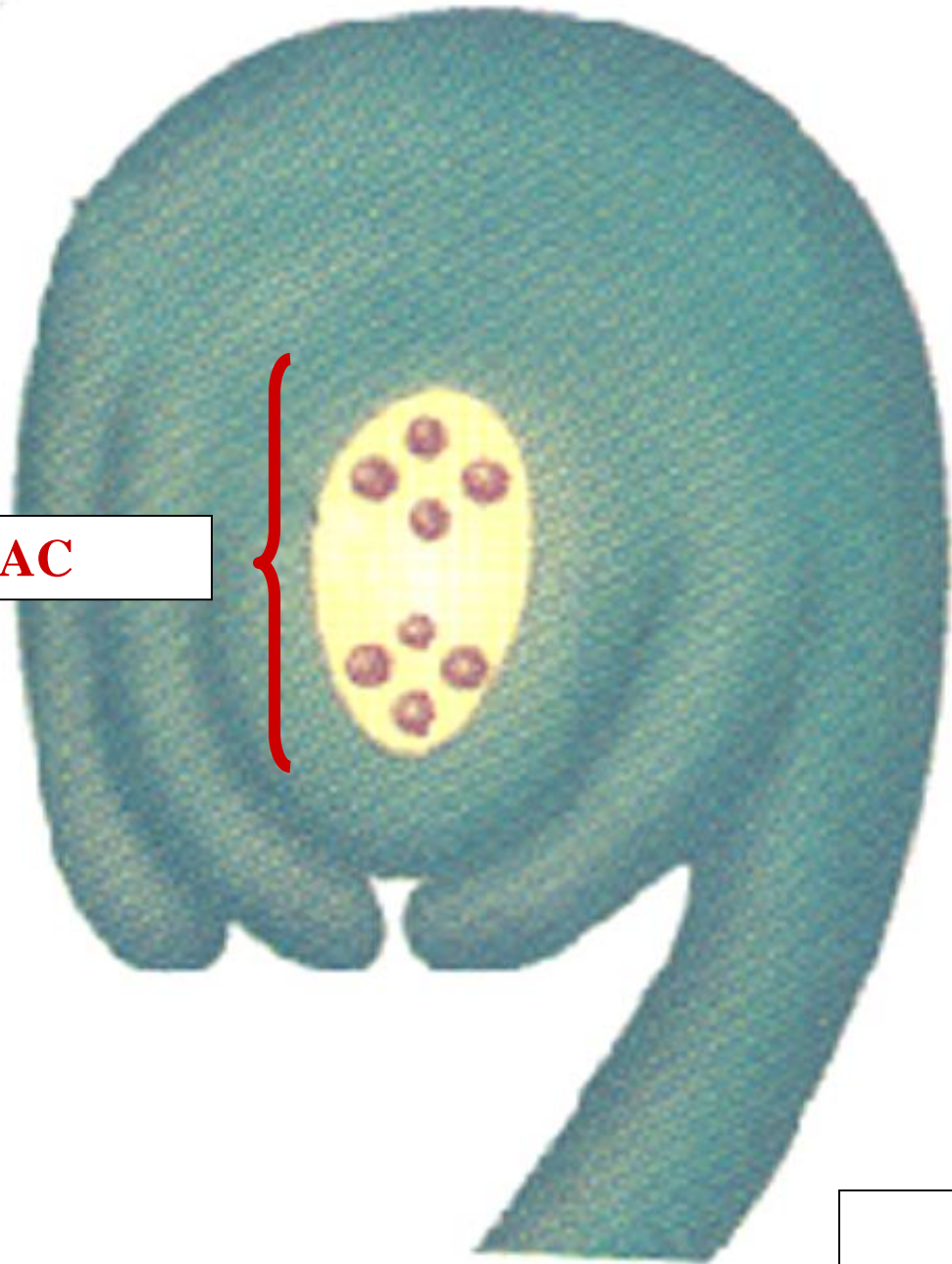


MEGAGAMETOPHYTE



L.S.

OVULE



EMBRYO SAC

L.S.

OVULE

ANGIOSPERM OVULE

EMBRYO SAC
7 CELLS
8 NUCLEI

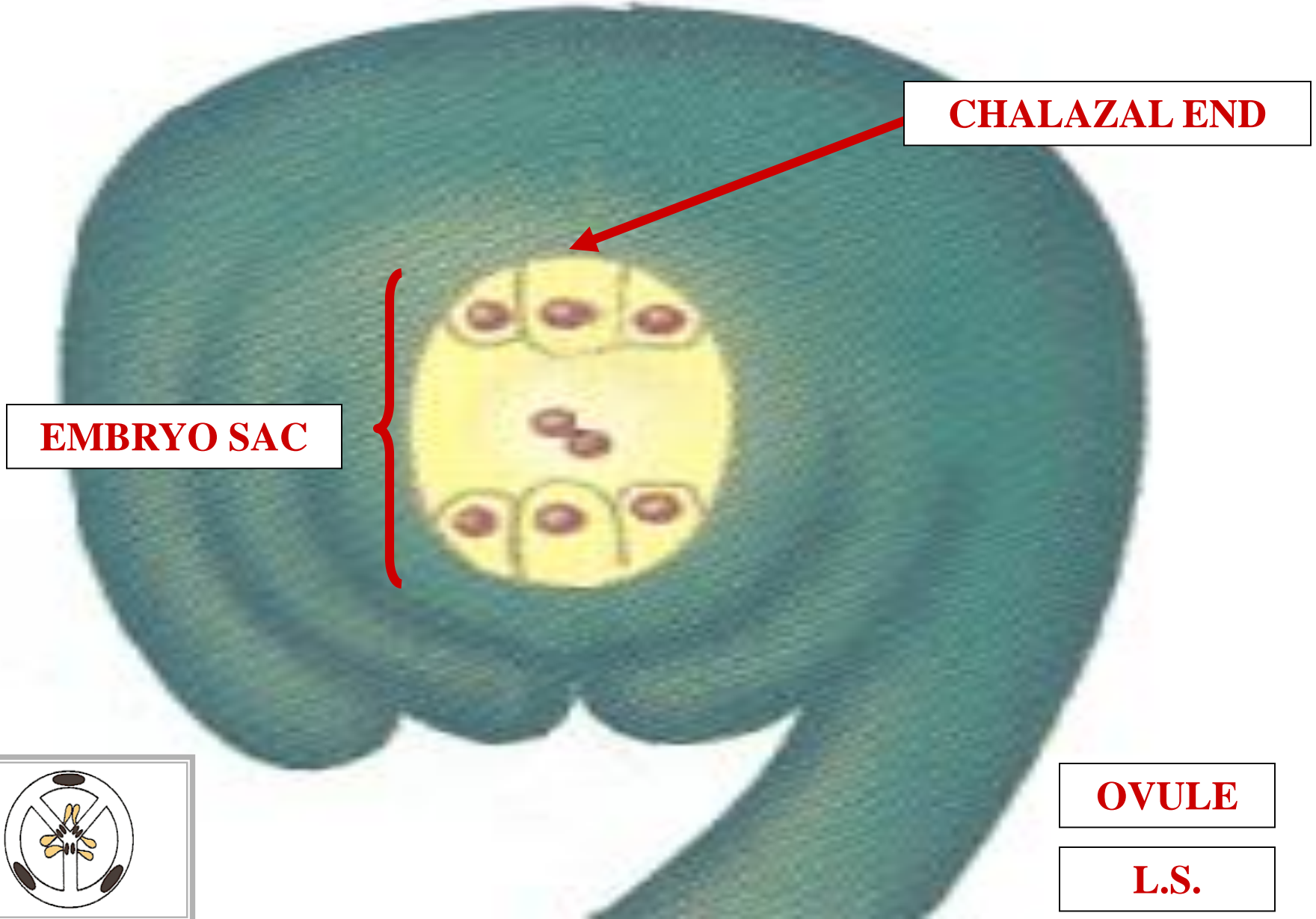


OVULE

L.S.



ANGIOSPERM OVULE



CHALAZAL END

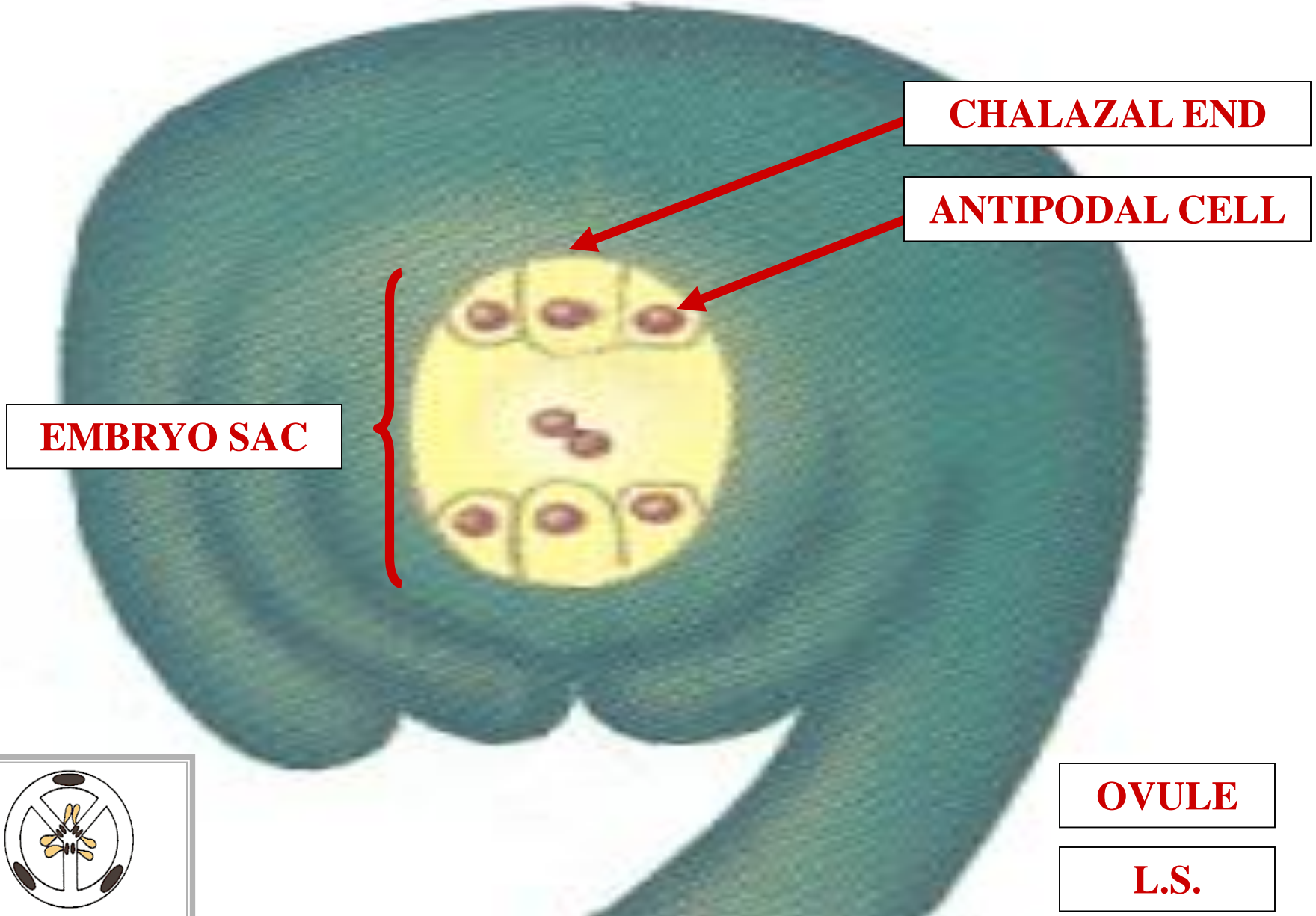
EMBRYO SAC

OVULE

L.S.



ANGIOSPERM OVULE



CHALAZAL END

ANTIPODAL CELL

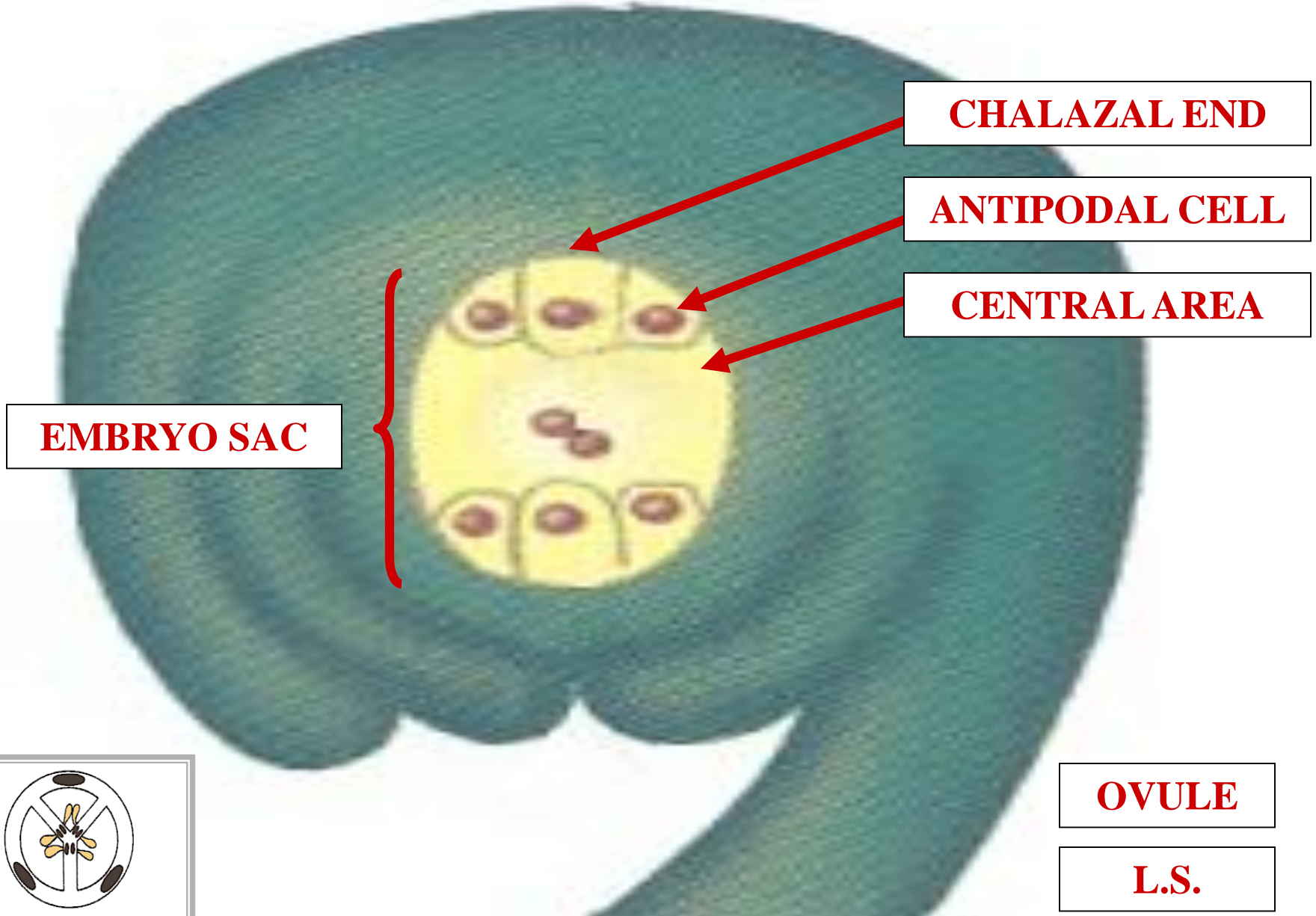
EMBRYO SAC

OVULE

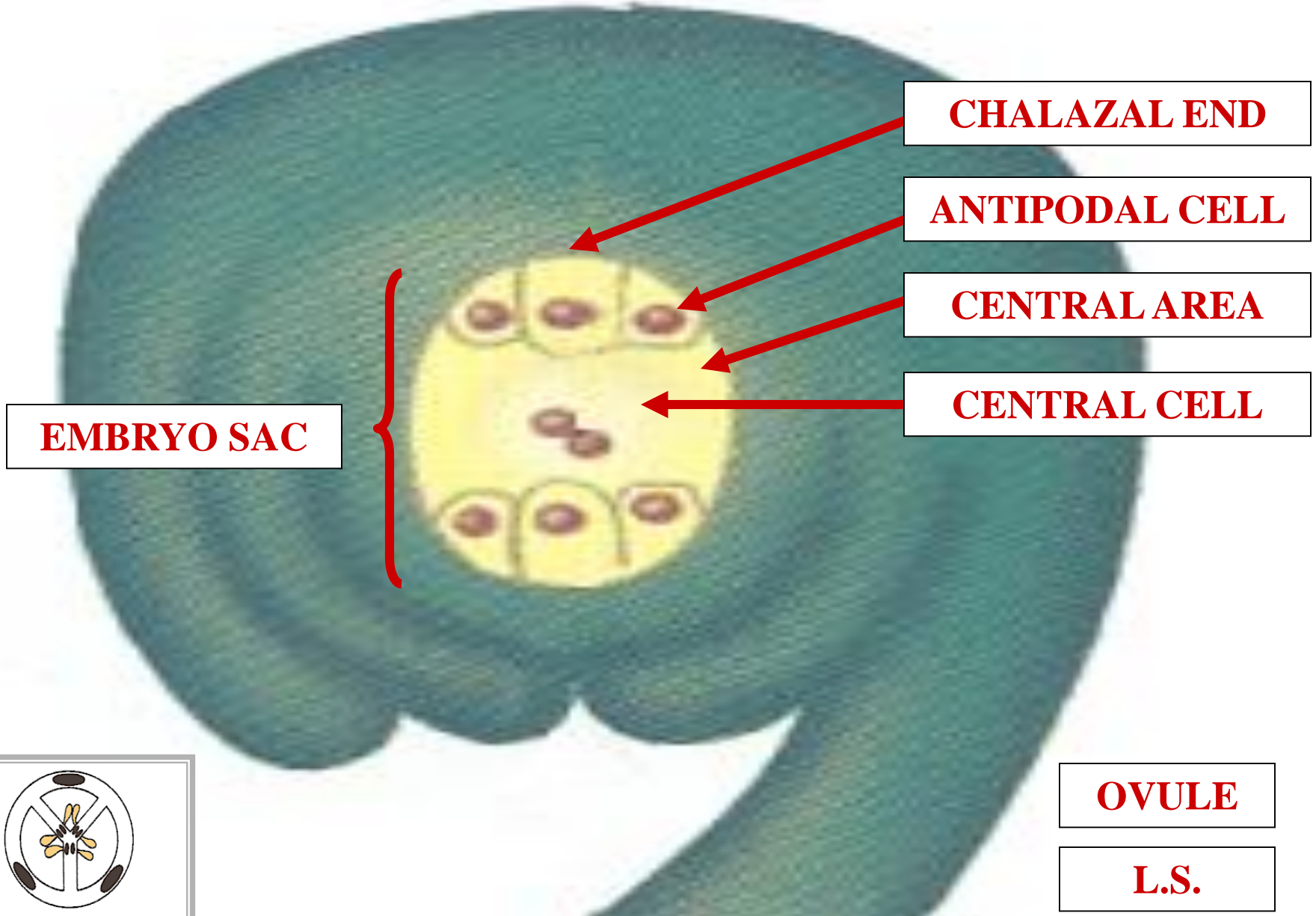
L.S.



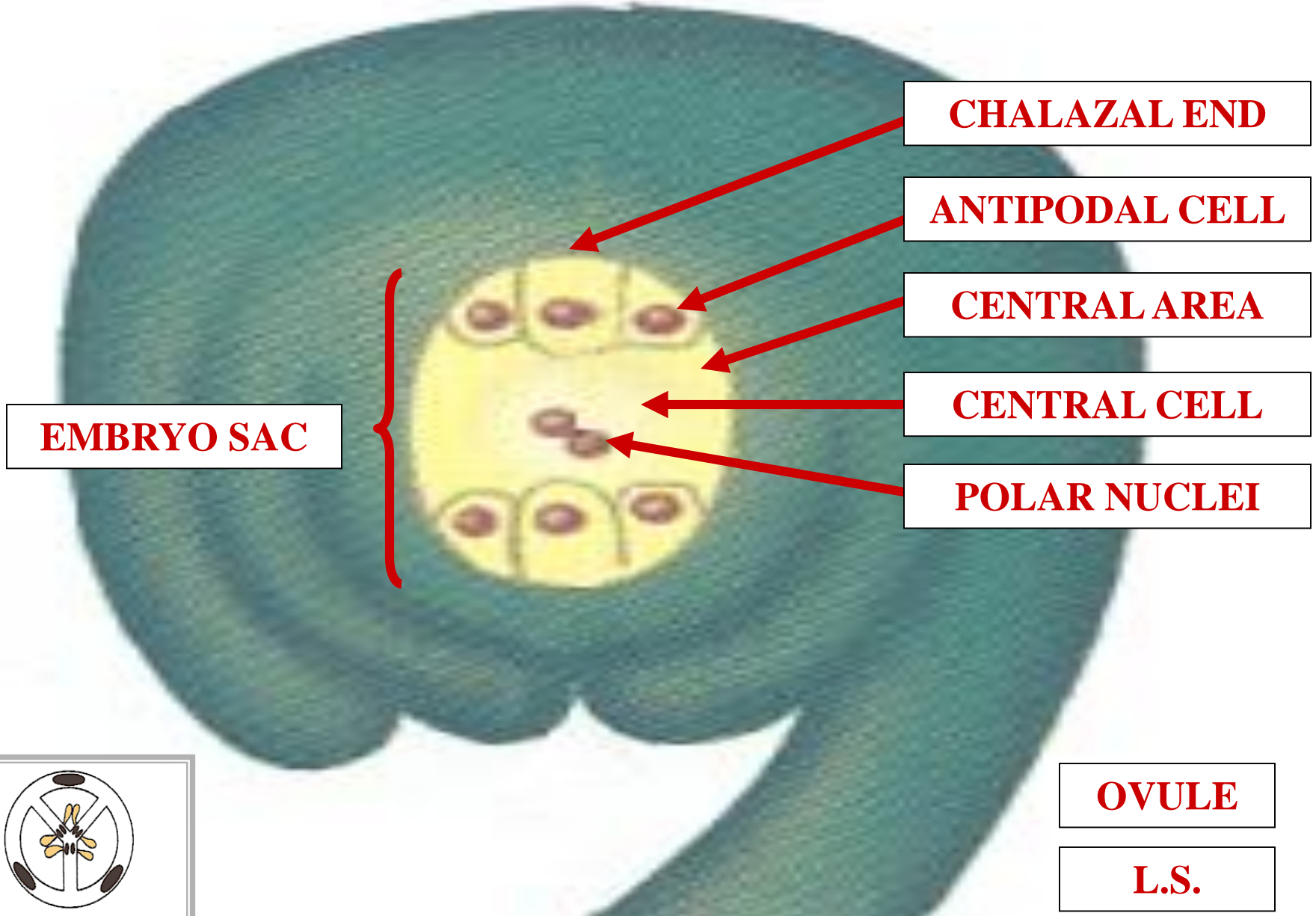
ANGIOSPERM OVULE



ANGIOSPERM OVULE



ANGIOSPERM OVULE



CHALAZAL END

ANTIPODAL CELL

CENTRAL AREA

CENTRAL CELL

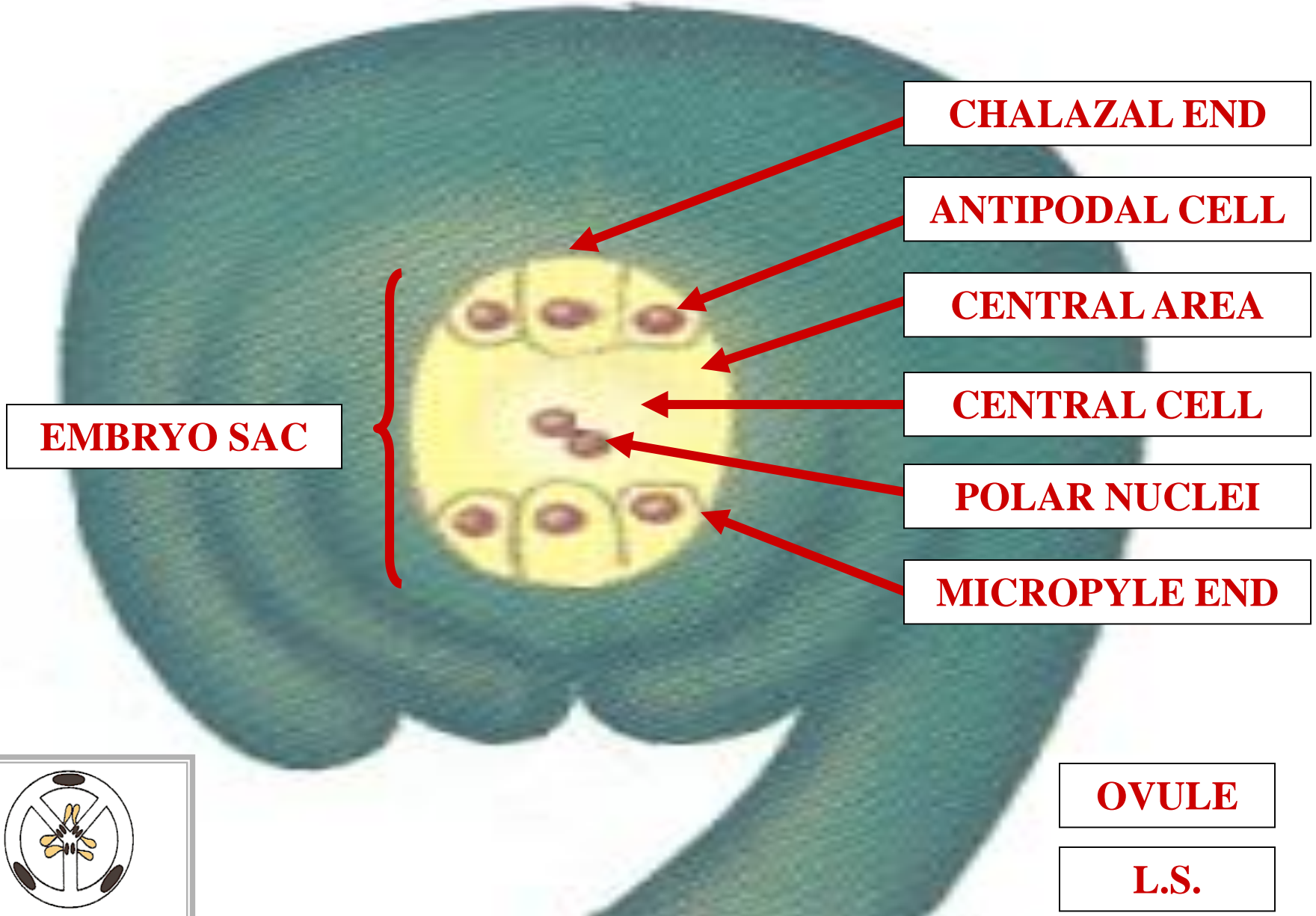
POLAR NUCLEI

EMBRYO SAC

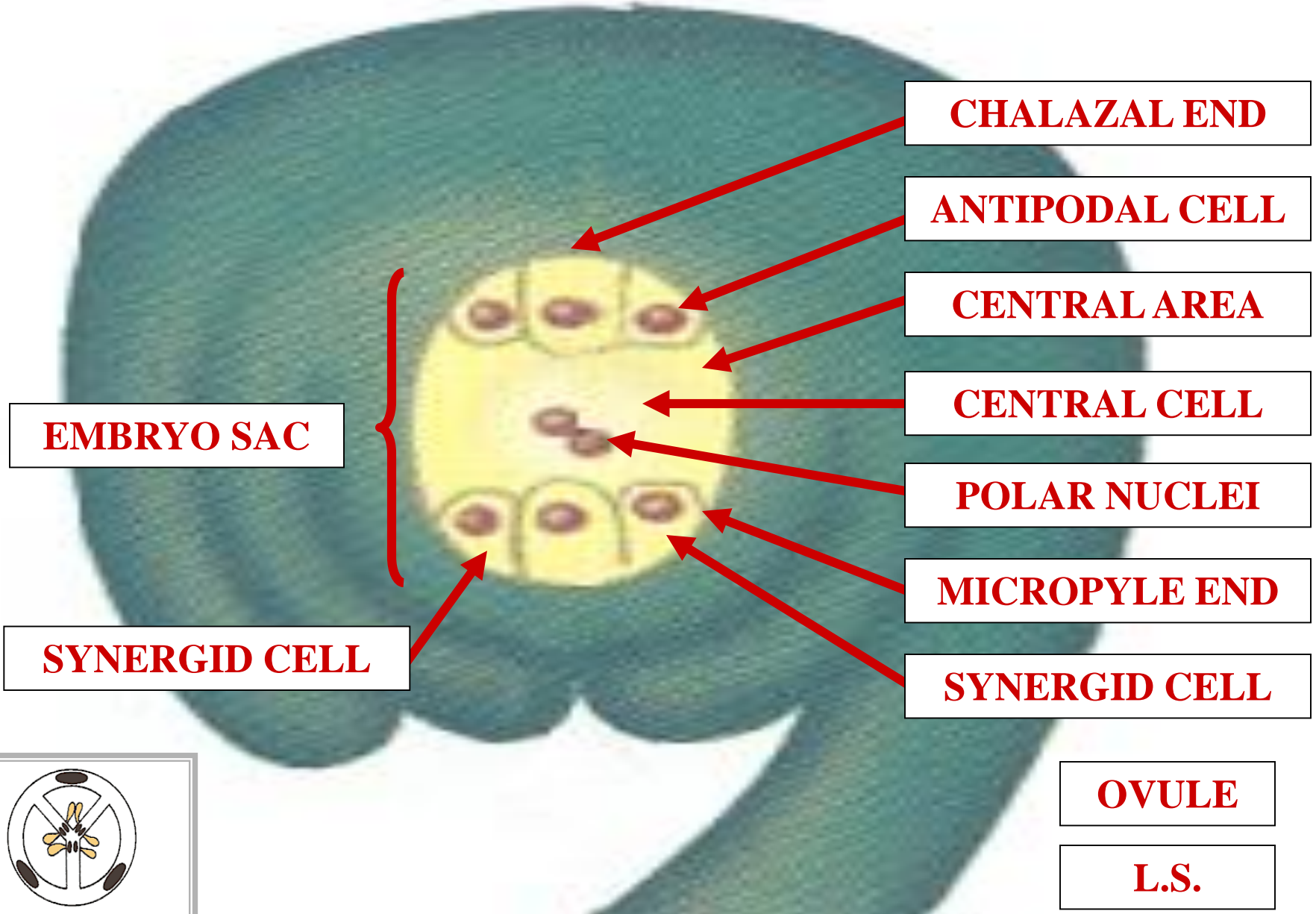
OVULE

L.S.

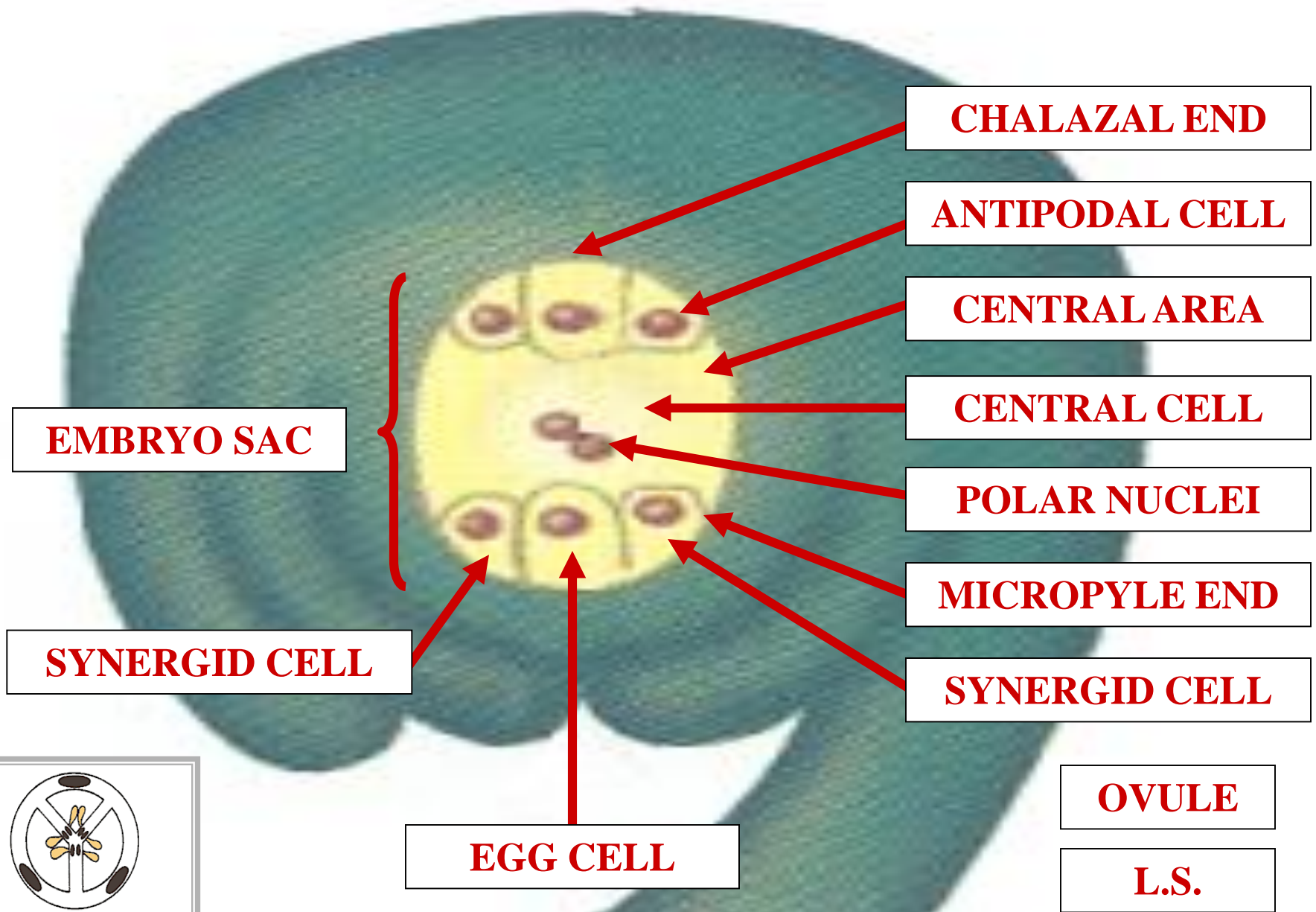
ANGIOSPERM OVULE



ANGIOSPERM OVULE



MATURE EMBRYO SAC



POLLINATION



POLLINATION



PLANT 1



PLANT 2

 = **POLLEN GRAIN**



PLANT 1



PLANT 2

 = **POLLEN GRAIN**



PLANT 1



PLANT 2

 = **POLLEN GRAIN**

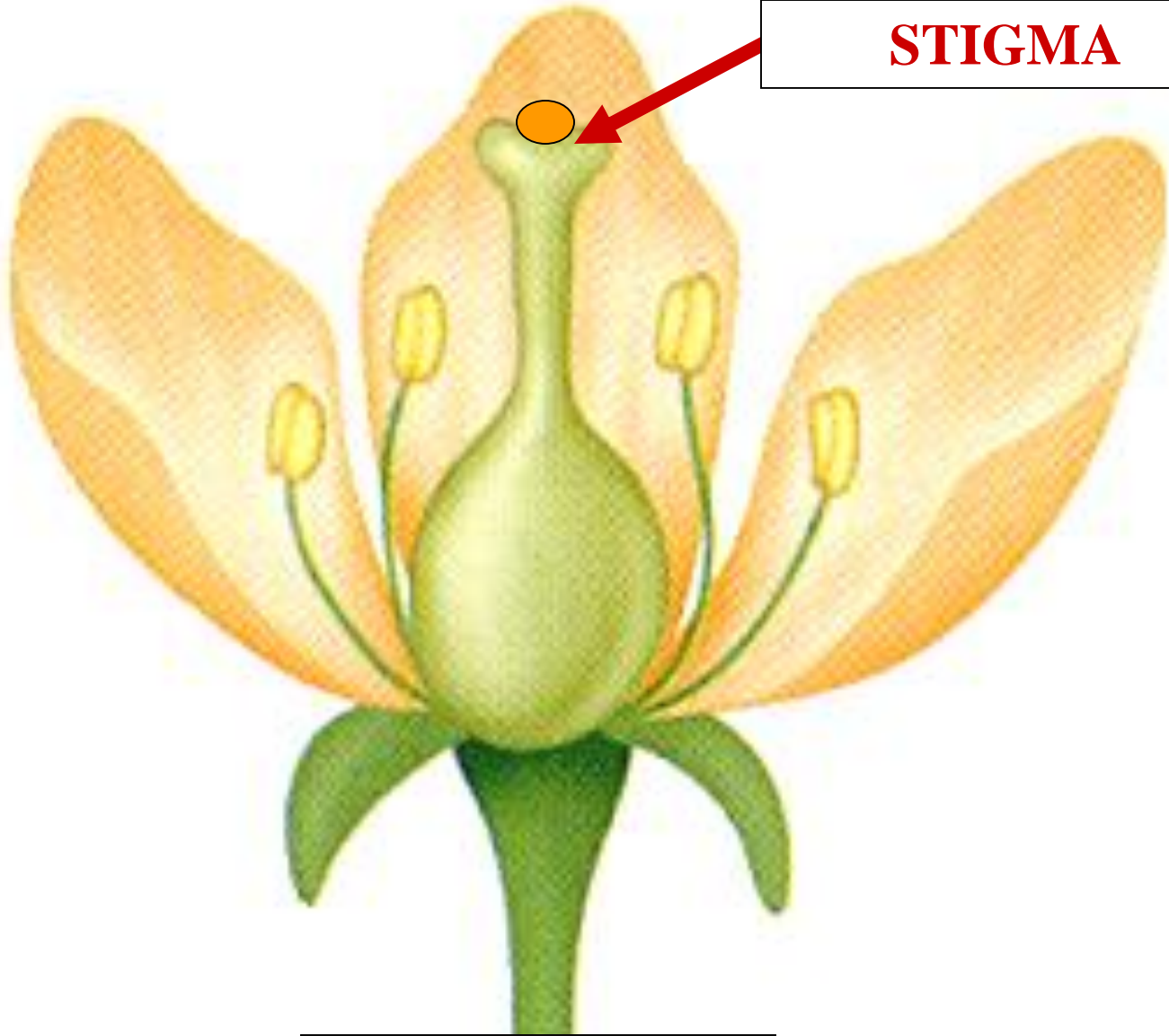


PLANT 1



PLANT 2

 = **POLLEN GRAIN**

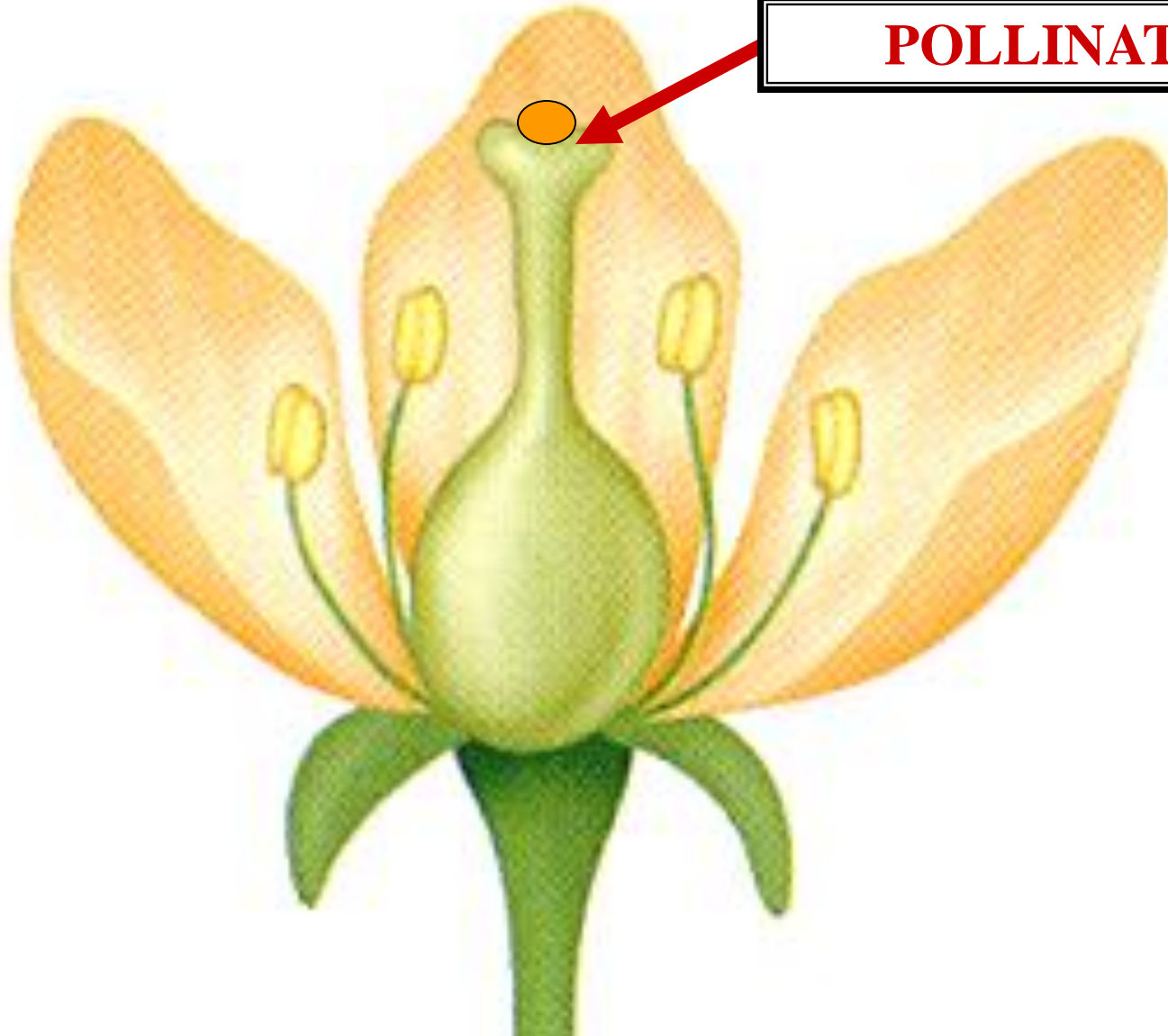


STIGMA

FLOWER

● = POLLEN GRAIN

POLLINATION



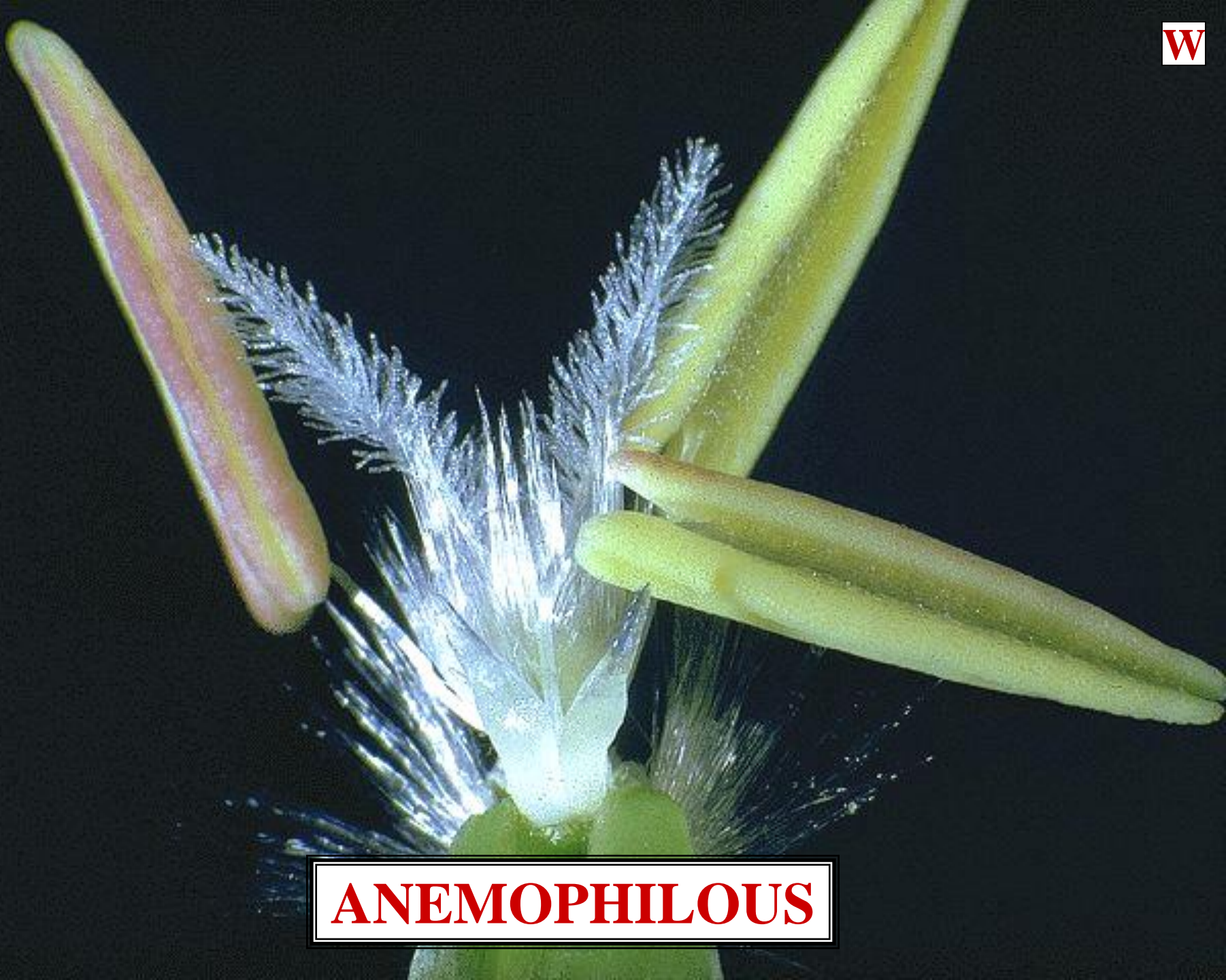
FLOWER

 = **POLLEN GRAIN**

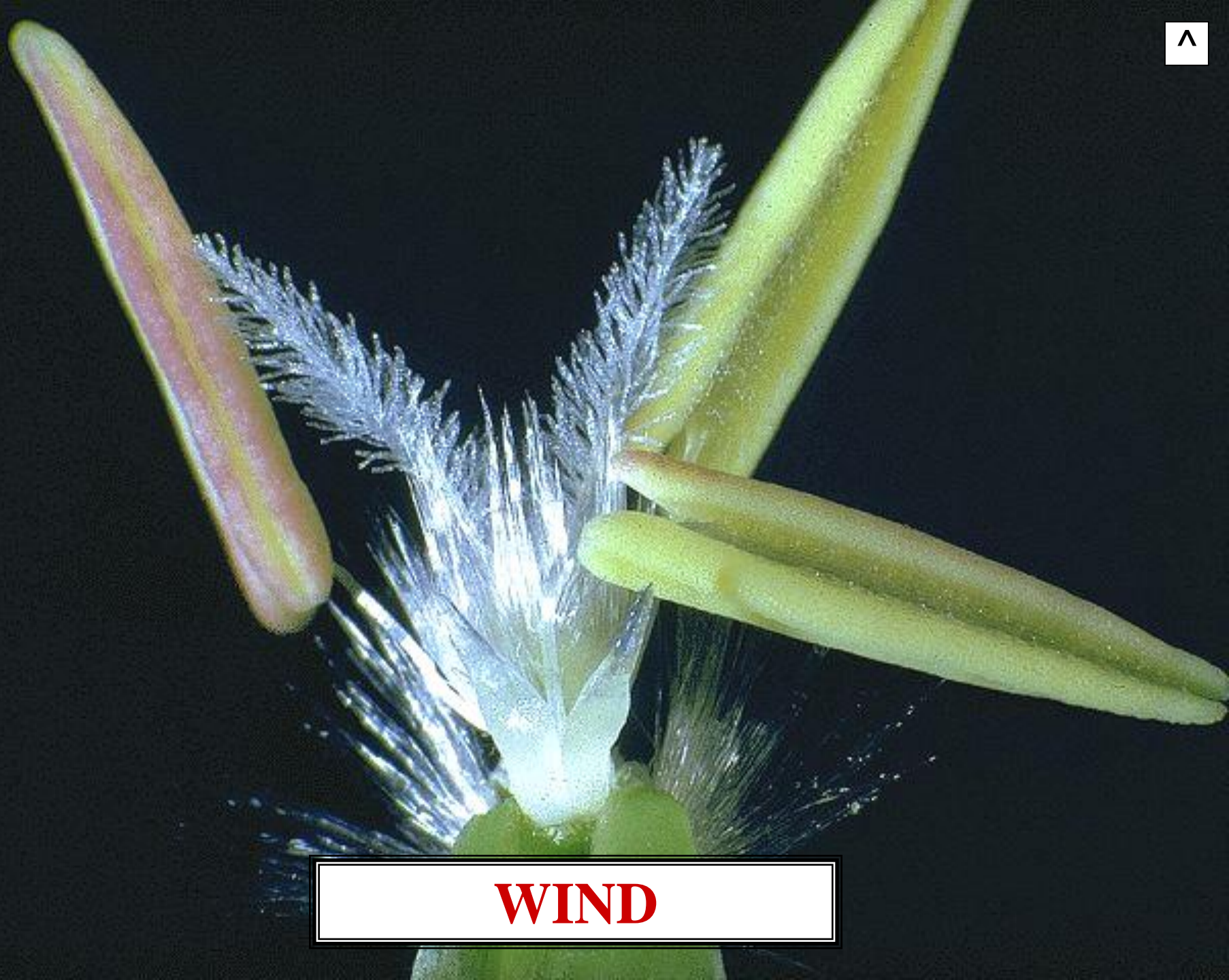
POLLINATION VECTORS



ANEMOPHILOUS



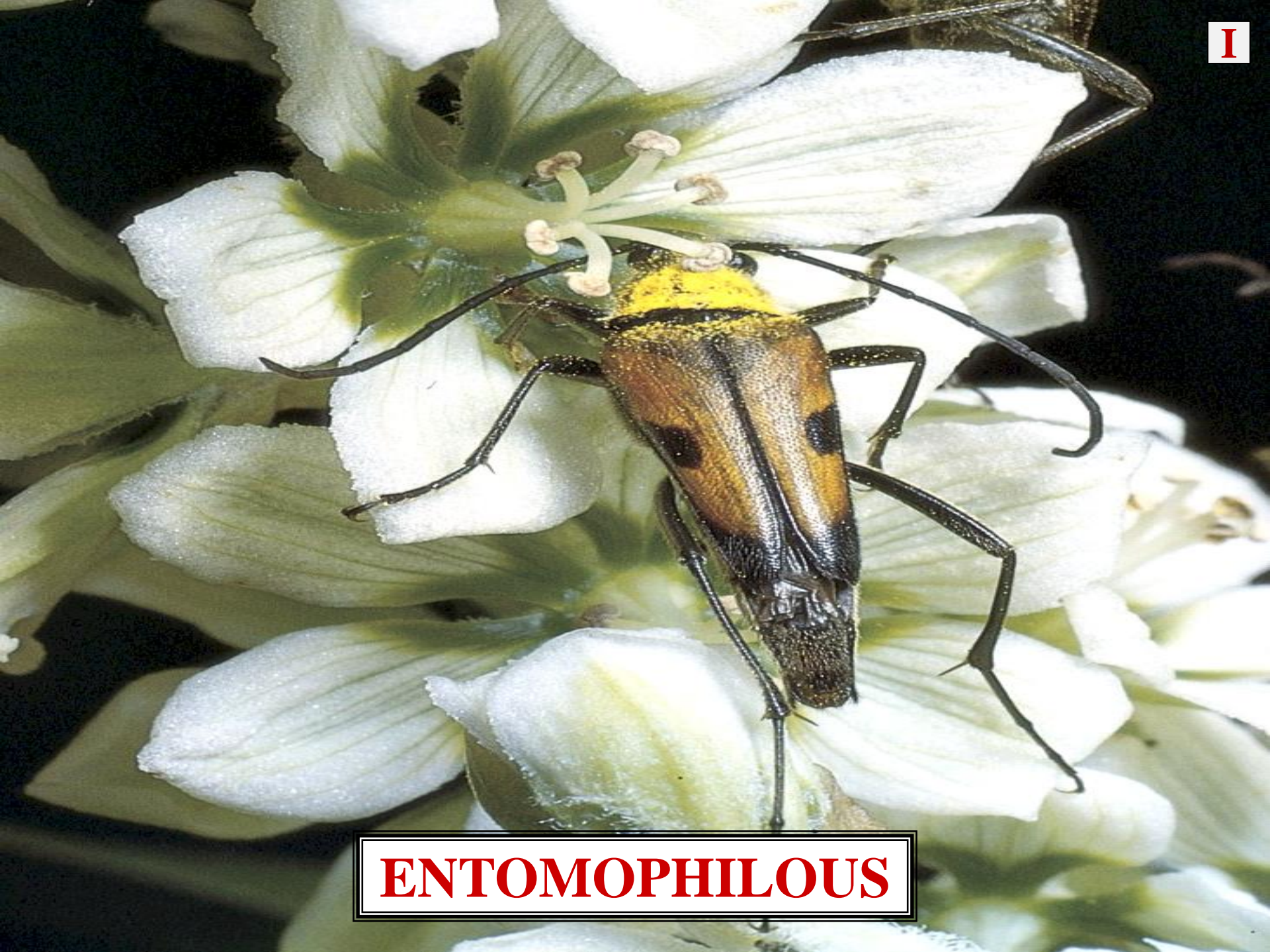
ANEMOPHILOUS



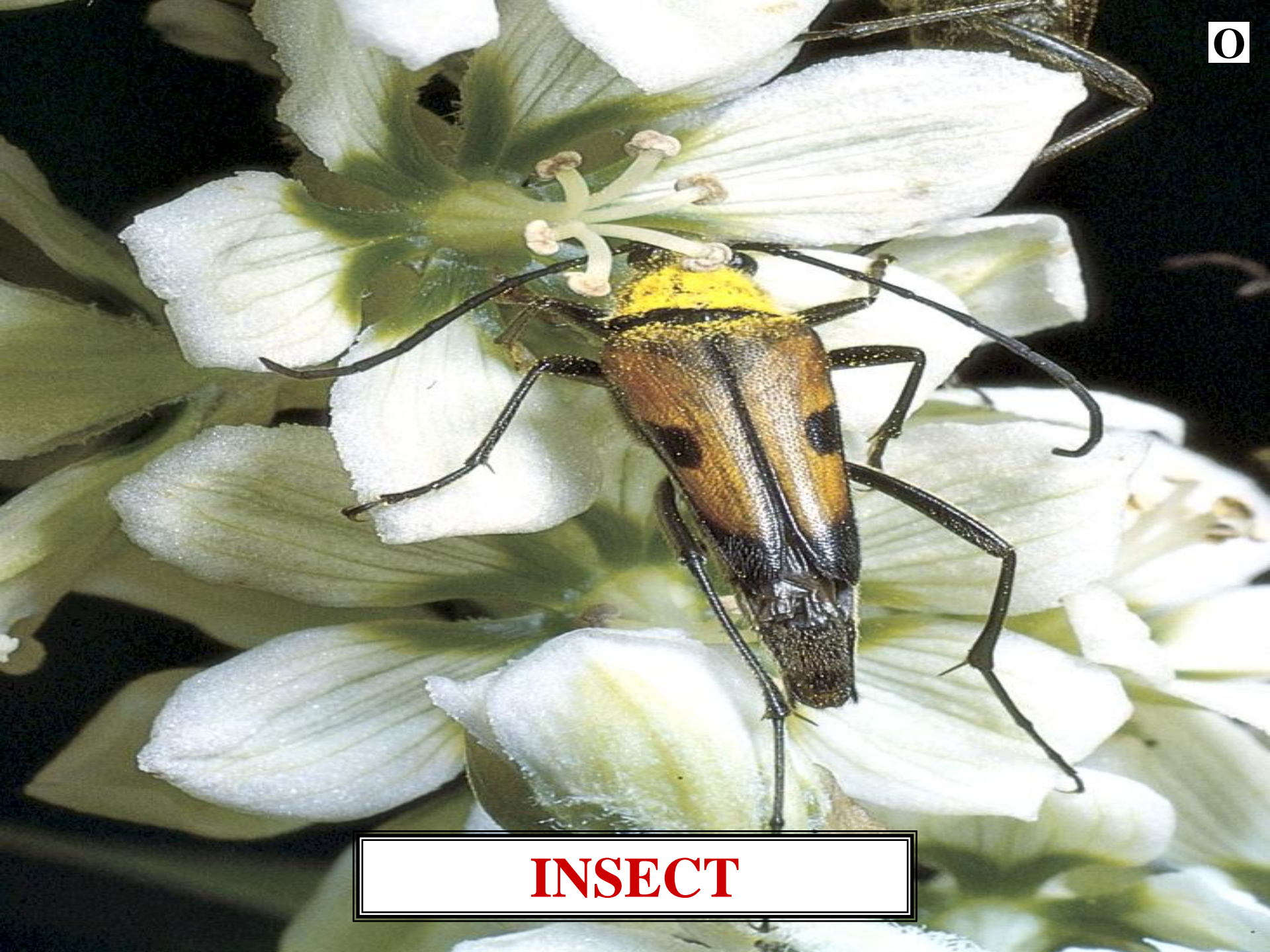
WIND



ENTOMOPHILOUS



ENTOMOPHILOUS



INSECT



ORNITHOPHILOUS



ORNITHOPHILOUS



BIRD



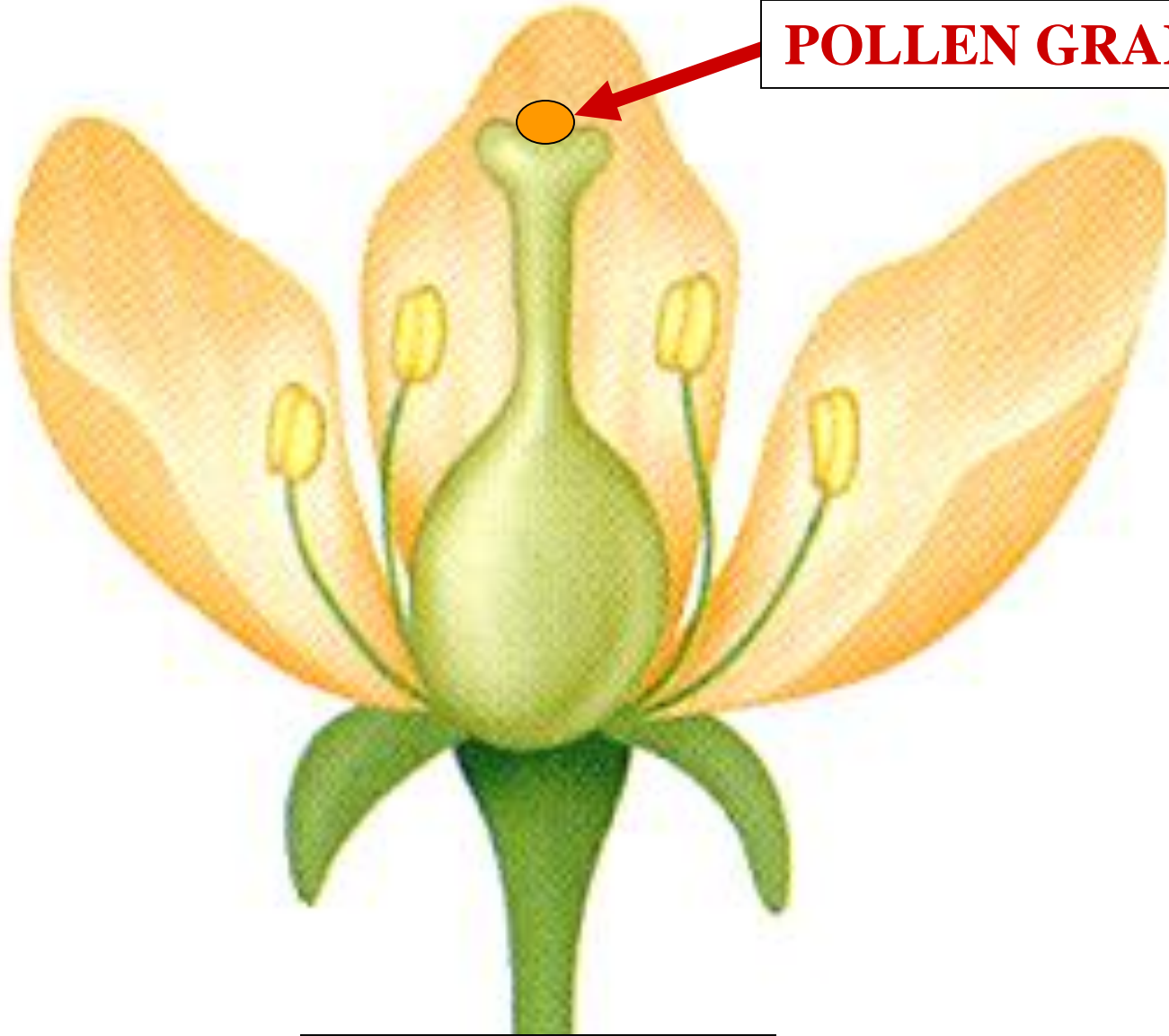
CHEIROPTEROPHILOUS



CHEIROPTEROPHILOUS



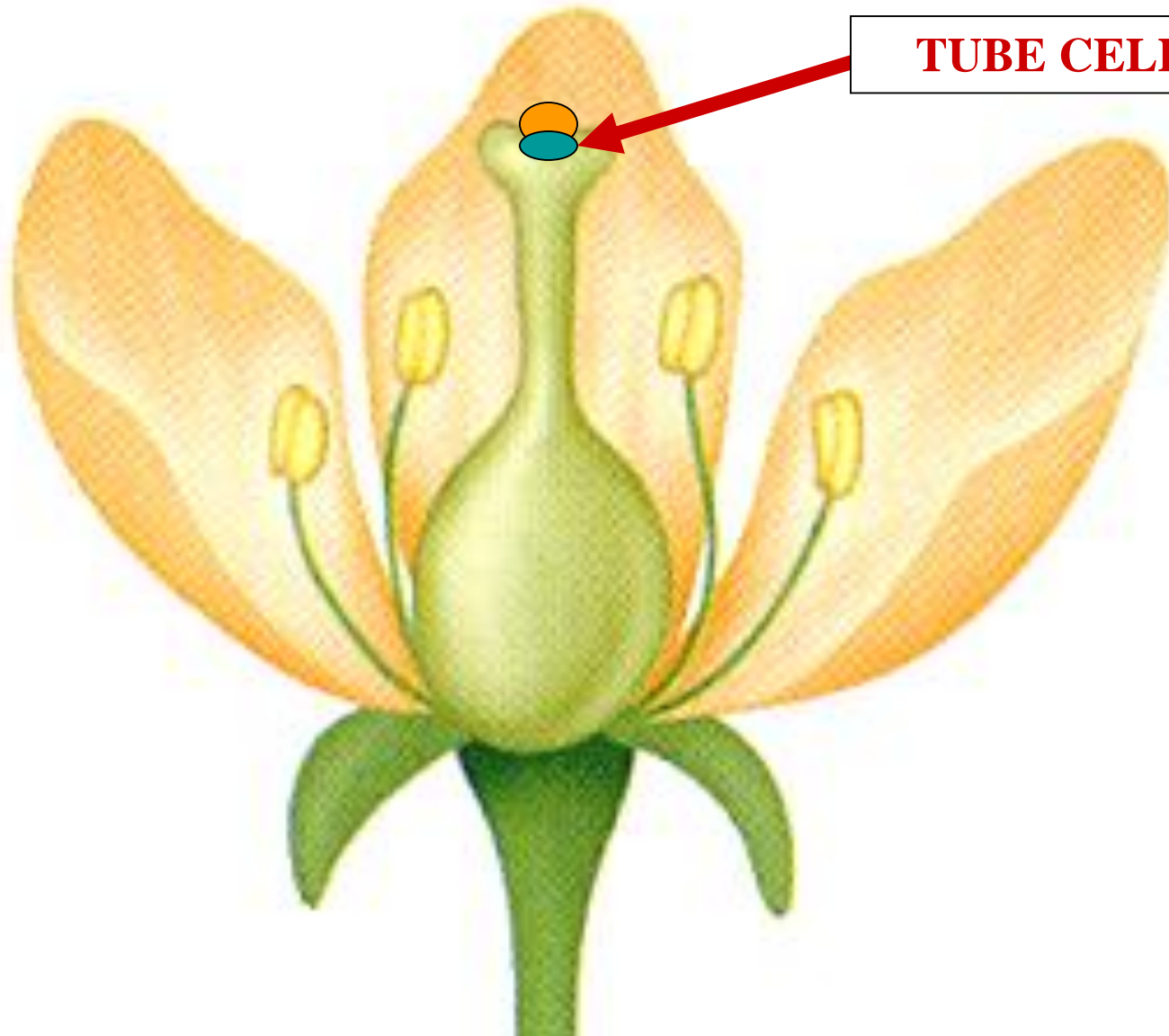
BAT



POLLEN GRAIN

FLOWER

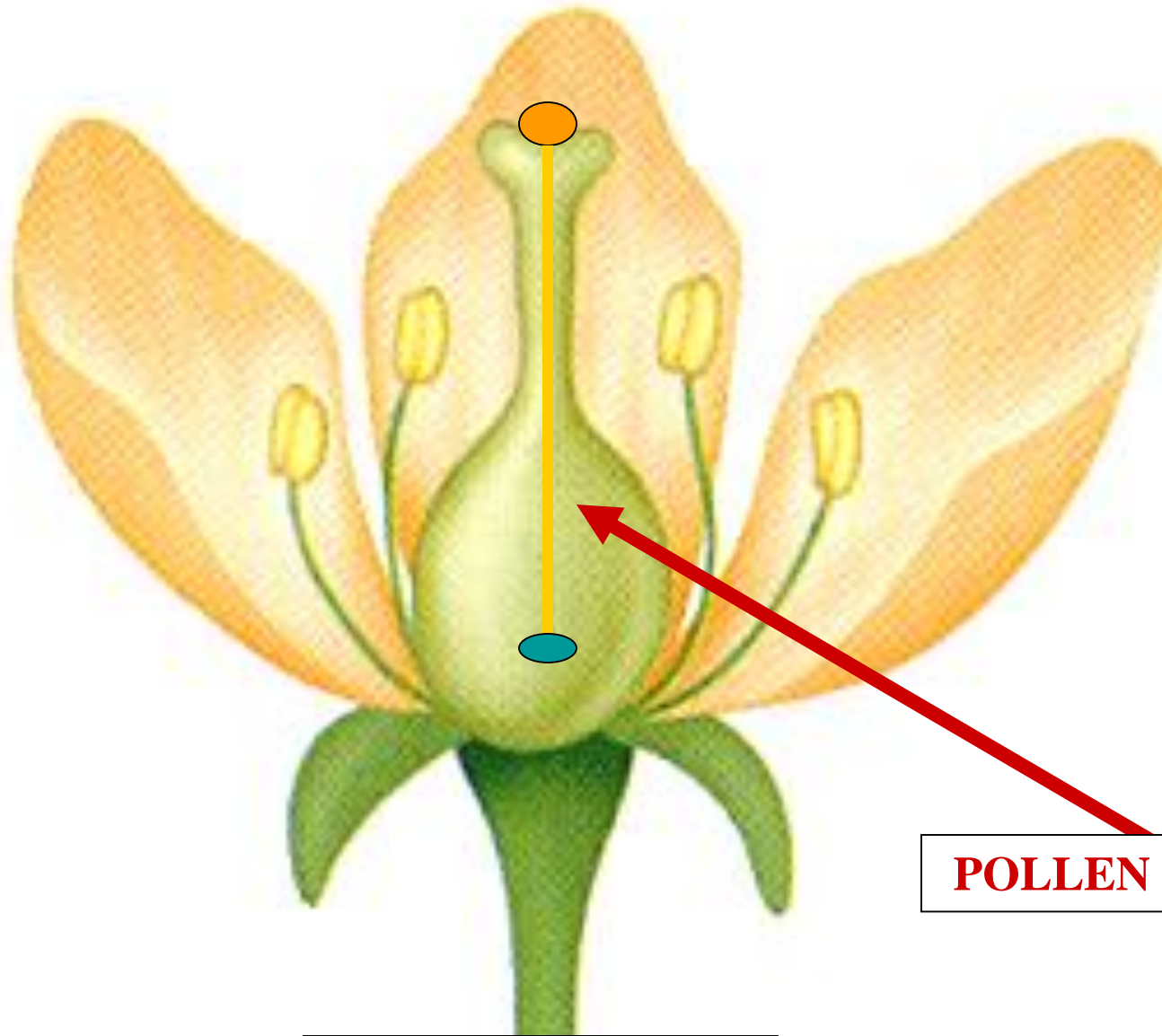
 = **POLLEN GRAIN**



TUBE CELL

FLOWER

● = POLLEN GRAIN



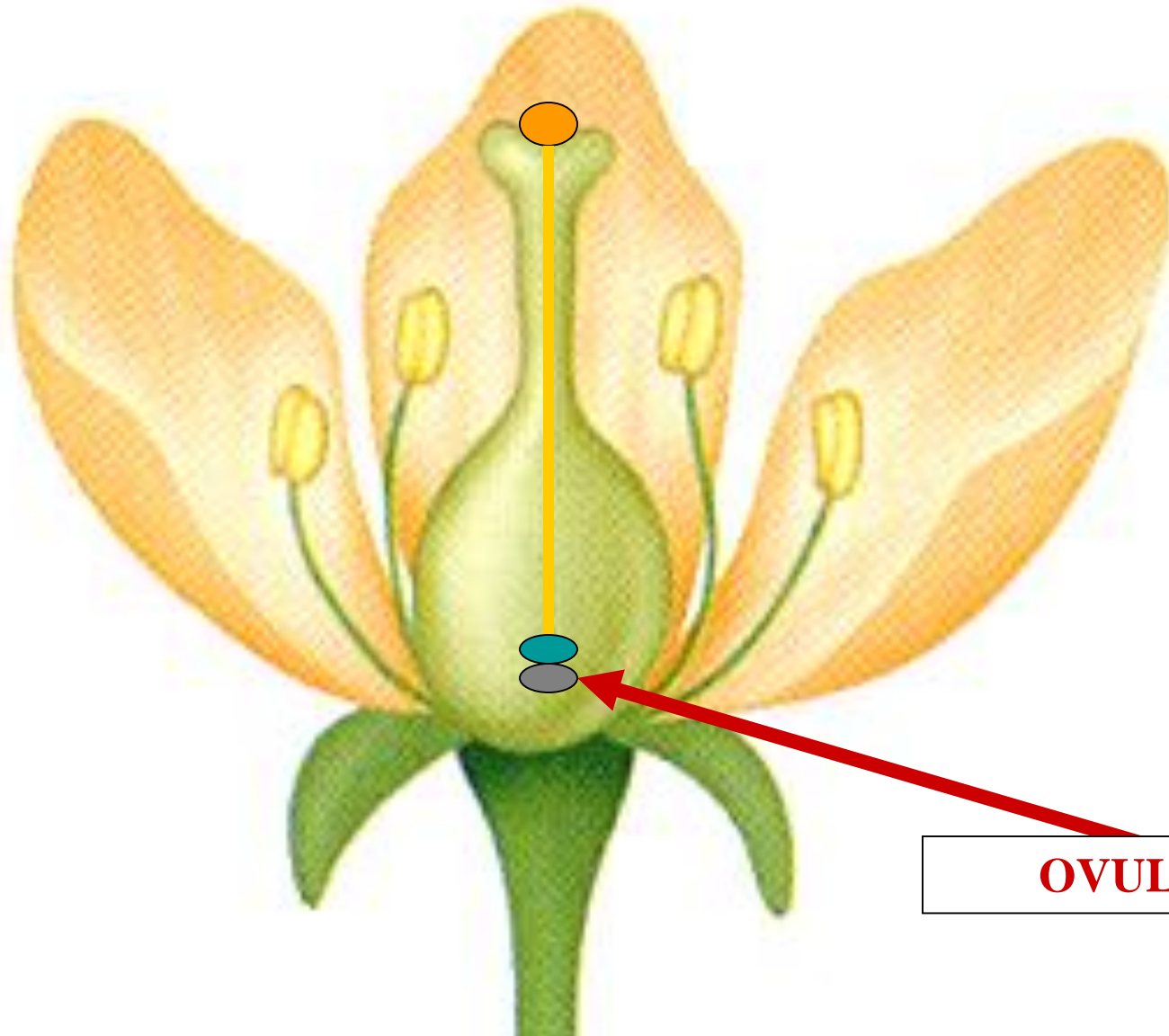
POLLEN TUBE

FLOWER

● = POLLEN GRAIN



r



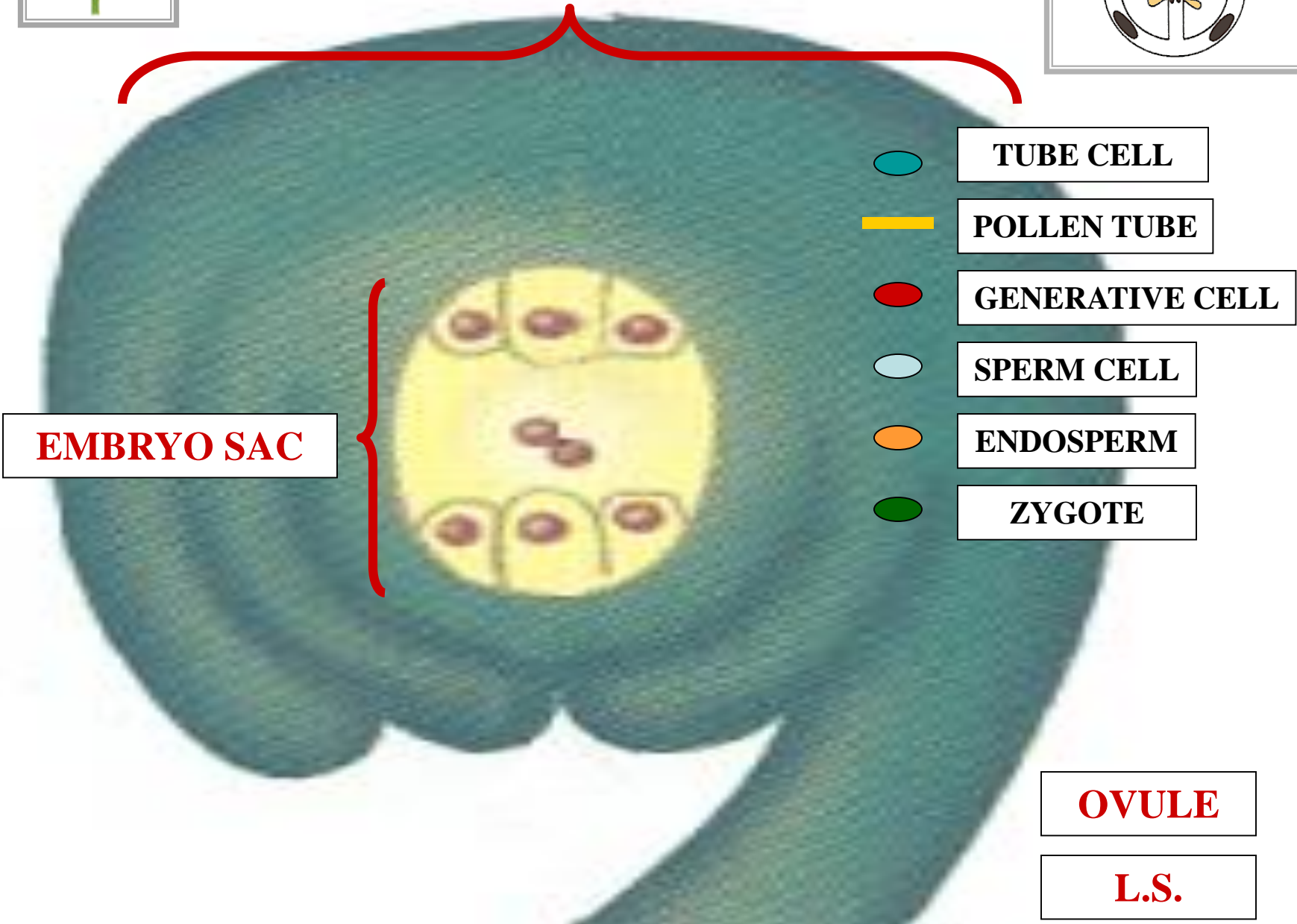
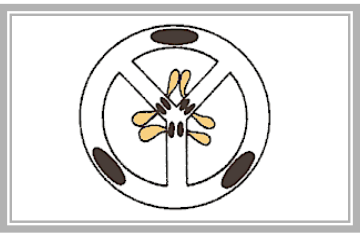
OVULE

FLOWER







● = POLLEN GRAIN



OVULE



EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

OVULE

L.S.









OVULE



EMBRYO SAC



-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

OVULE







L.S.



OVULE

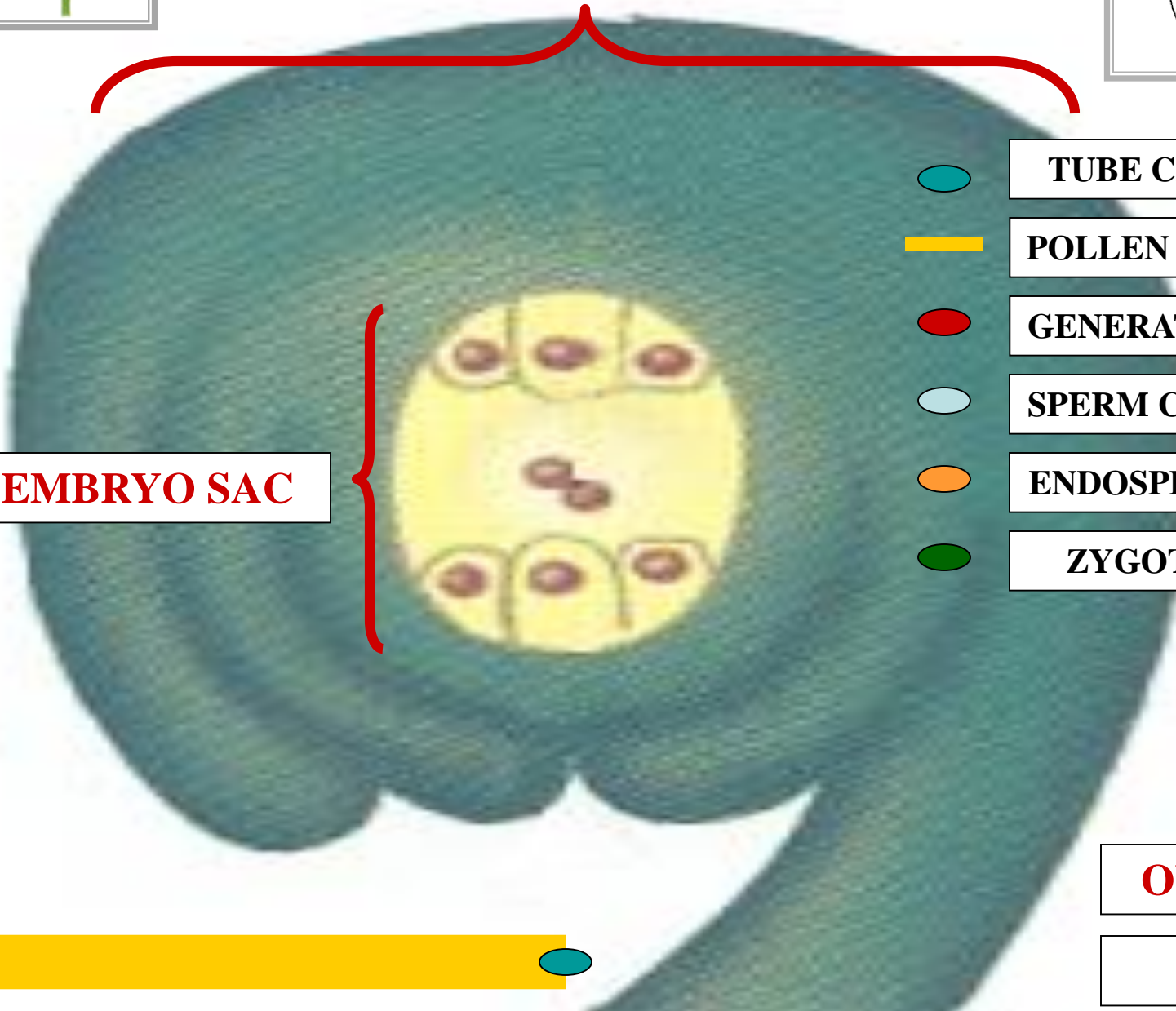


EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

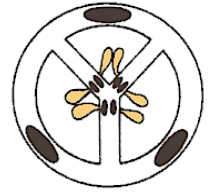
OVULE

L.S.





OVULE



EMBRYO SAC



TUBE CELL



POLLEN TUBE



GENERATIVE CELL



SPERM CELL



ENDOSPERM



ZYGOTE

OVULE

L.S.











OVULE

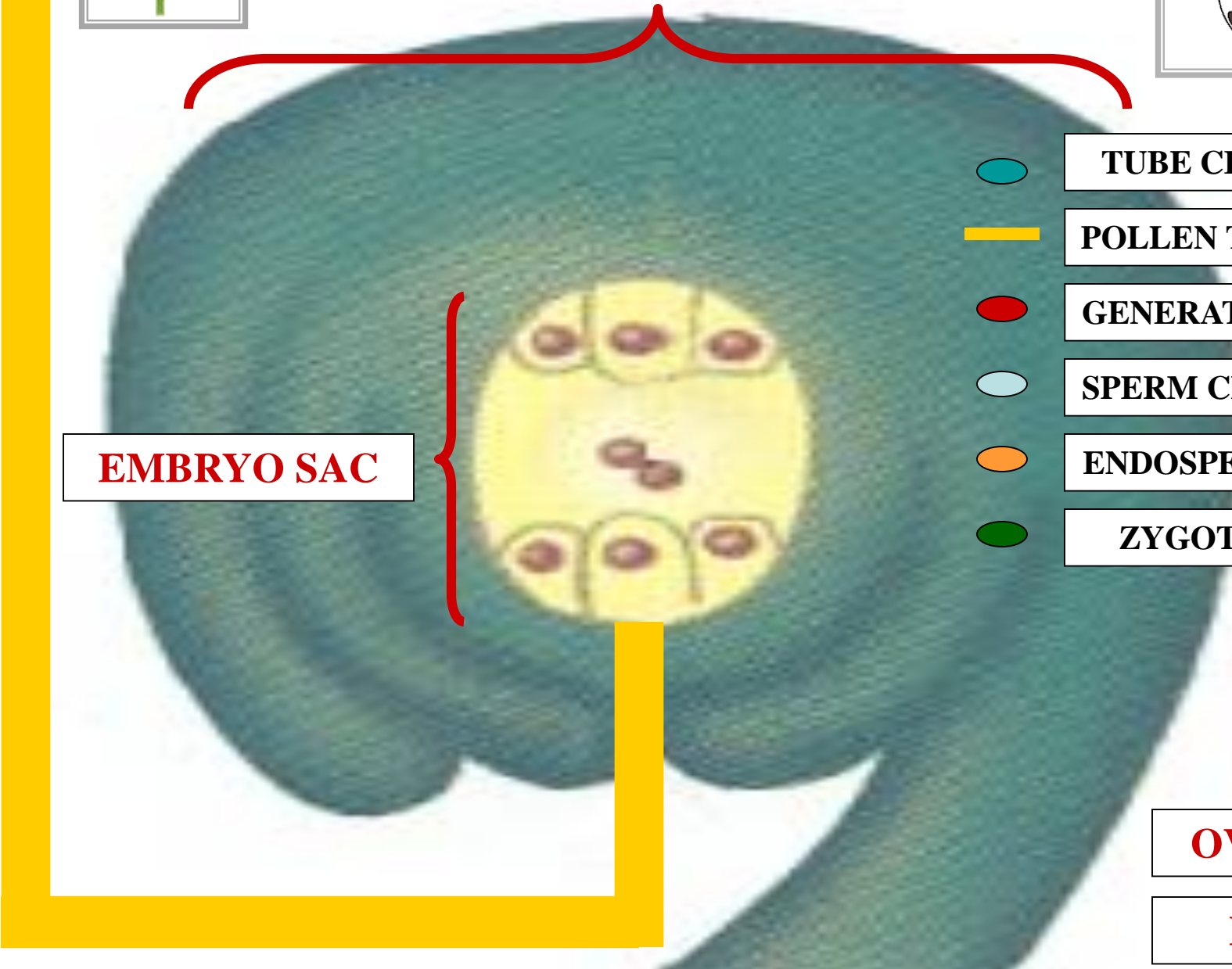


EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

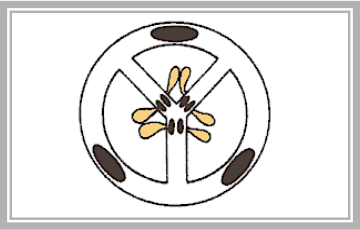
OVULE

L.S.











OVULE



EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

OVULE

L.S.











OVULE

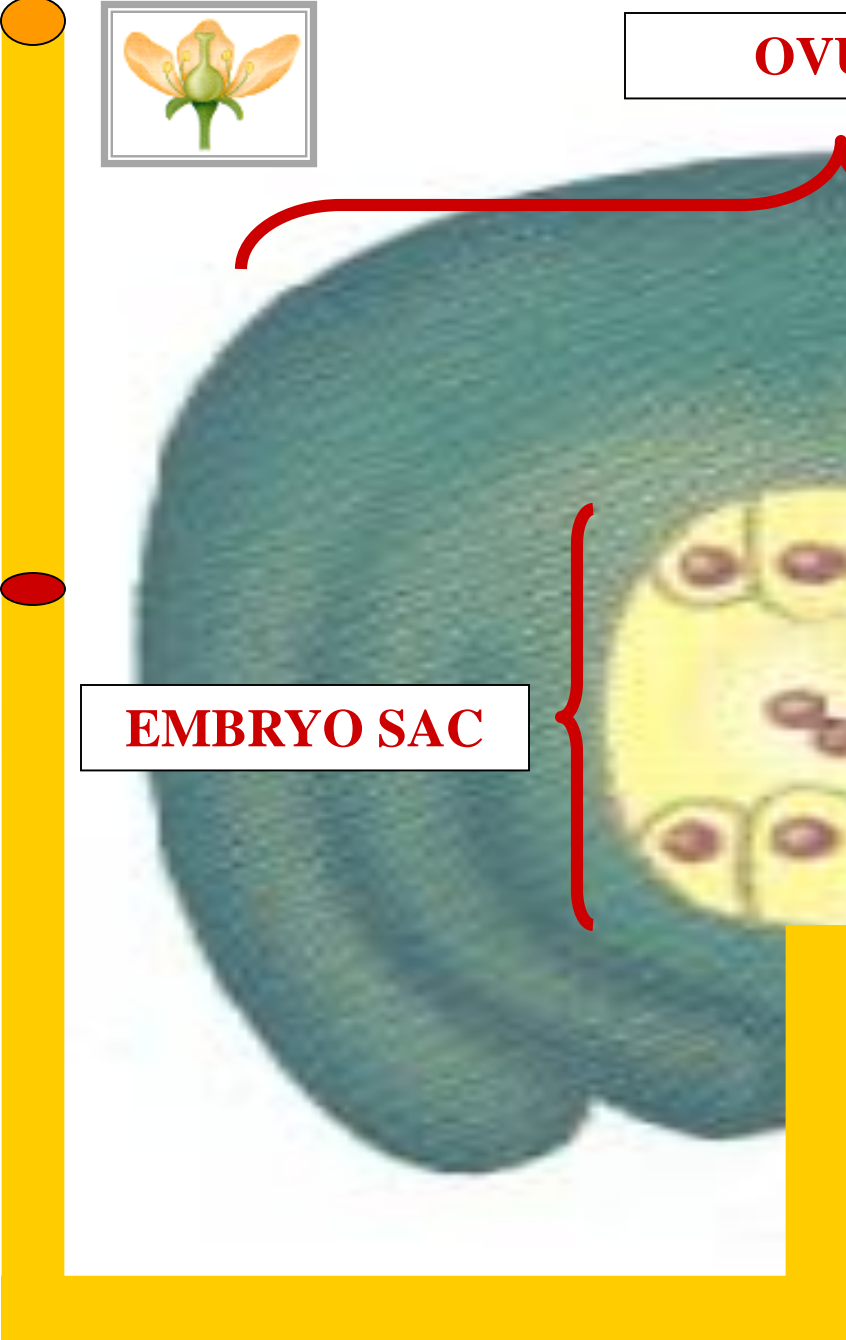


EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

OVULE

L.S.











OVULE

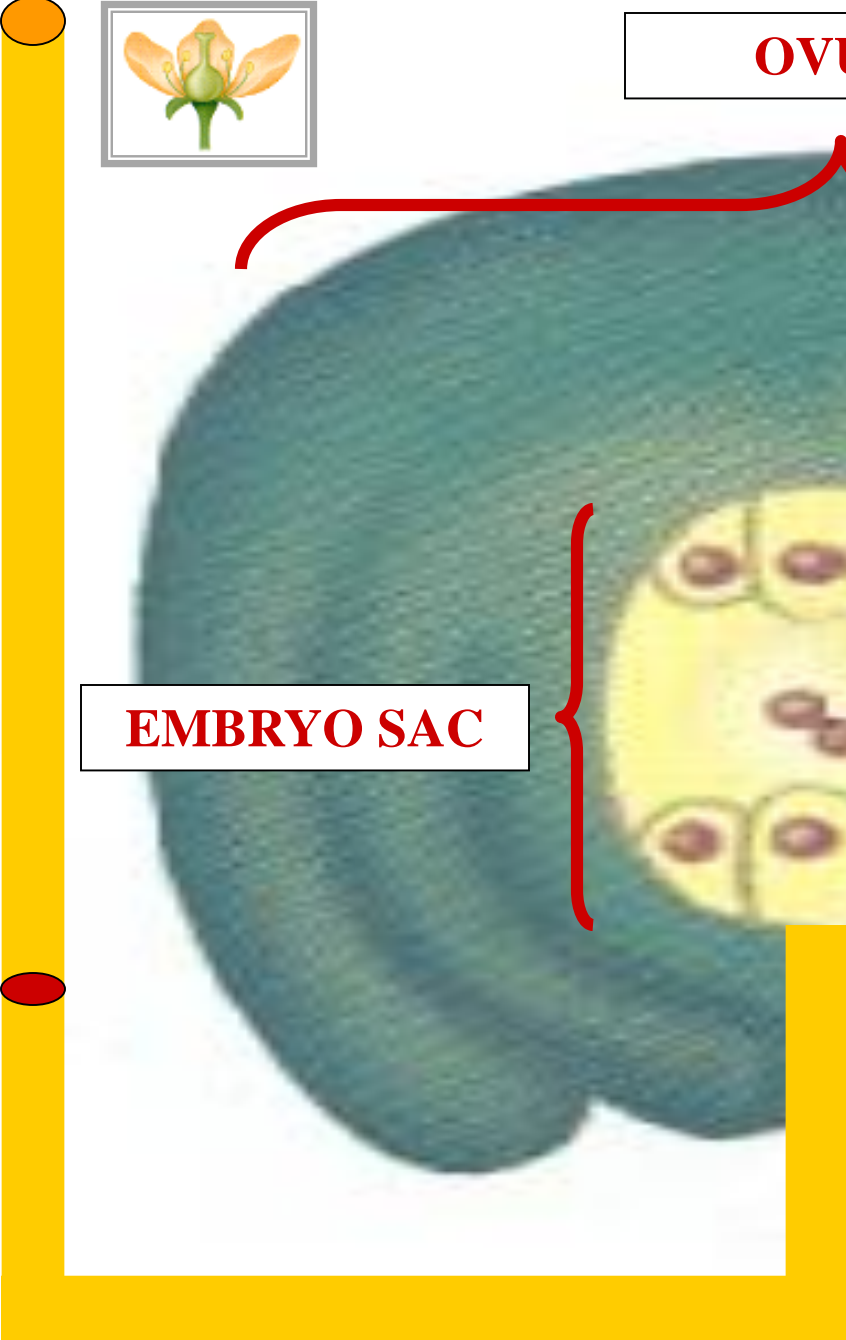


EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

OVULE

L.S.











OVULE

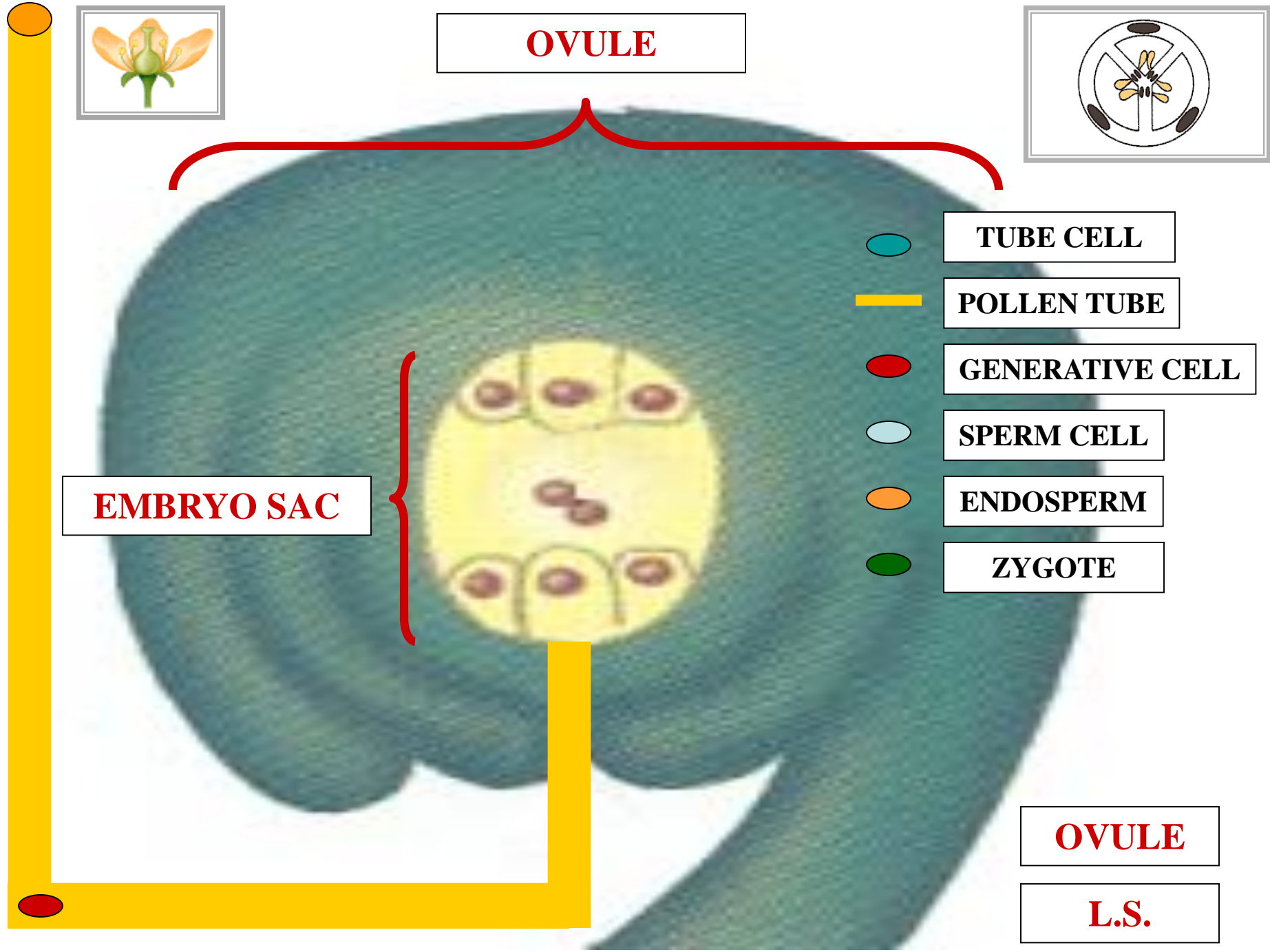


EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

OVULE

L.S.











OVULE



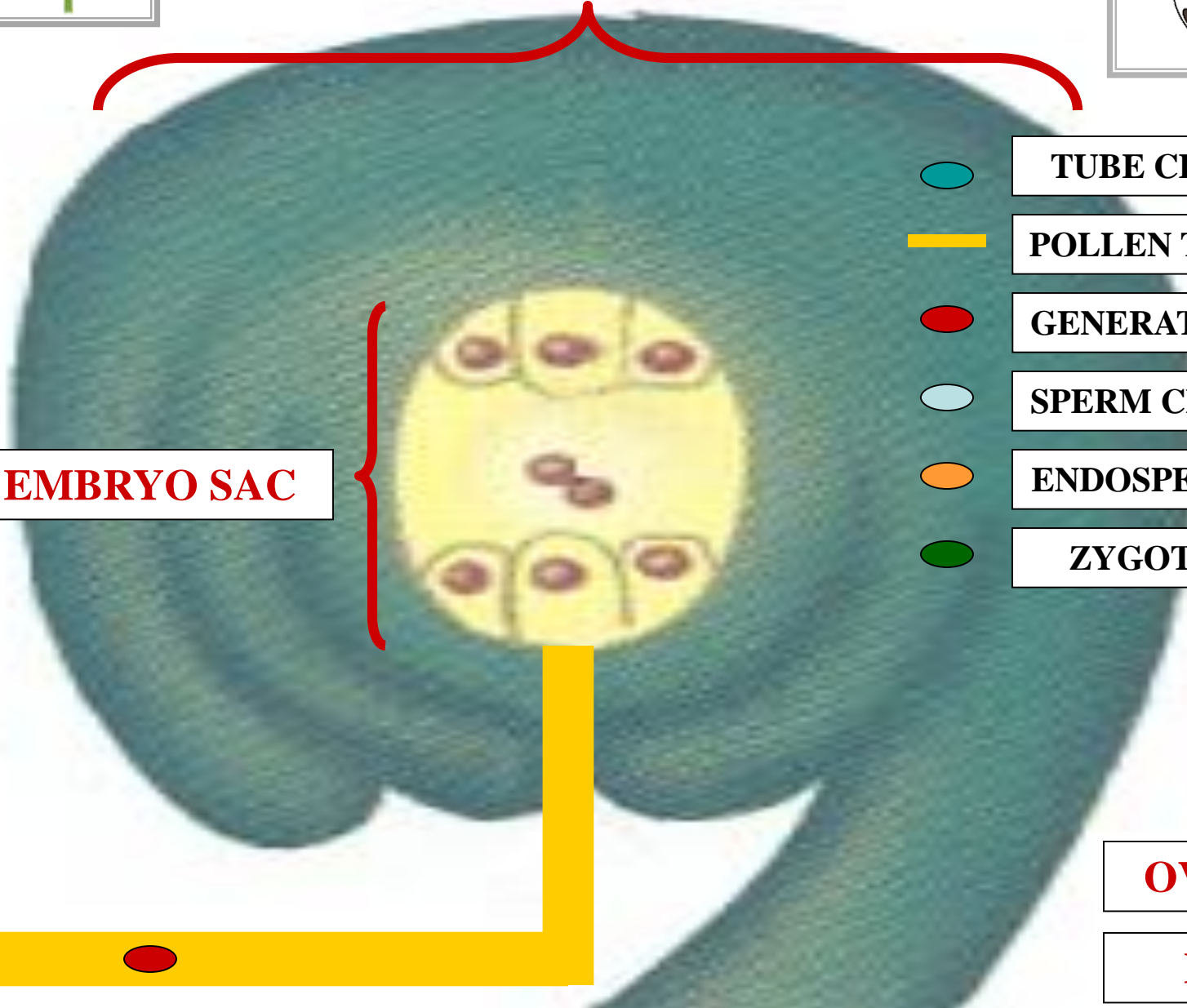
M

EMBRYO SAC

-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

OVULE

L.S.











OVULE



EMBRYO SAC



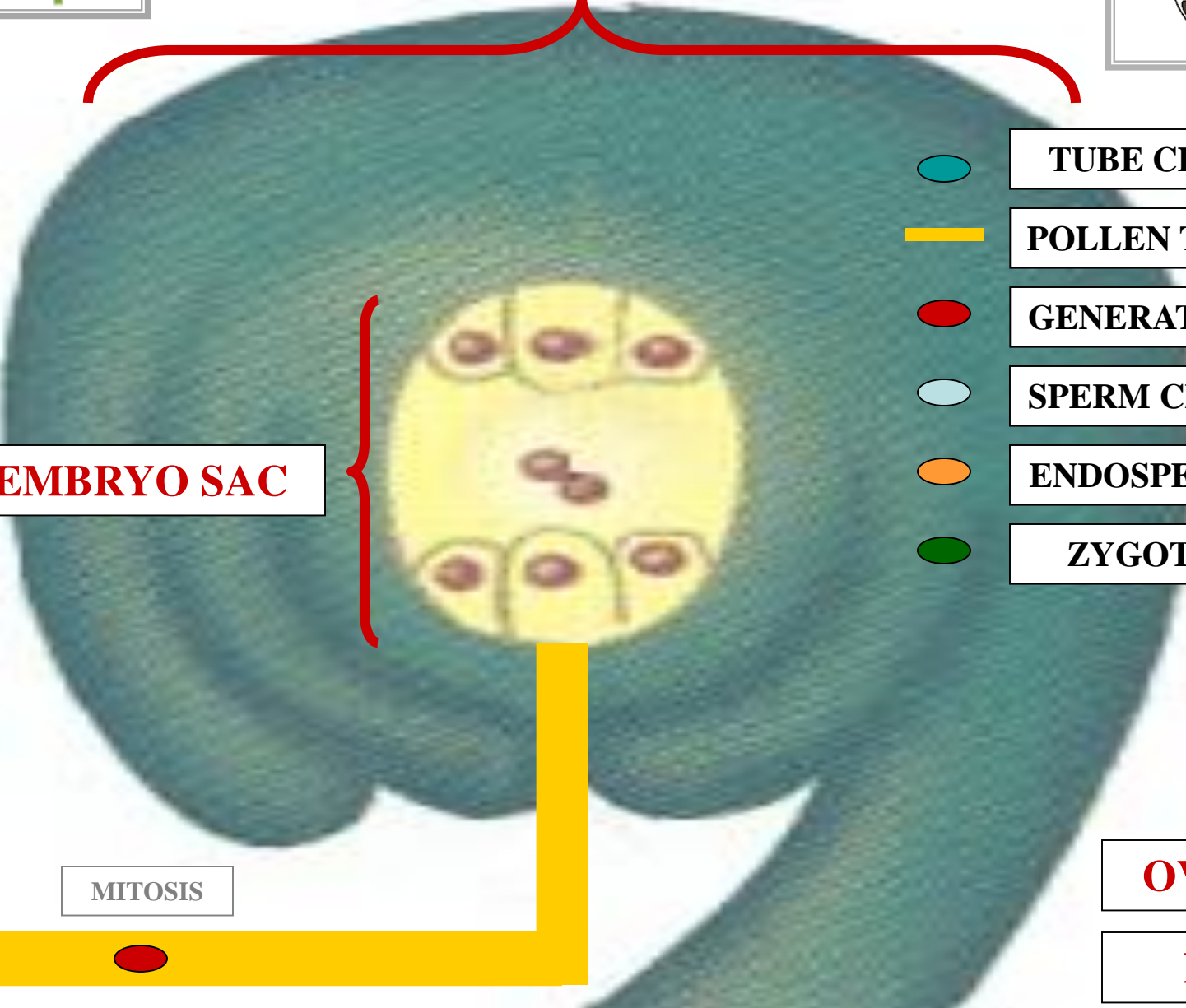
-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

MITOSIS



OVULE

L.S.





OVULE



EMBRYO SAC



TUBE CELL



POLLEN TUBE



GENERATIVE CELL



SPERM CELL



ENDOSPERM



ZYGOTE

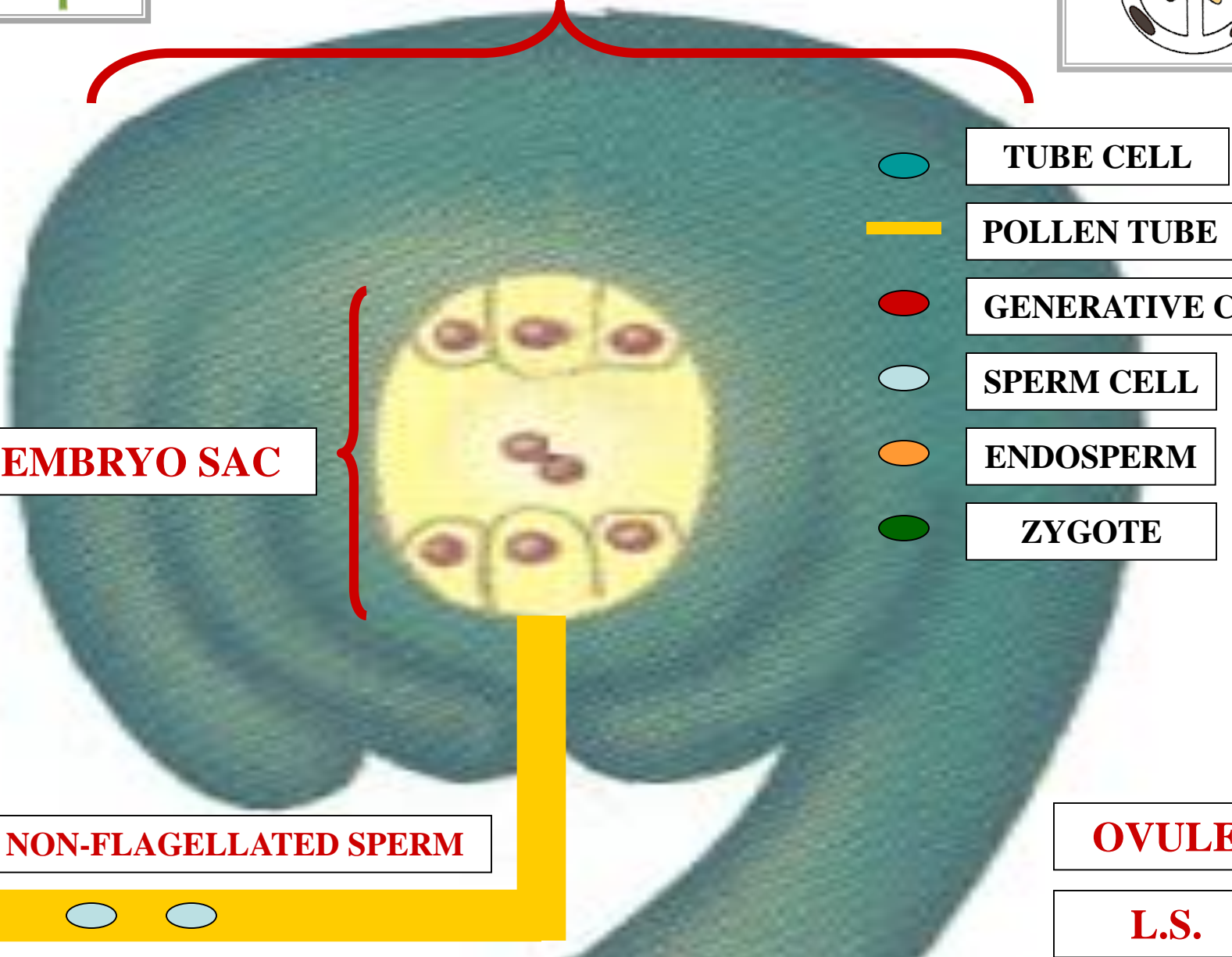


NON-FLAGELLATED SPERM



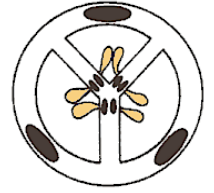
OVULE

L.S.





OVULE



EMBRYO SAC

DOUBLE FERTILIZATION

TUBE CELL

POLLEN TUBE

GENERATIVE CELL

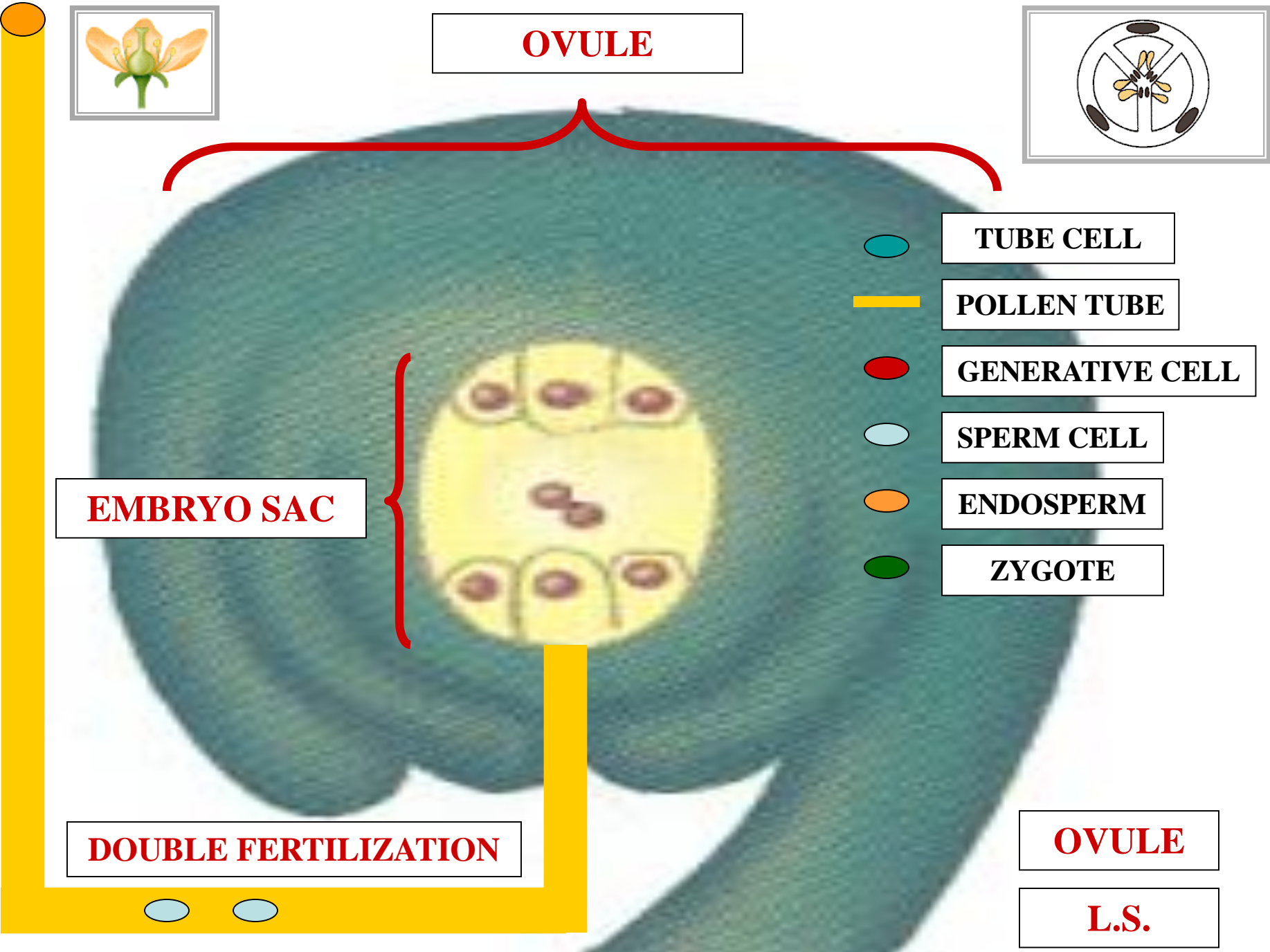
SPERM CELL

ENDOSPERM

ZYGOTE

OVULE

L.S.





OVULE



EMBRYO SAC



TUBE CELL



POLLEN TUBE



GENERATIVE CELL



SPERM CELL



ENDOSPERM



ZYGOTE

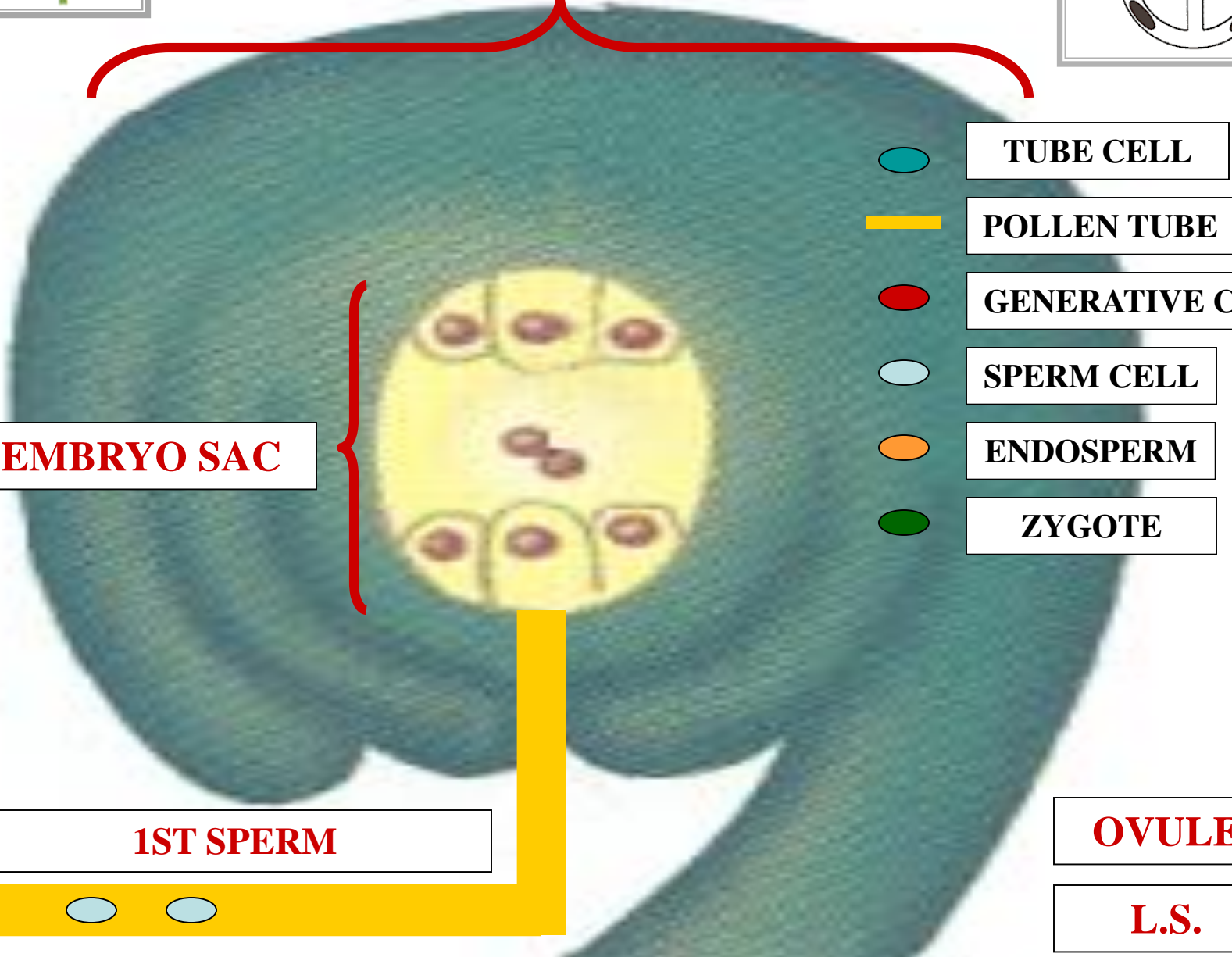


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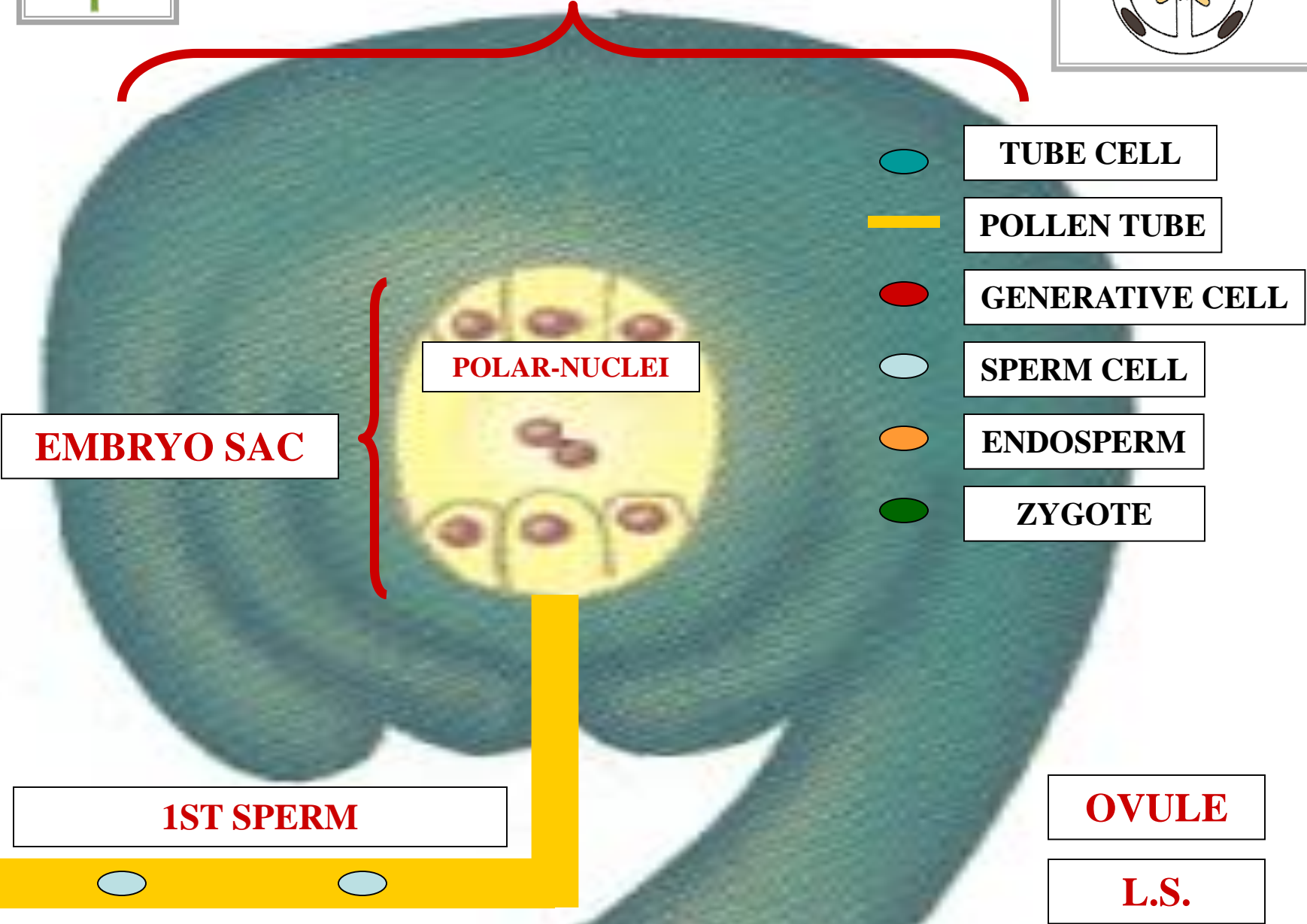
OVULE

L.S.





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

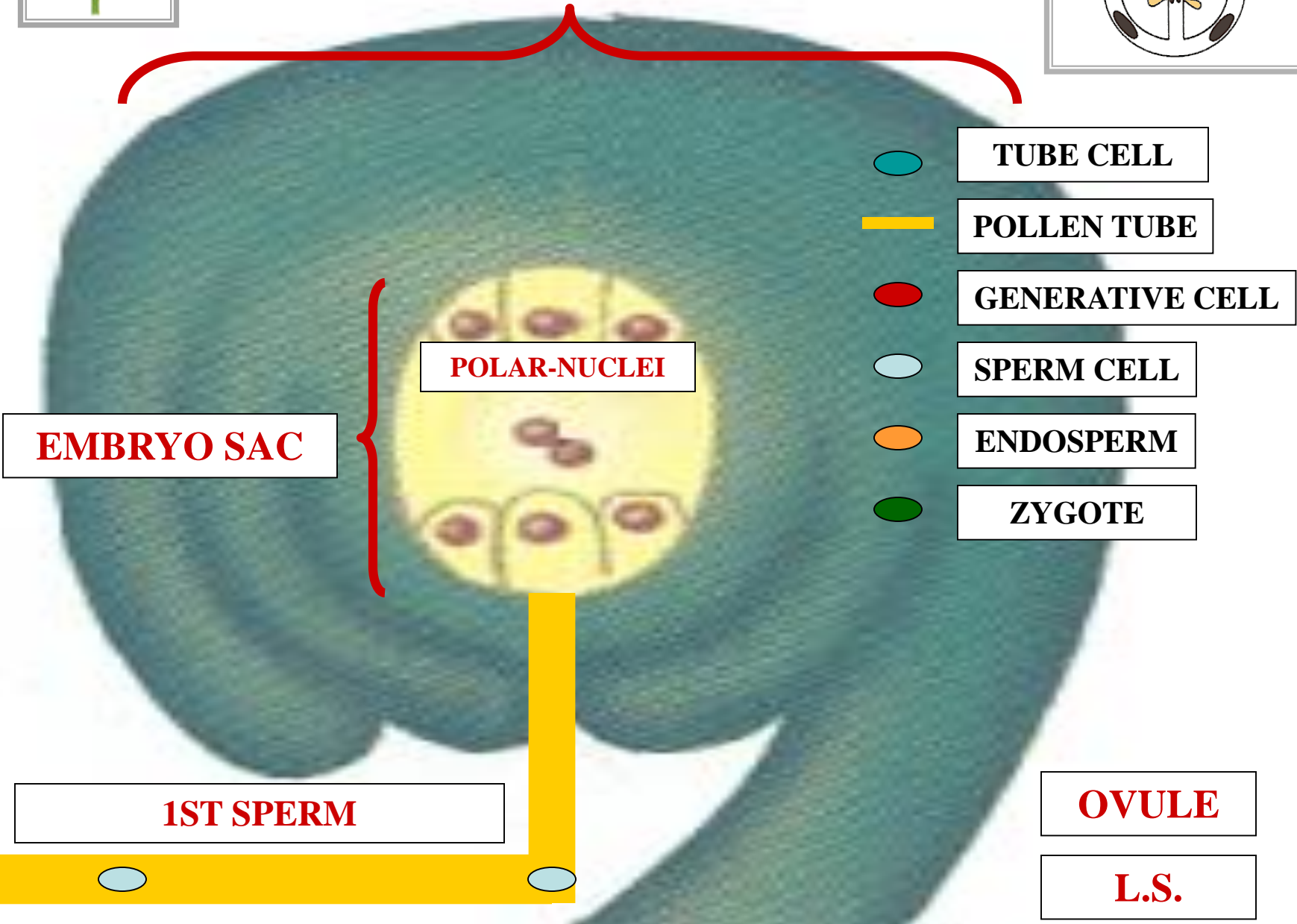
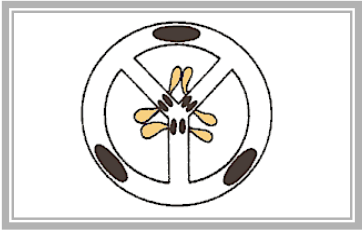
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OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

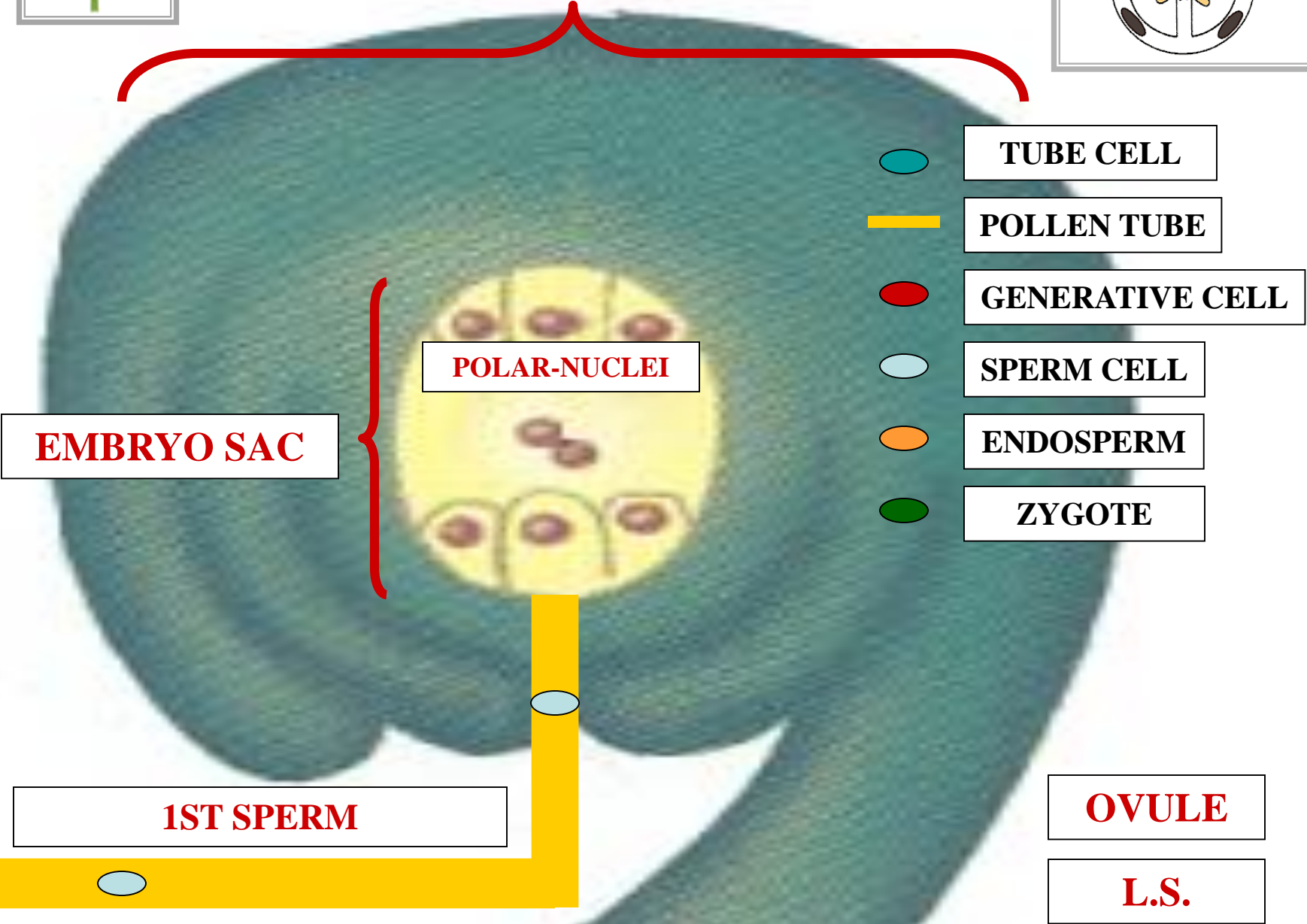
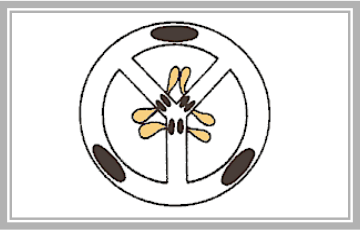
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

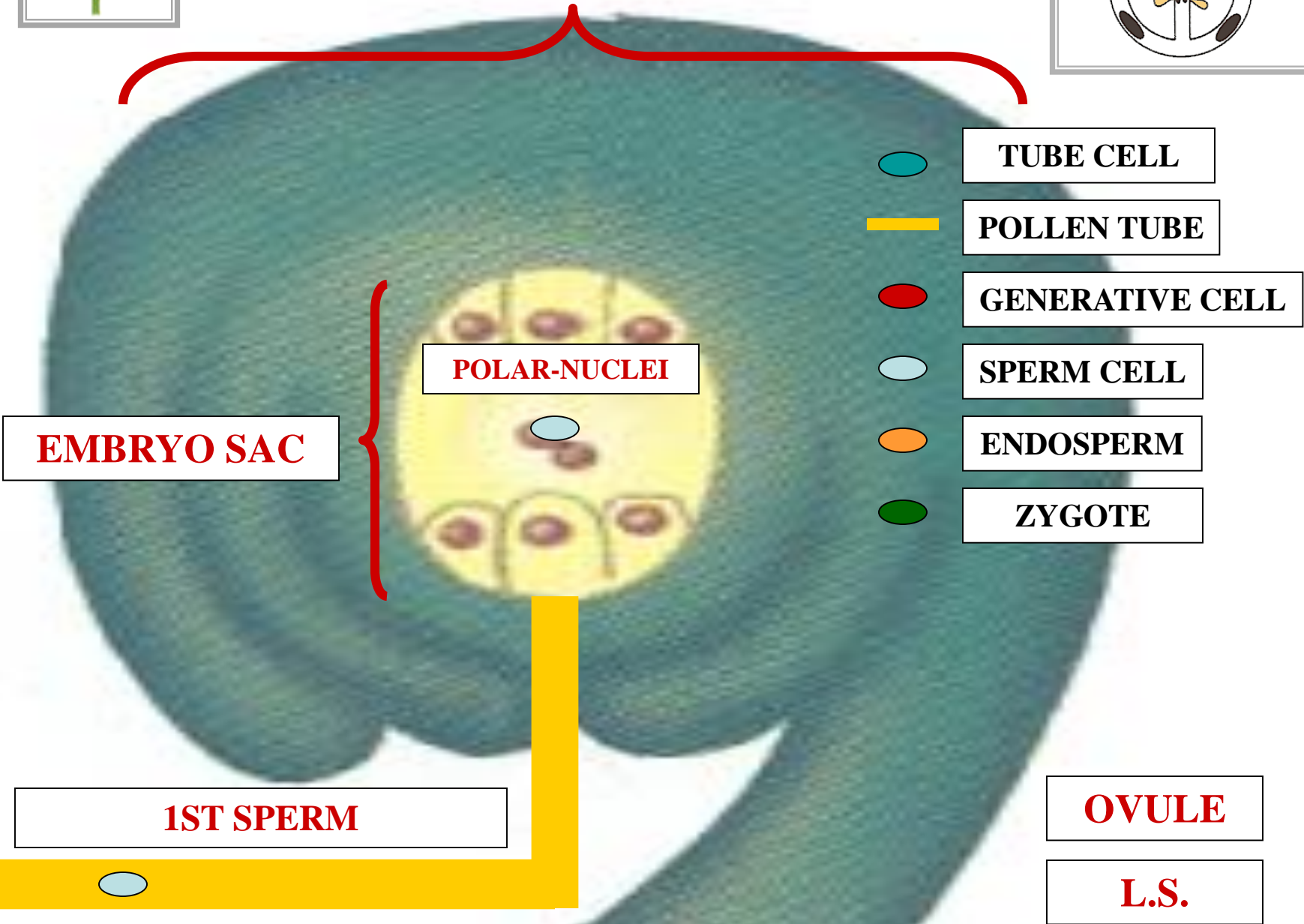
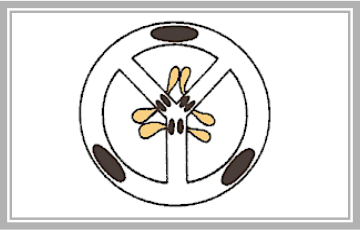
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

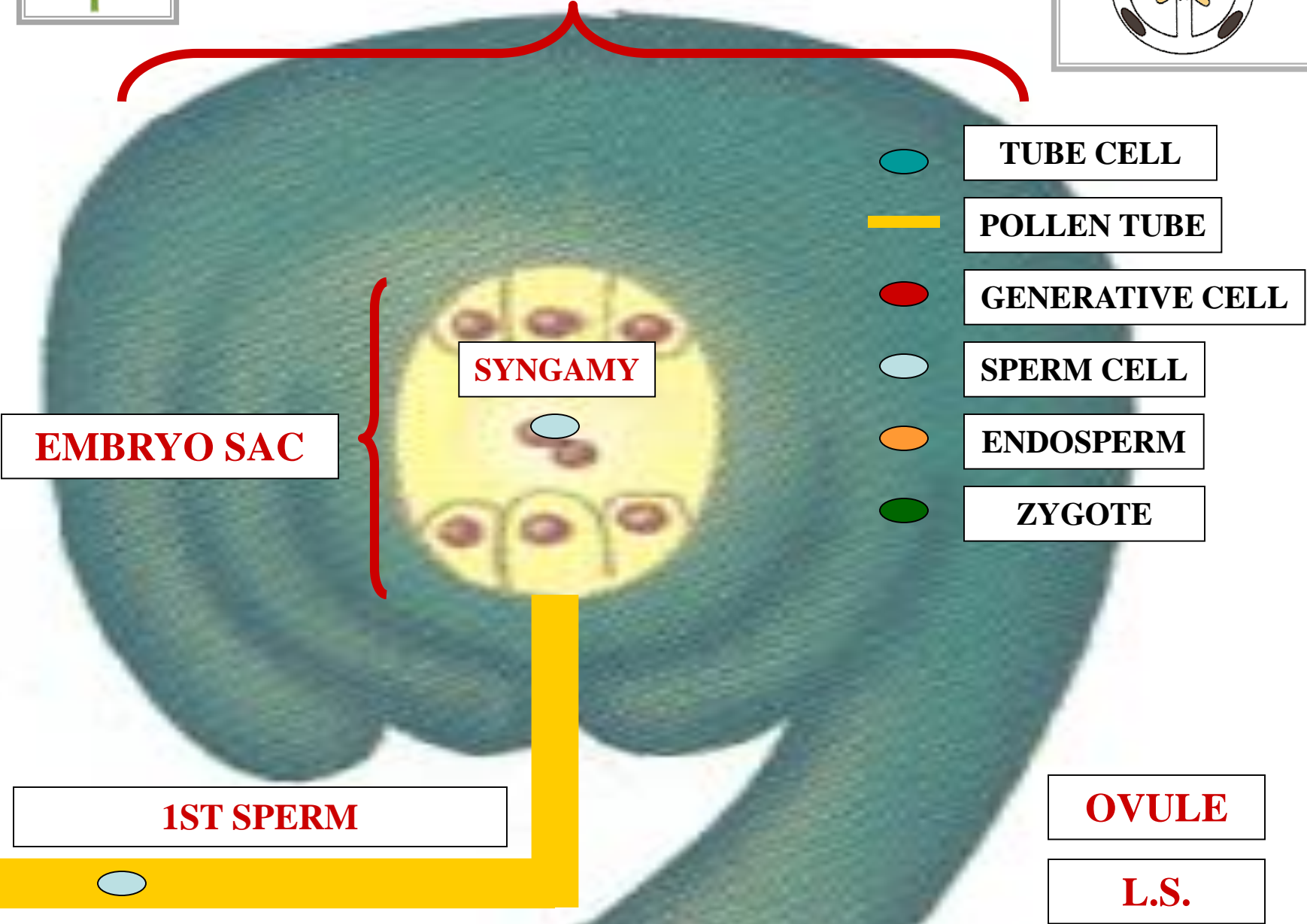
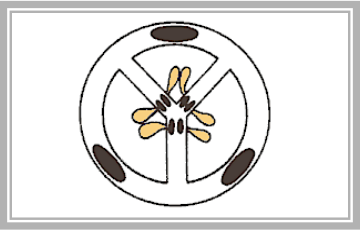
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

SYNGAMY

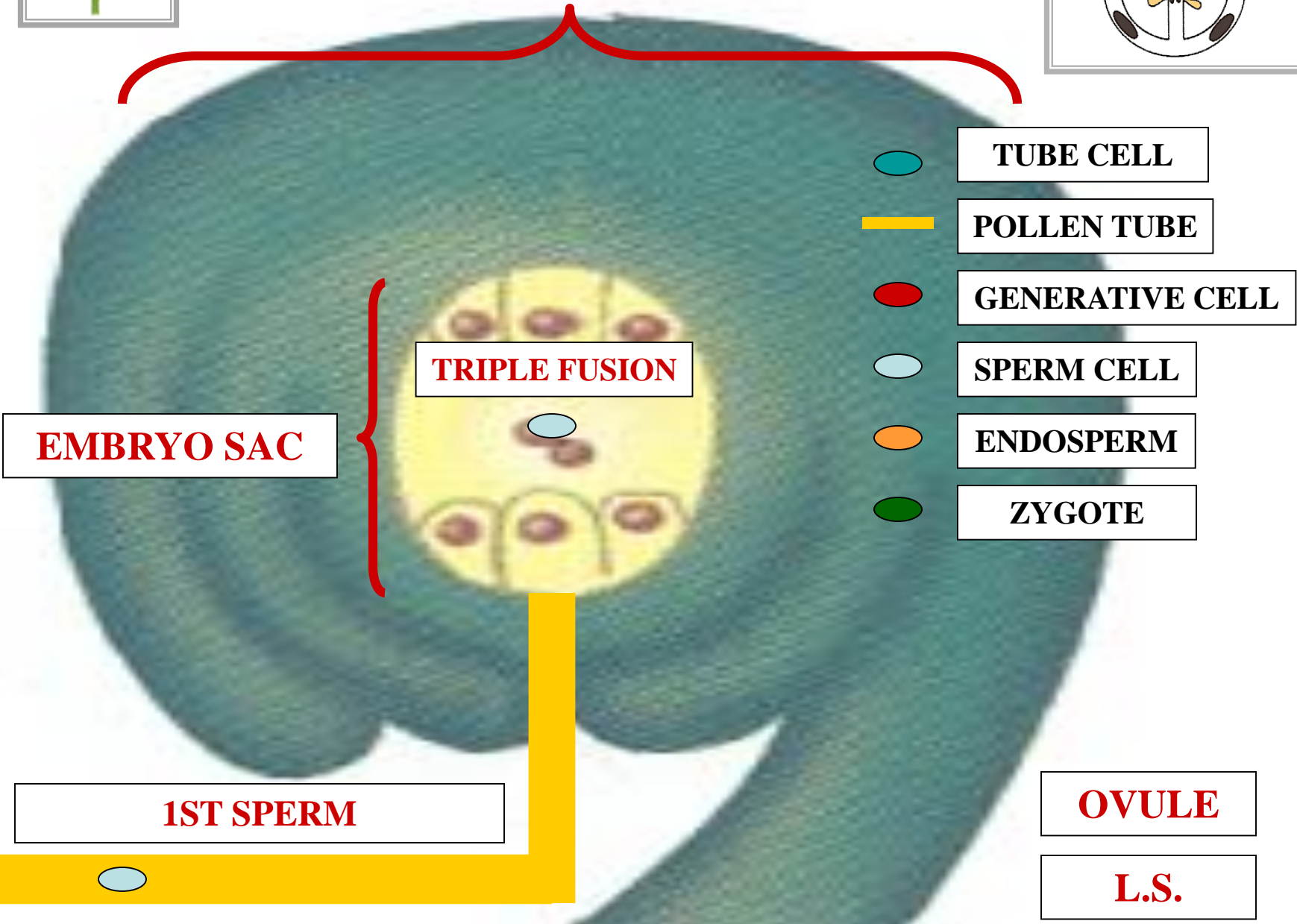
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

TRIPLE FUSION

EMBRYO SAC

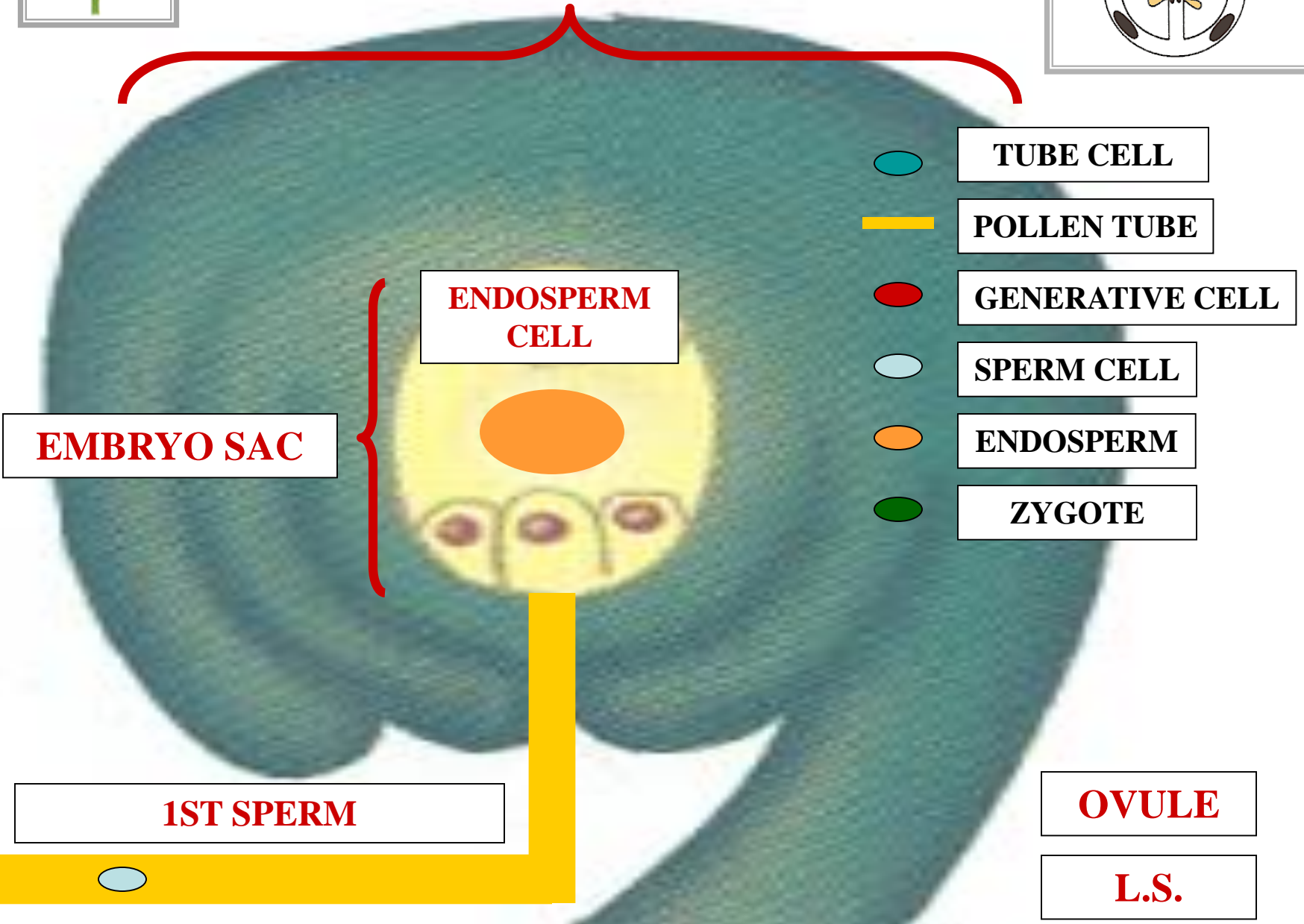
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

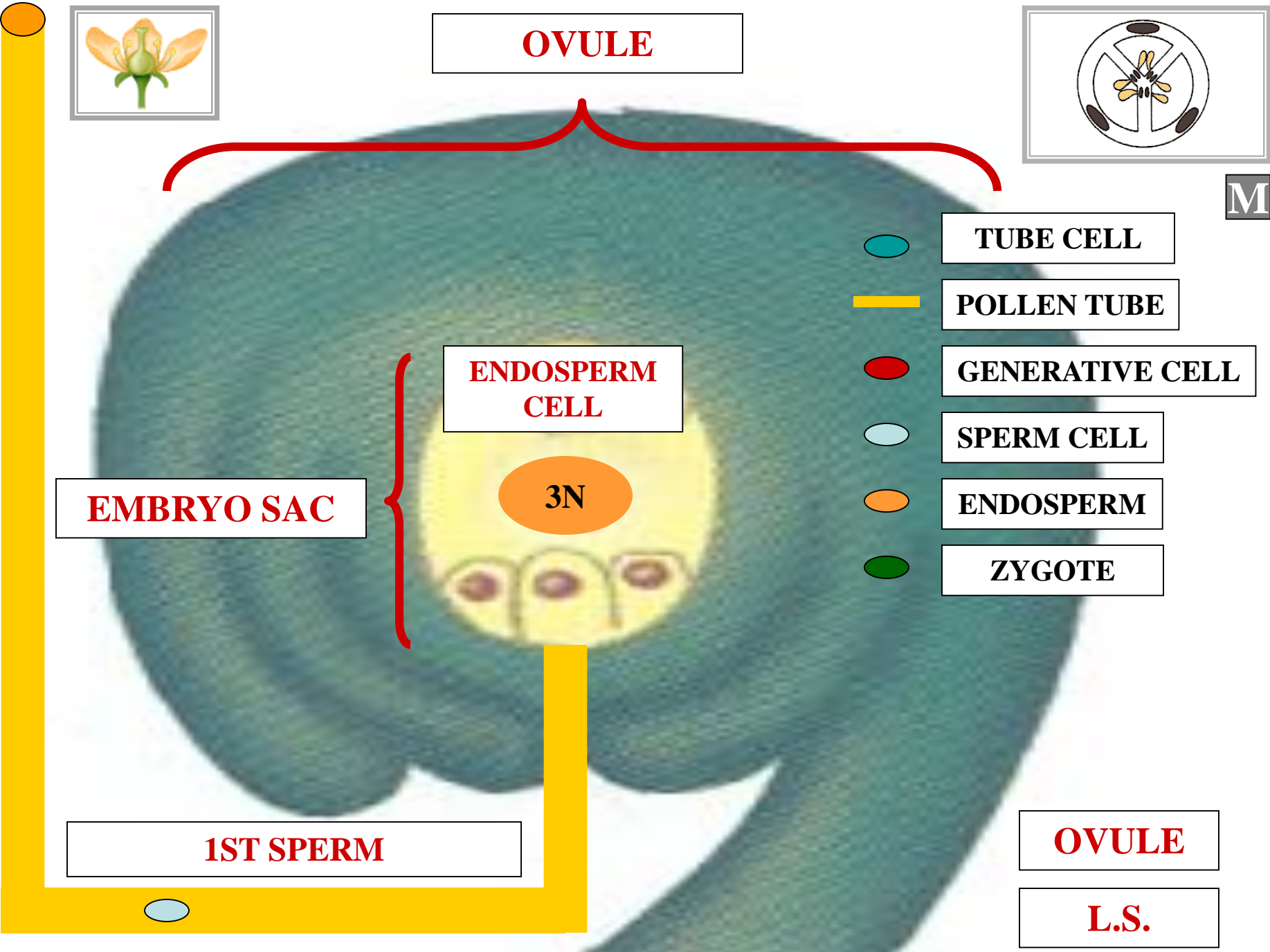
ENDOSPERM CELL

EMBRYO SAC

1ST SPERM

OVULE

L.S.



OVULE



M

TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM CELL

EMBRYO SAC

3N

1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL



POLLEN TUBE



GENERATIVE CELL



SPERM CELL



ENDOSPERM



ZYGOTE

ENDOSPERM CELL

MITOSIS

3N

EMBRYO SAC

1ST SPERM

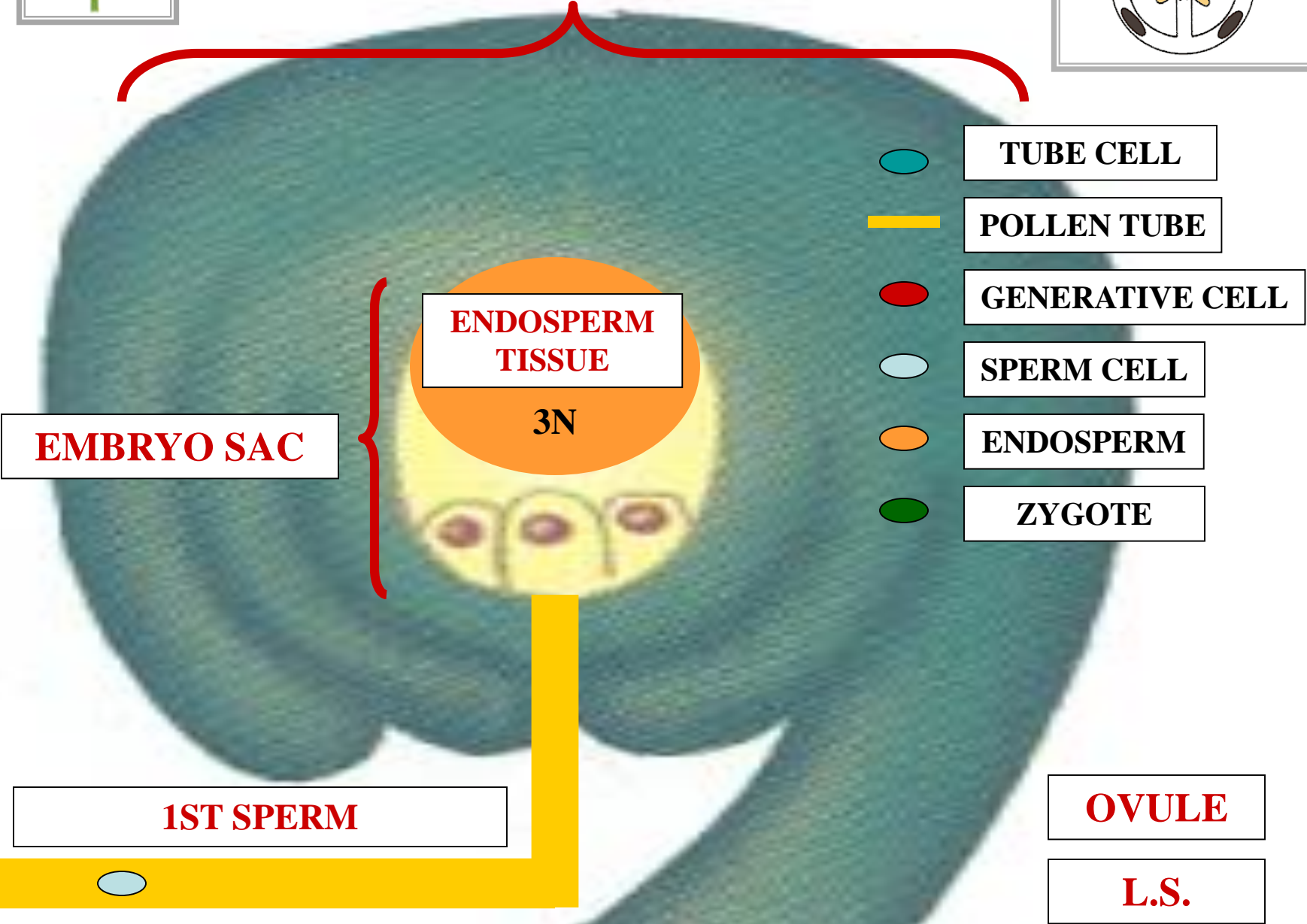
OVULE

L.S.





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

$3N$

EMBRYO SAC

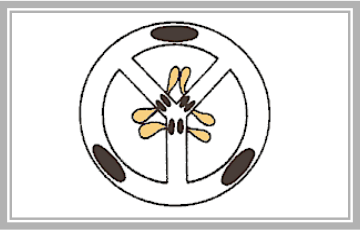
1ST SPERM

OVULE

L.S.



OVULE



EMBRYO SAC

EMBRYO NUTRIENT

3N

1ST SPERM

TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

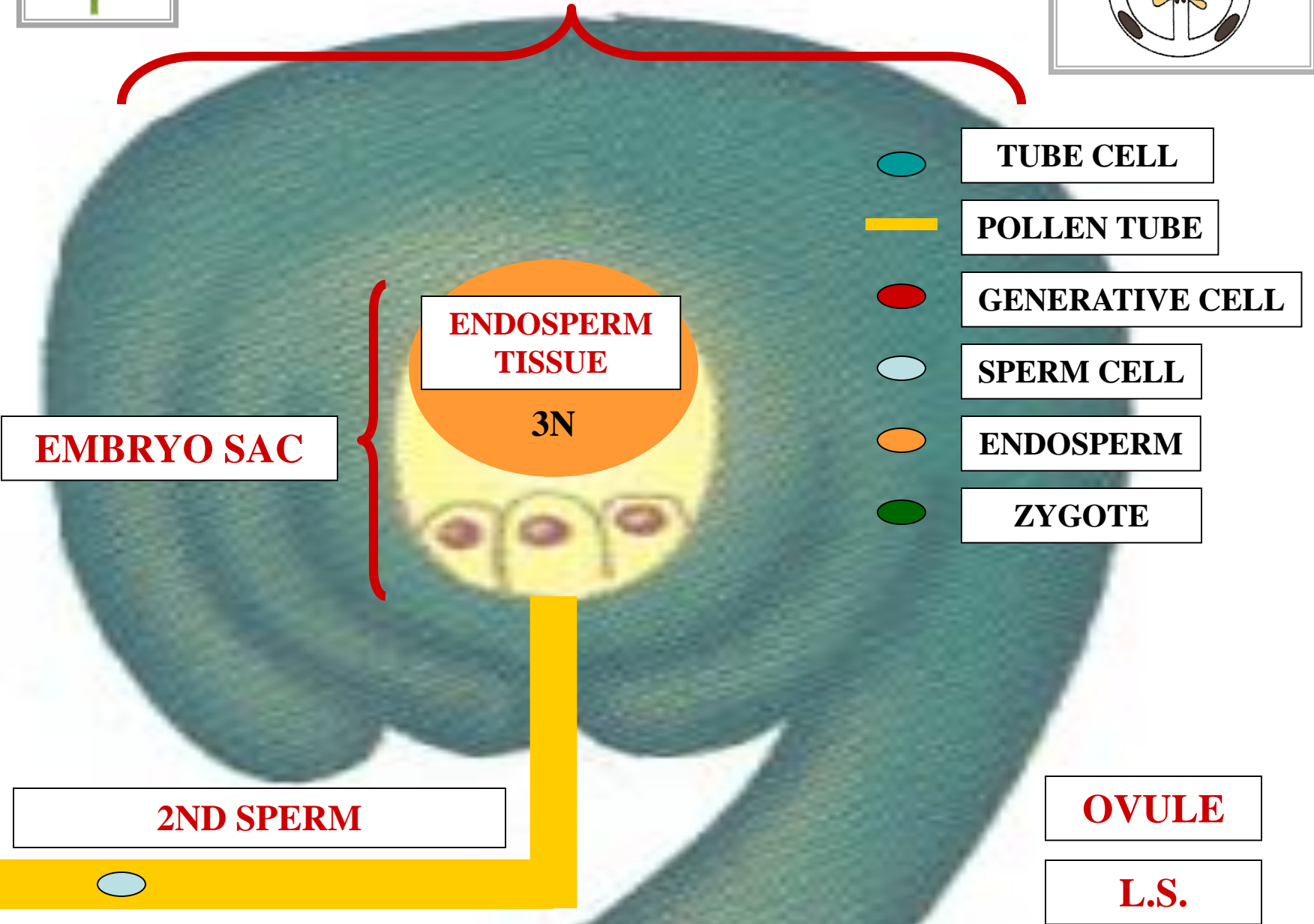
OVULE

L.S.





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EMBRYO SAC

2ND SPERM

OVULE

L.S.



OVULE



EMBRYO SAC

ENDOSPERM TISSUE

3N

EGG

TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

2ND SPERM

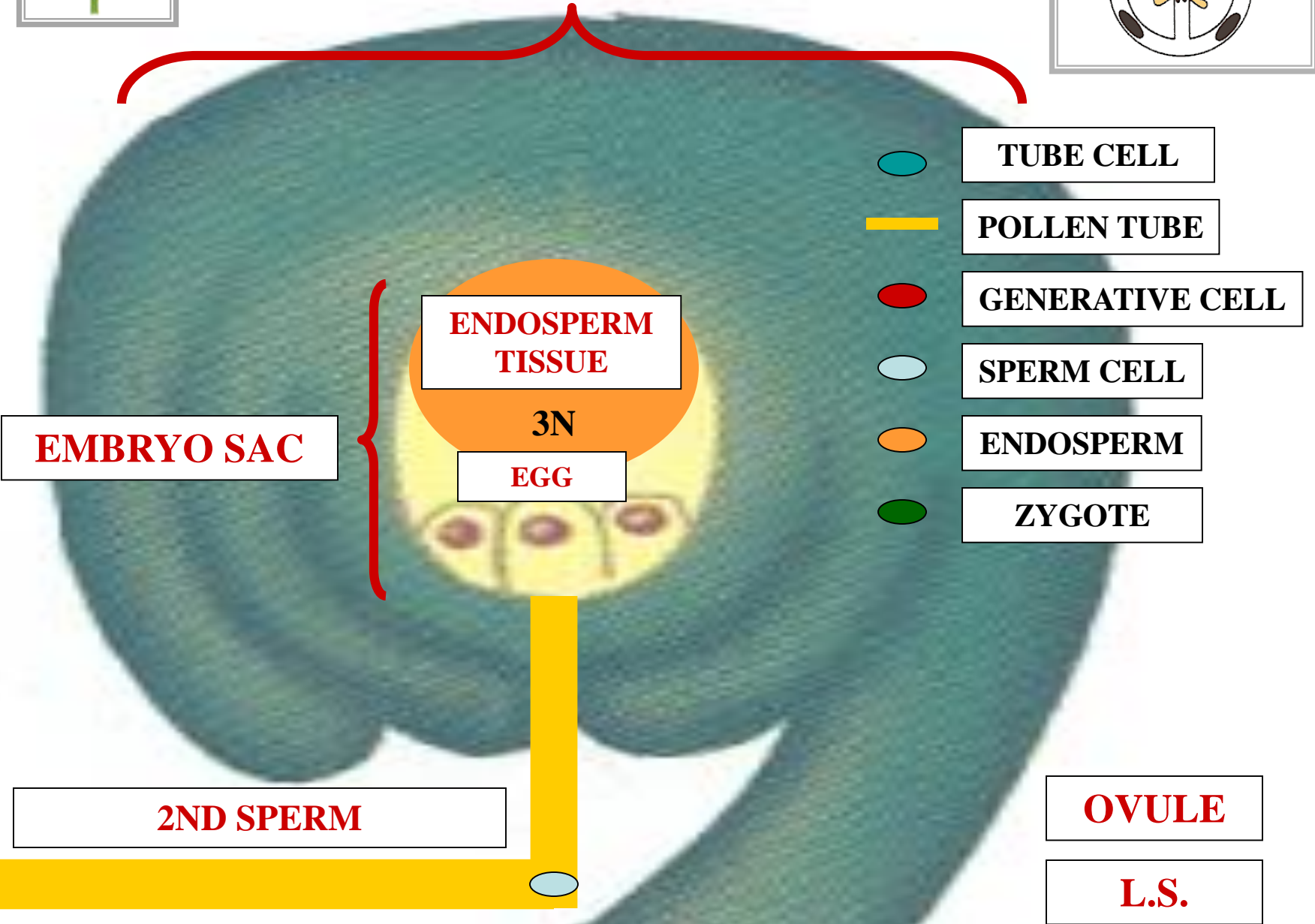
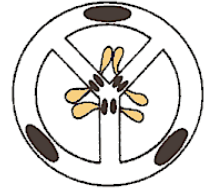
OVULE

L.S.





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

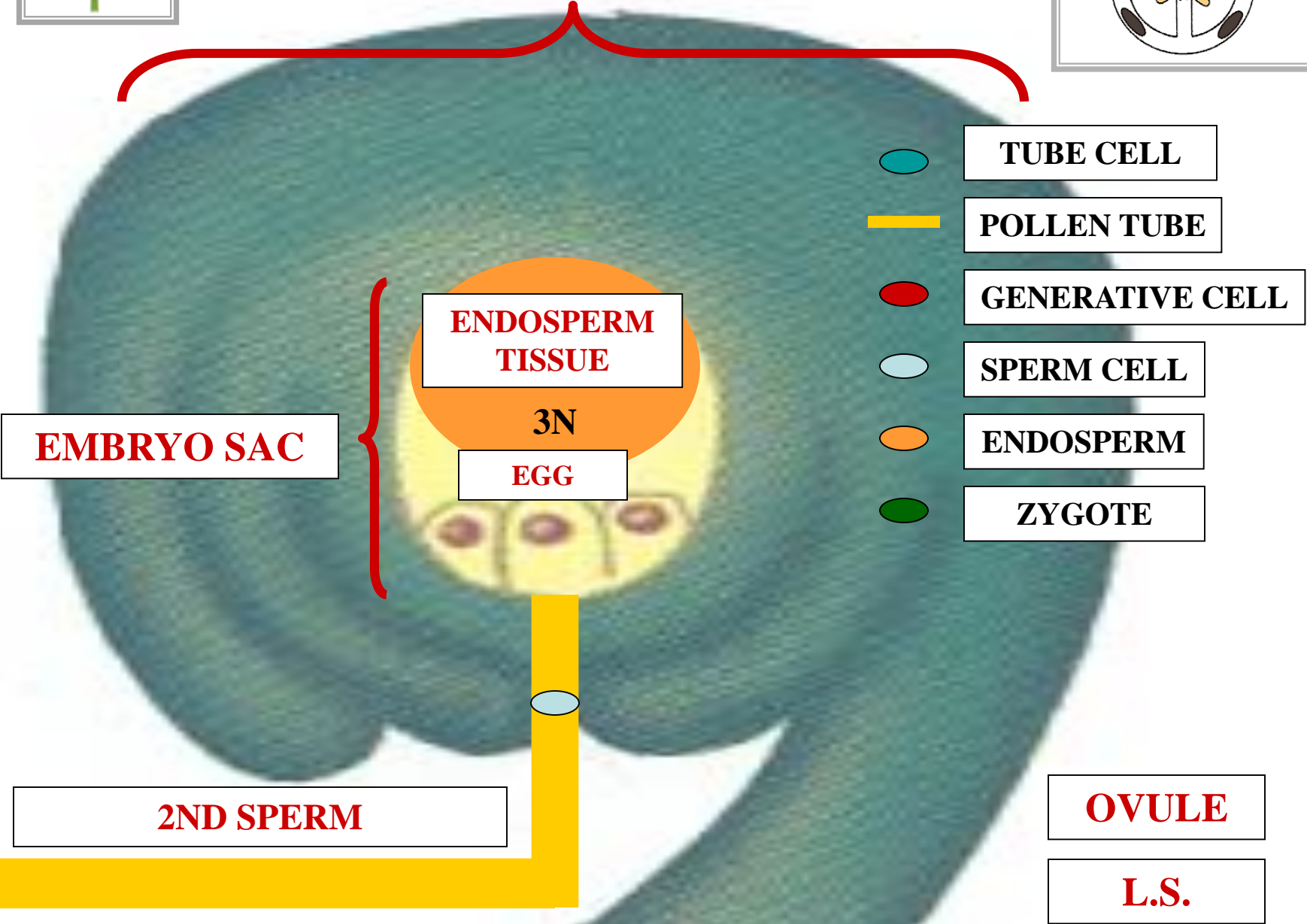
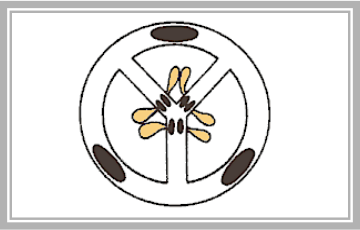
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EGG

EMBRYO SAC

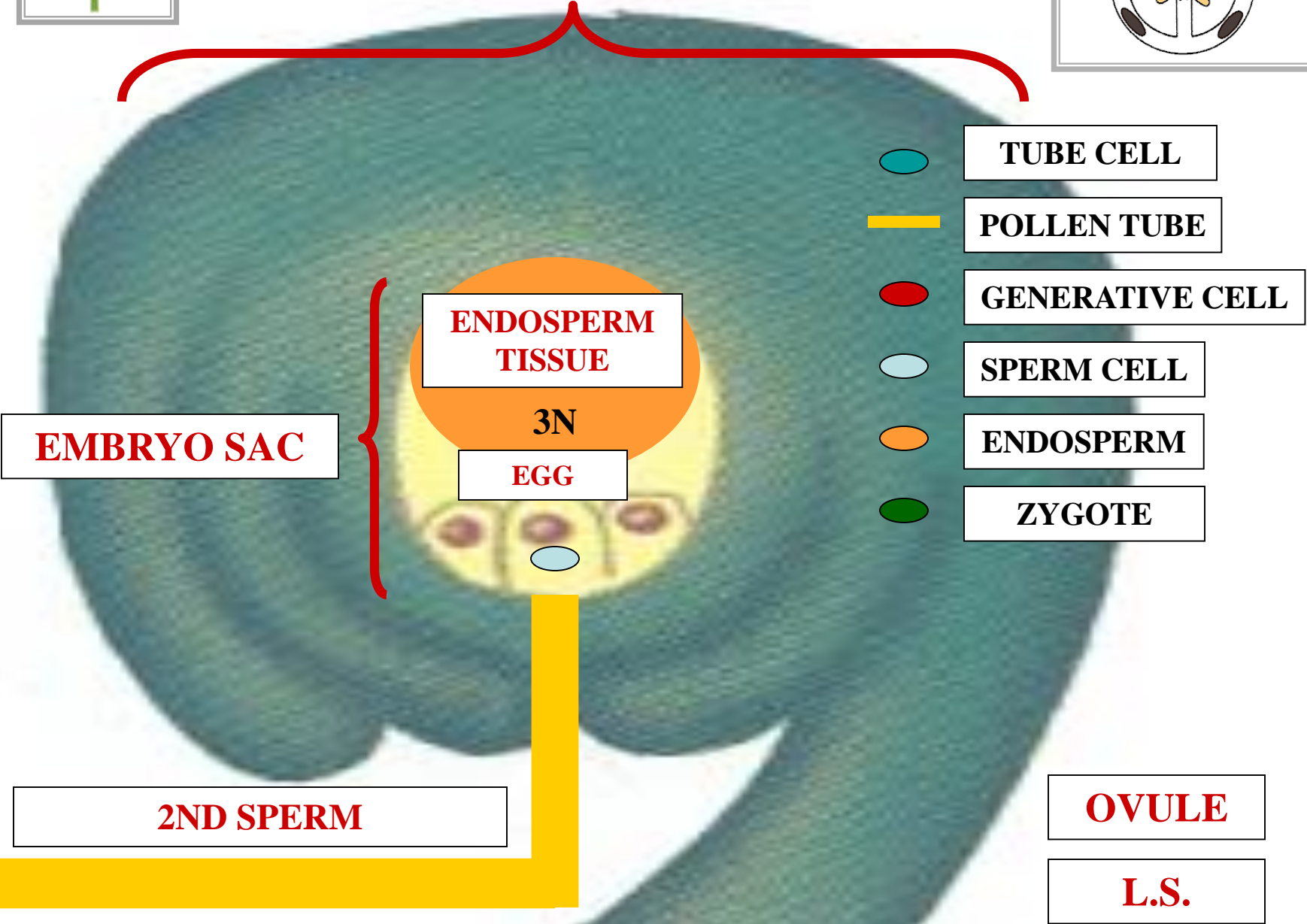
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

EGG

3N

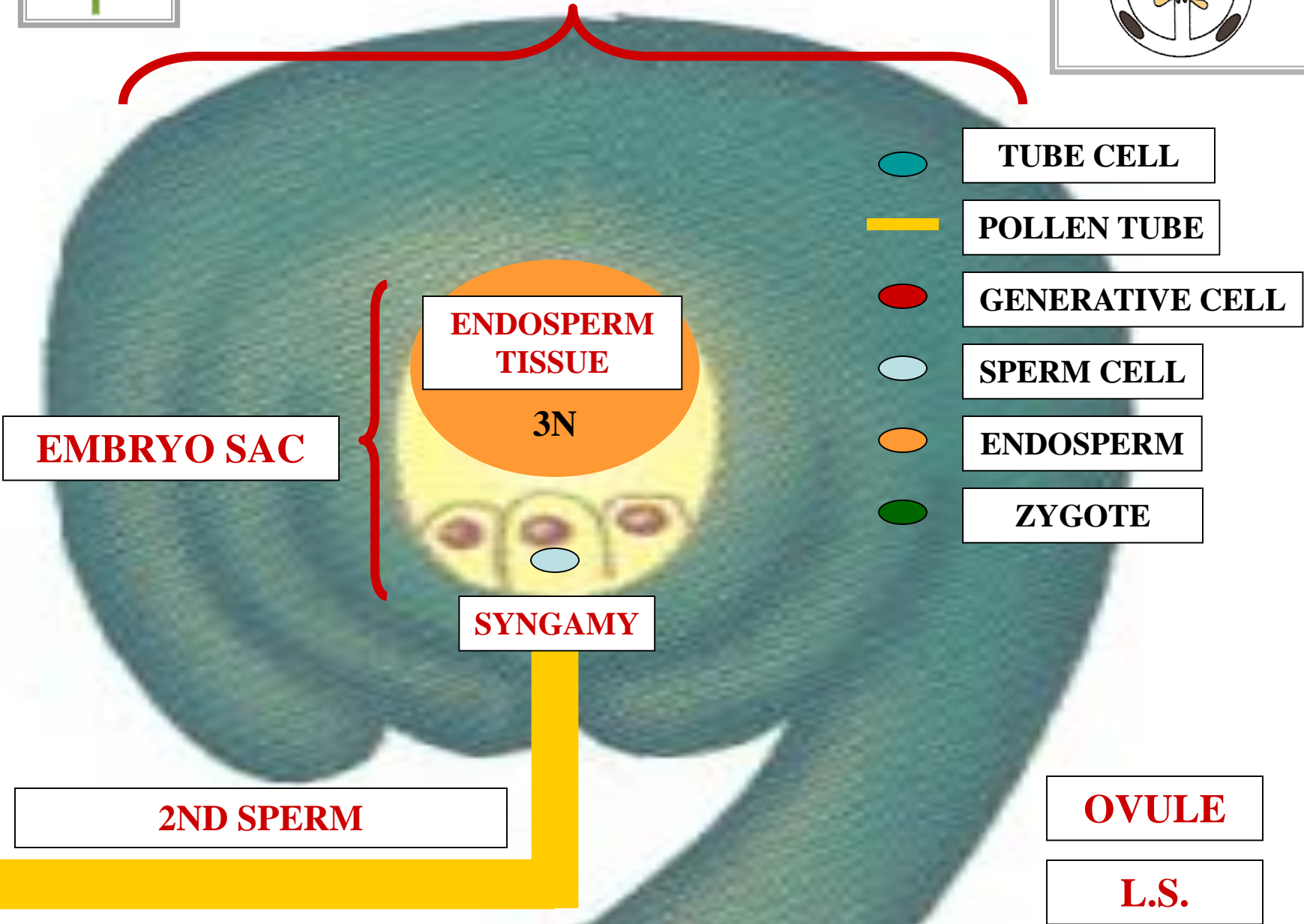
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

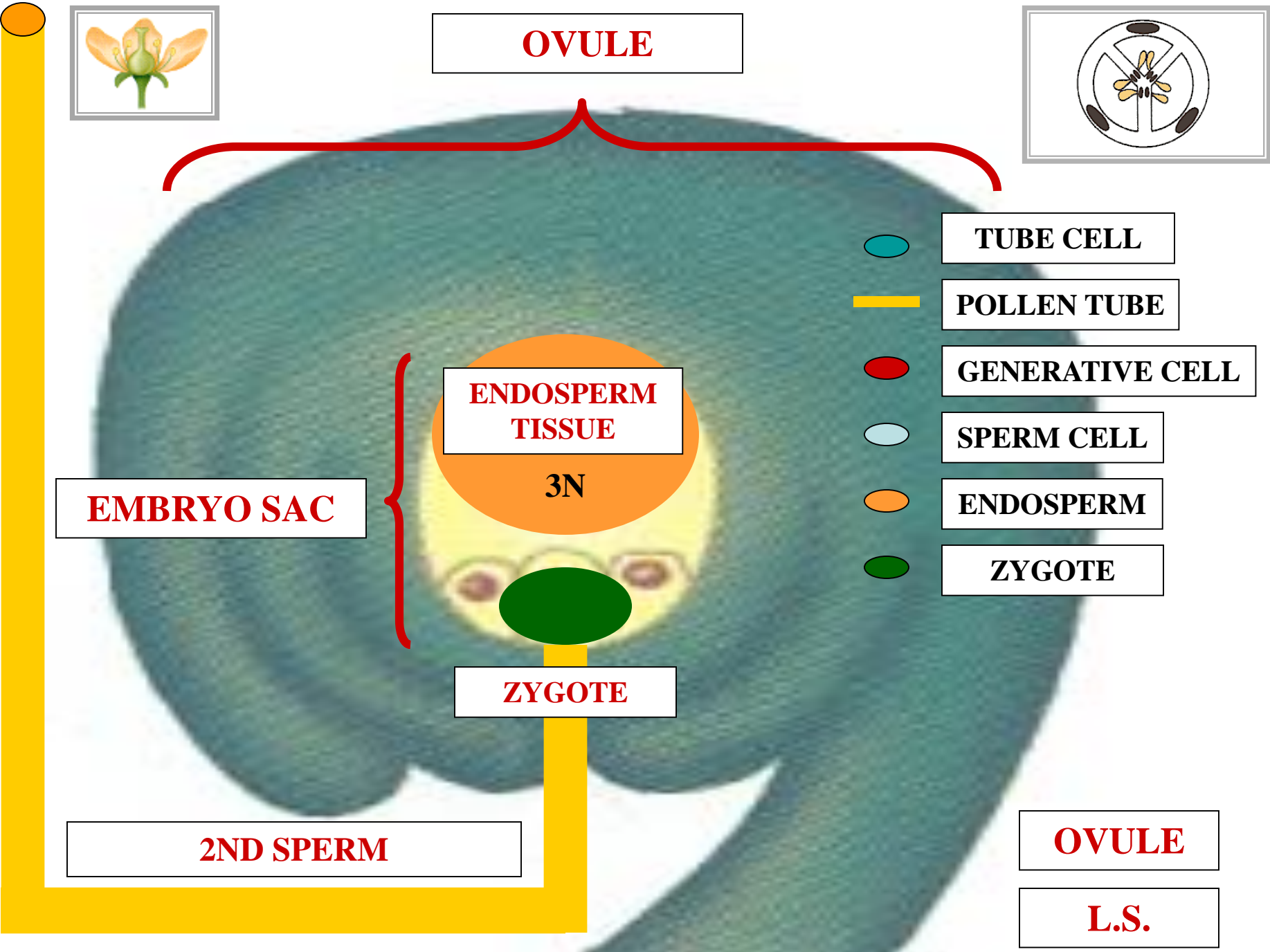
EMBRYO SAC

SYNGAMY

2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

**ENDOSPERM
TISSUE**

3N

ZYGOTE

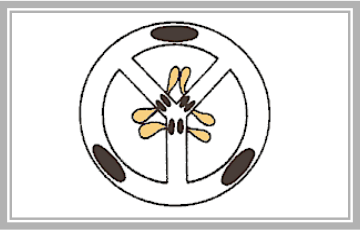
2ND SPERM

OVULE

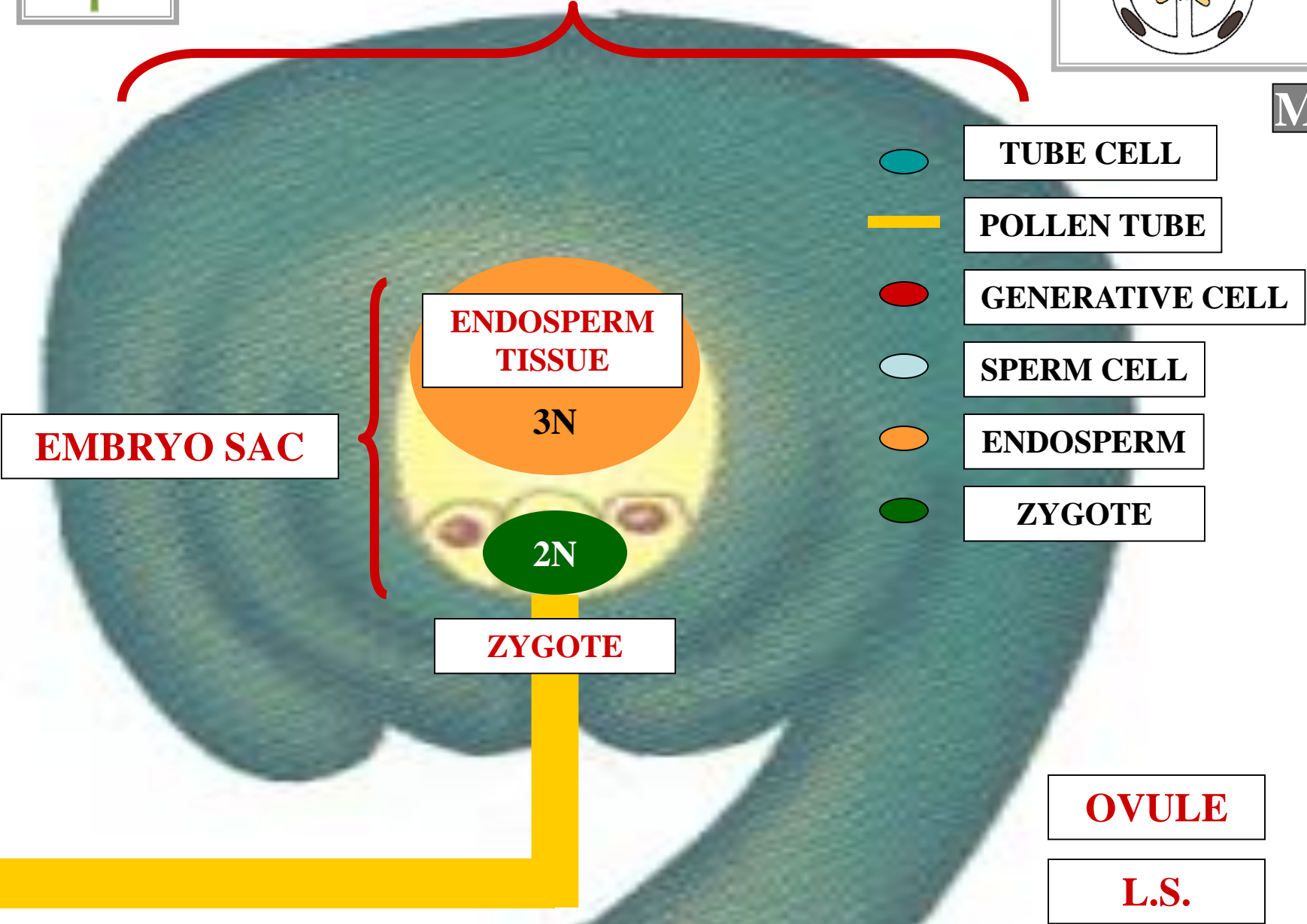
L.S.



OVULE



M



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

ENDOSPERM TISSUE

3N

2N

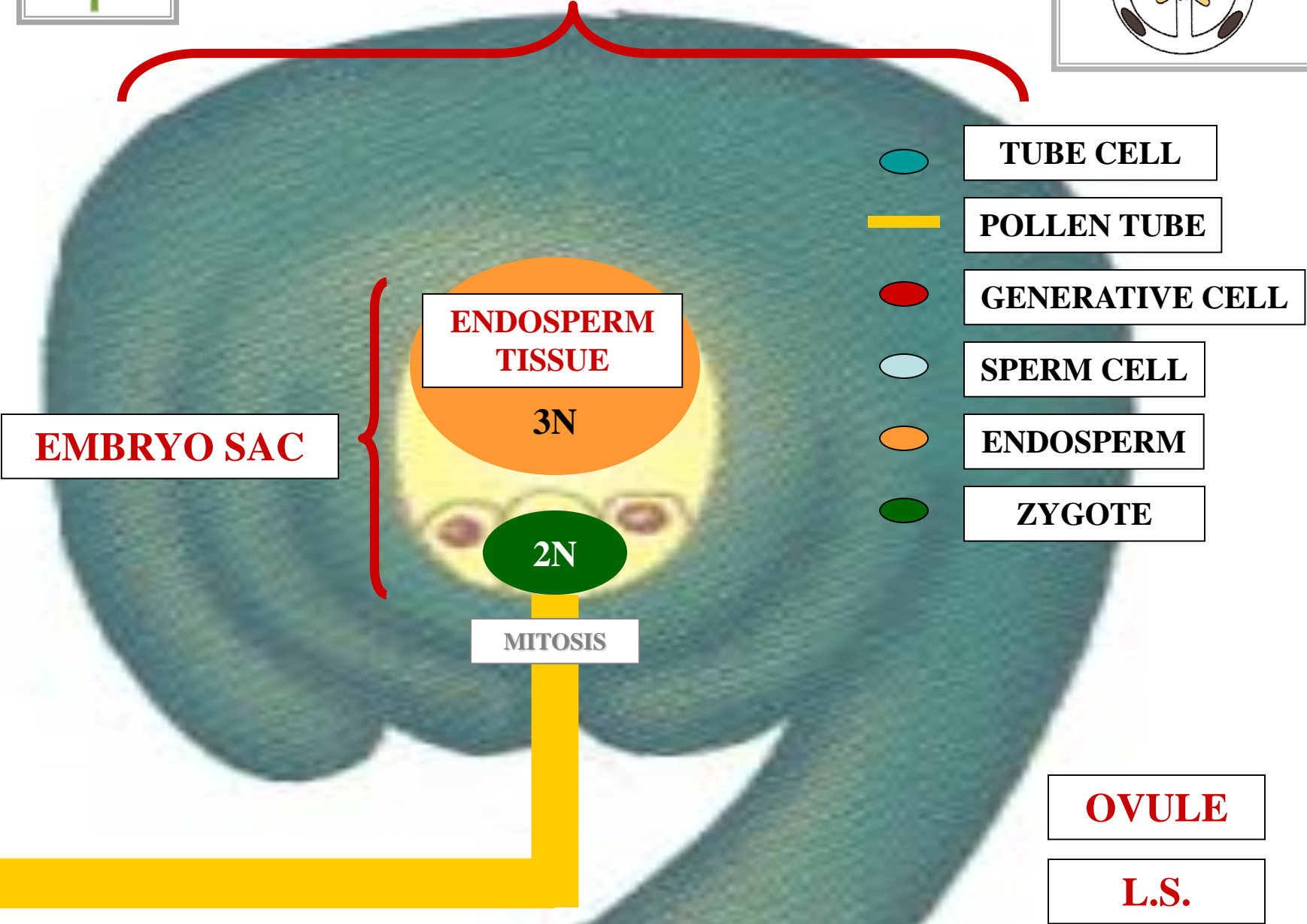
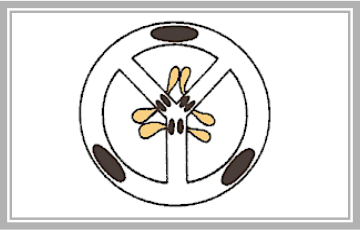
ZYGOTE







OVULE

L.S.



OVULE



-  **TUBE CELL**
-  **POLLEN TUBE**
-  **GENERATIVE CELL**
-  **SPERM CELL**
-  **ENDOSPERM**
-  **ZYGOTE**

EMBRYO SAC

ENDOSPERM TISSUE

3N

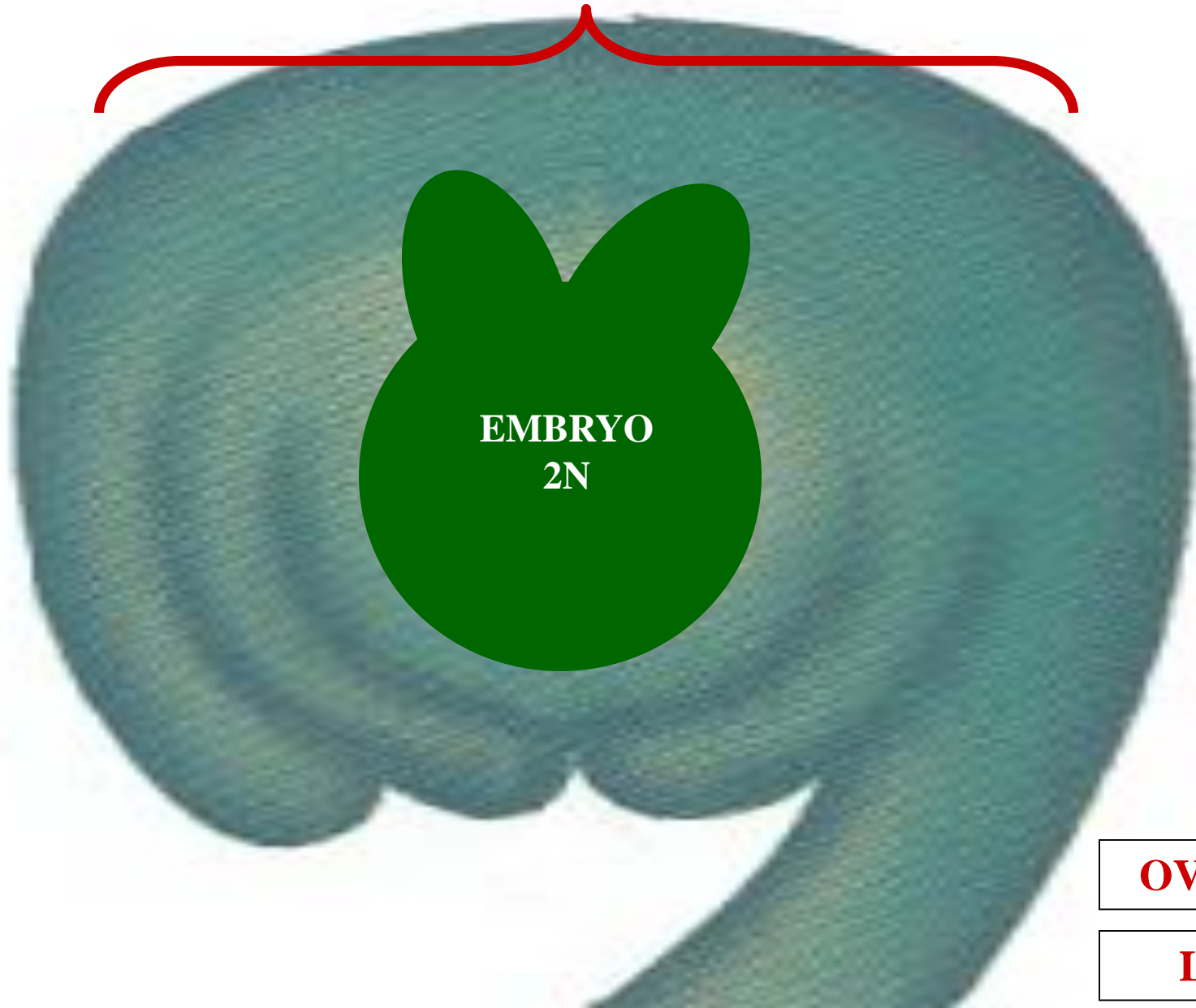
2N

MITOSIS

OVULE

L.S.

OVULE



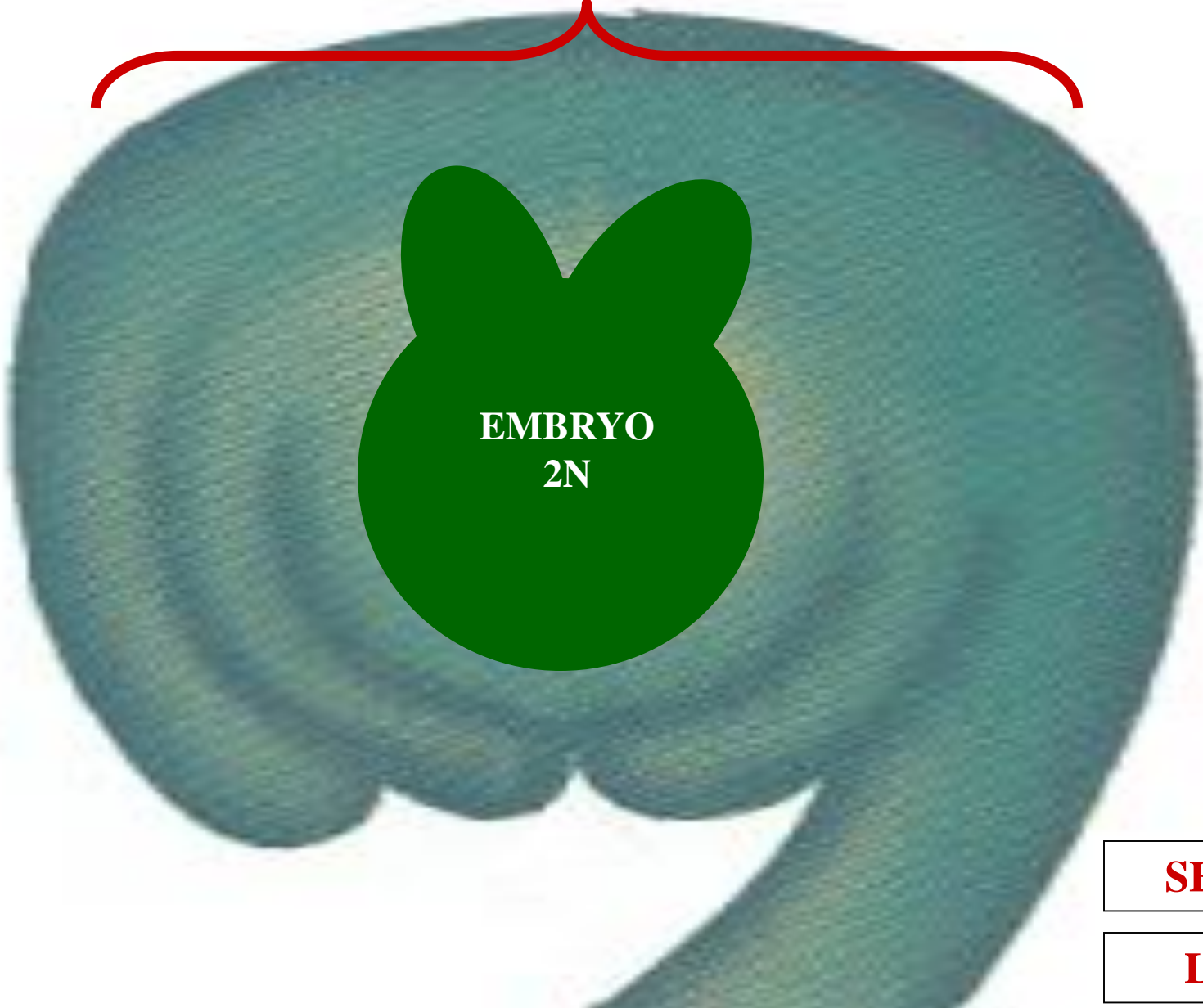
EMBRYO
2N

OVULE

L.S.



SEED



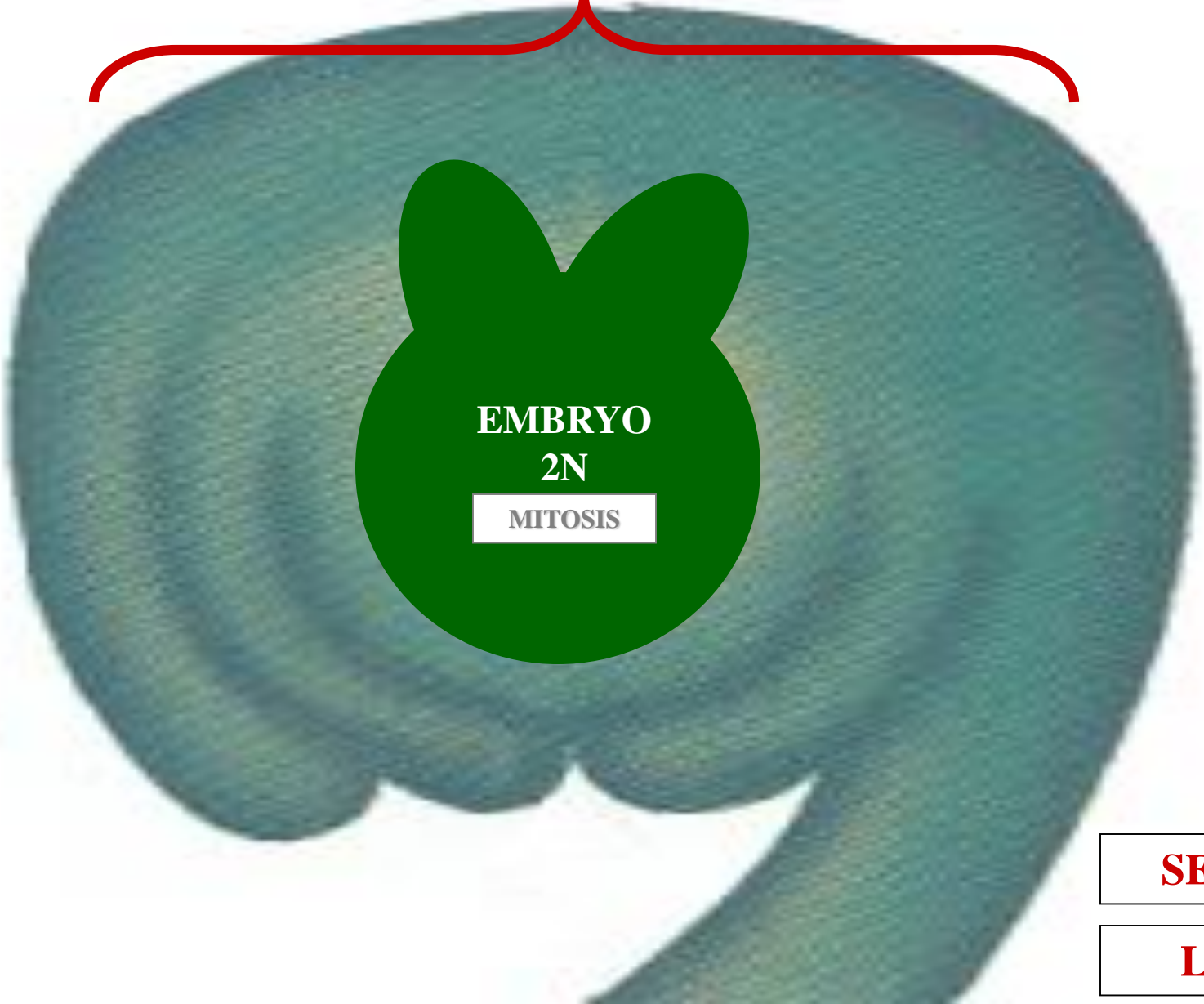
EMBRYO
2N

SEED

L.S.



SEED



EMBRYO
2N

MITOSIS

SEED

L.S.

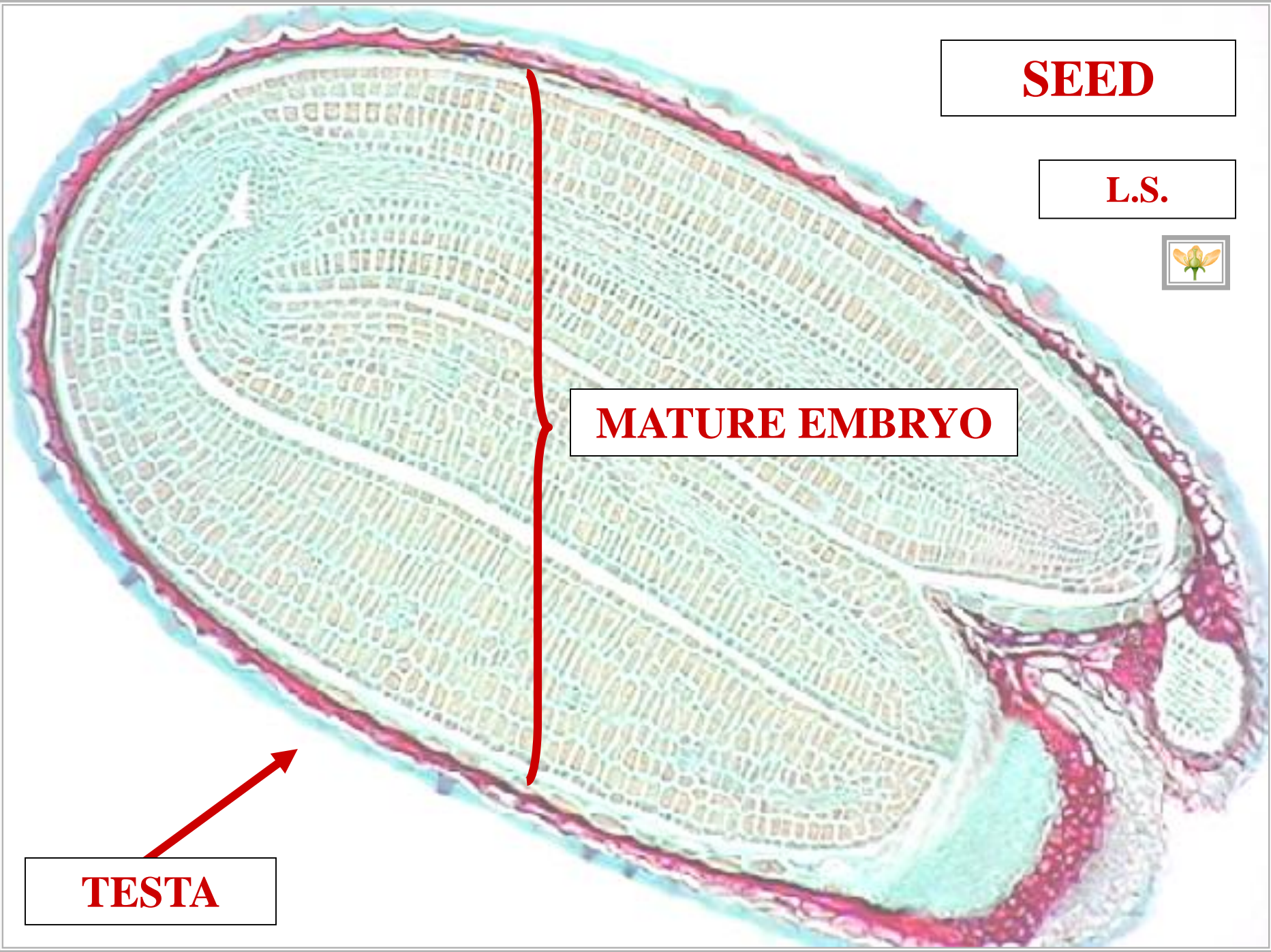
SEED

L.S.



MATURE EMBRYO

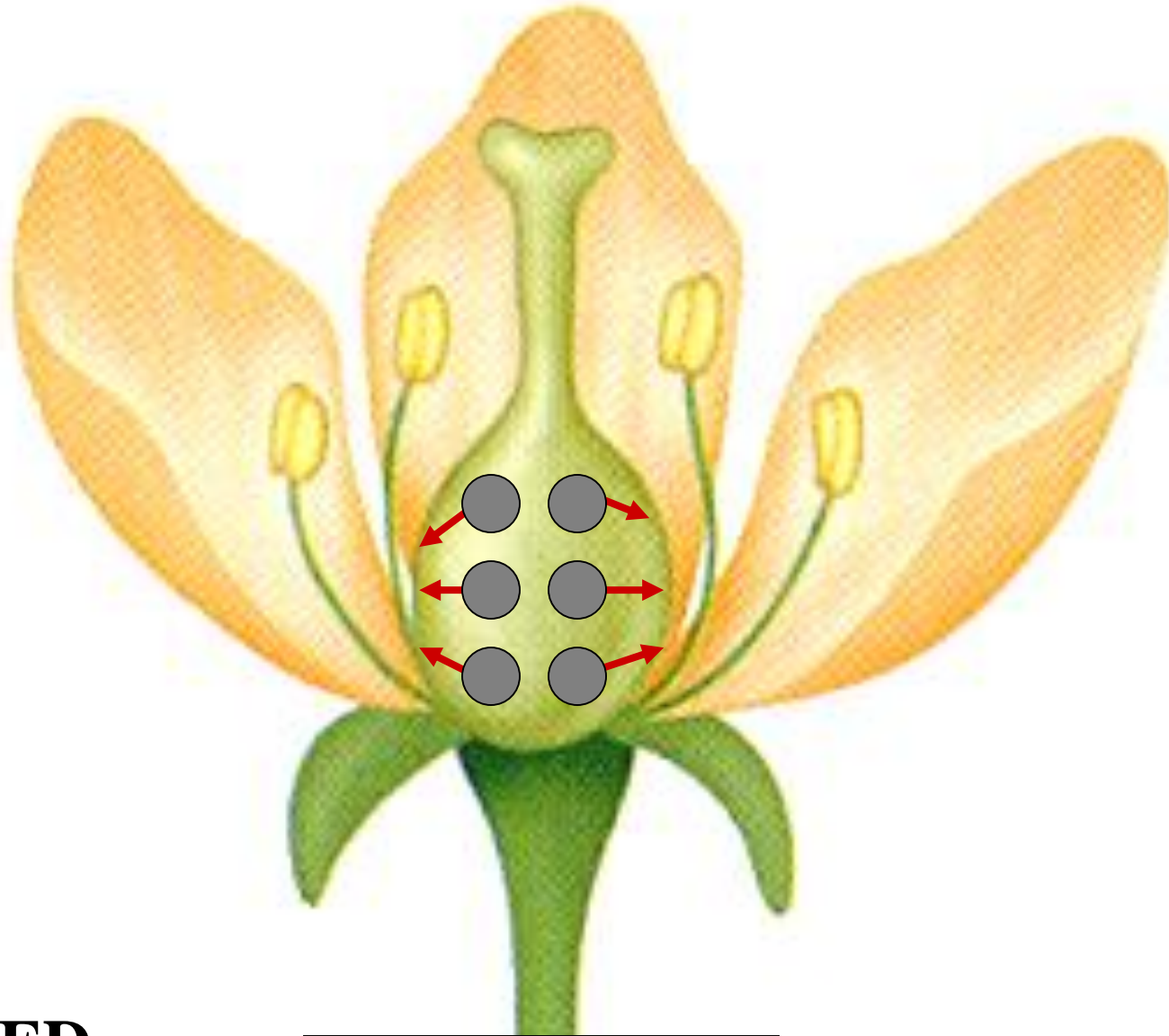
TESTA





● = SEED

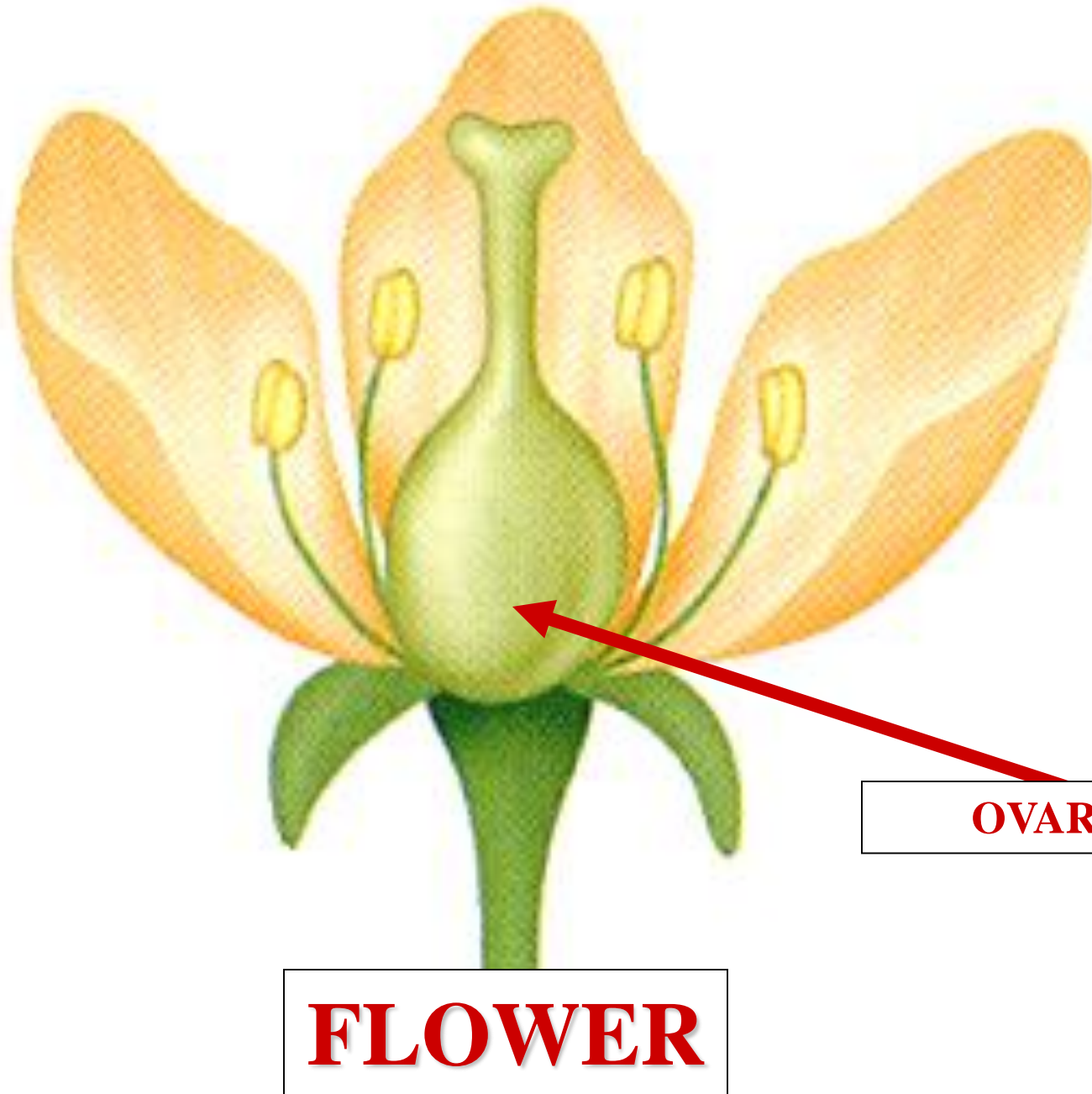
FLOWER



● = SEED

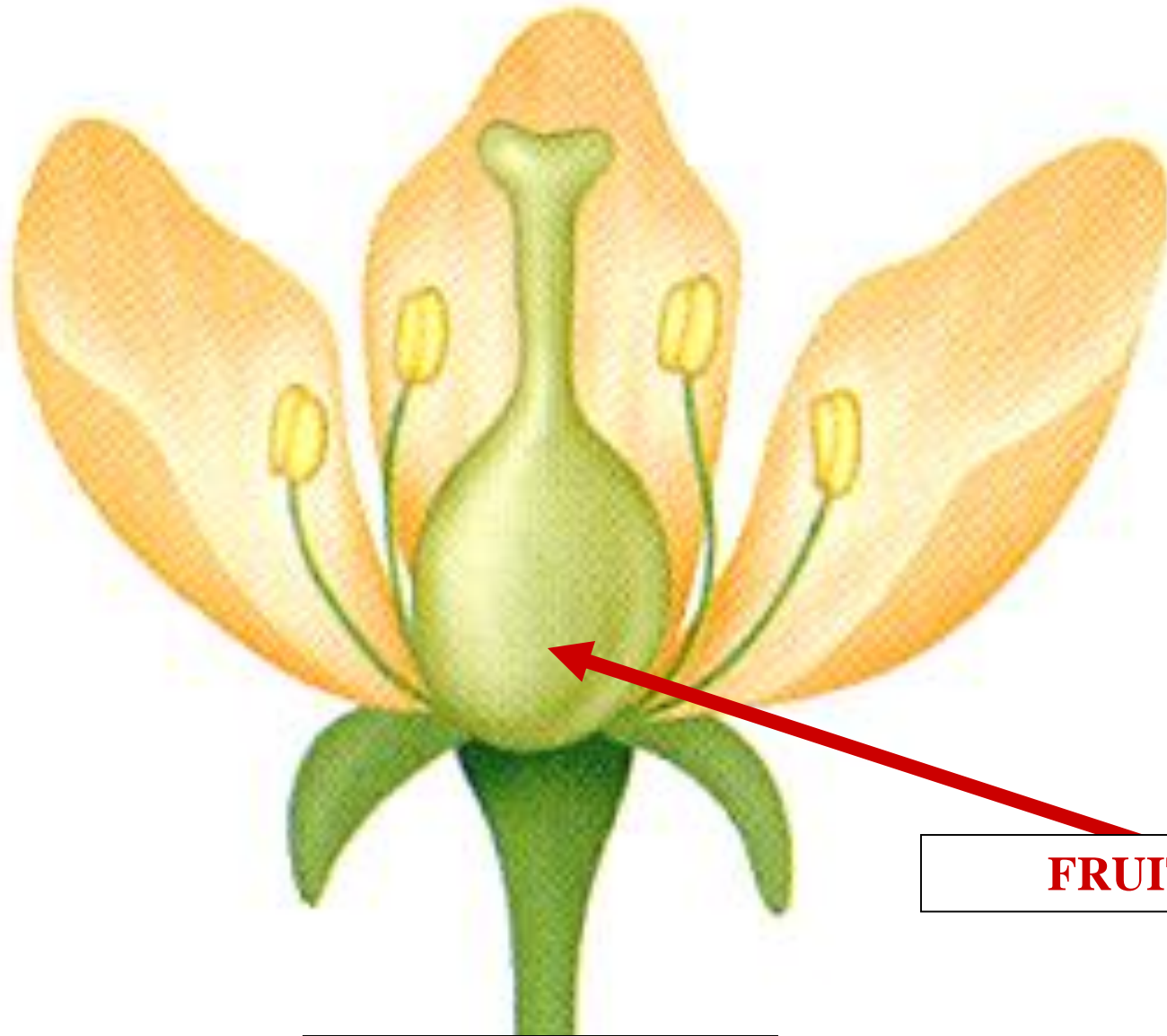
→ = HORMONE

FLOWER



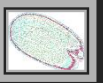
OVARY

FLOWER



FRUIT

FLOWER

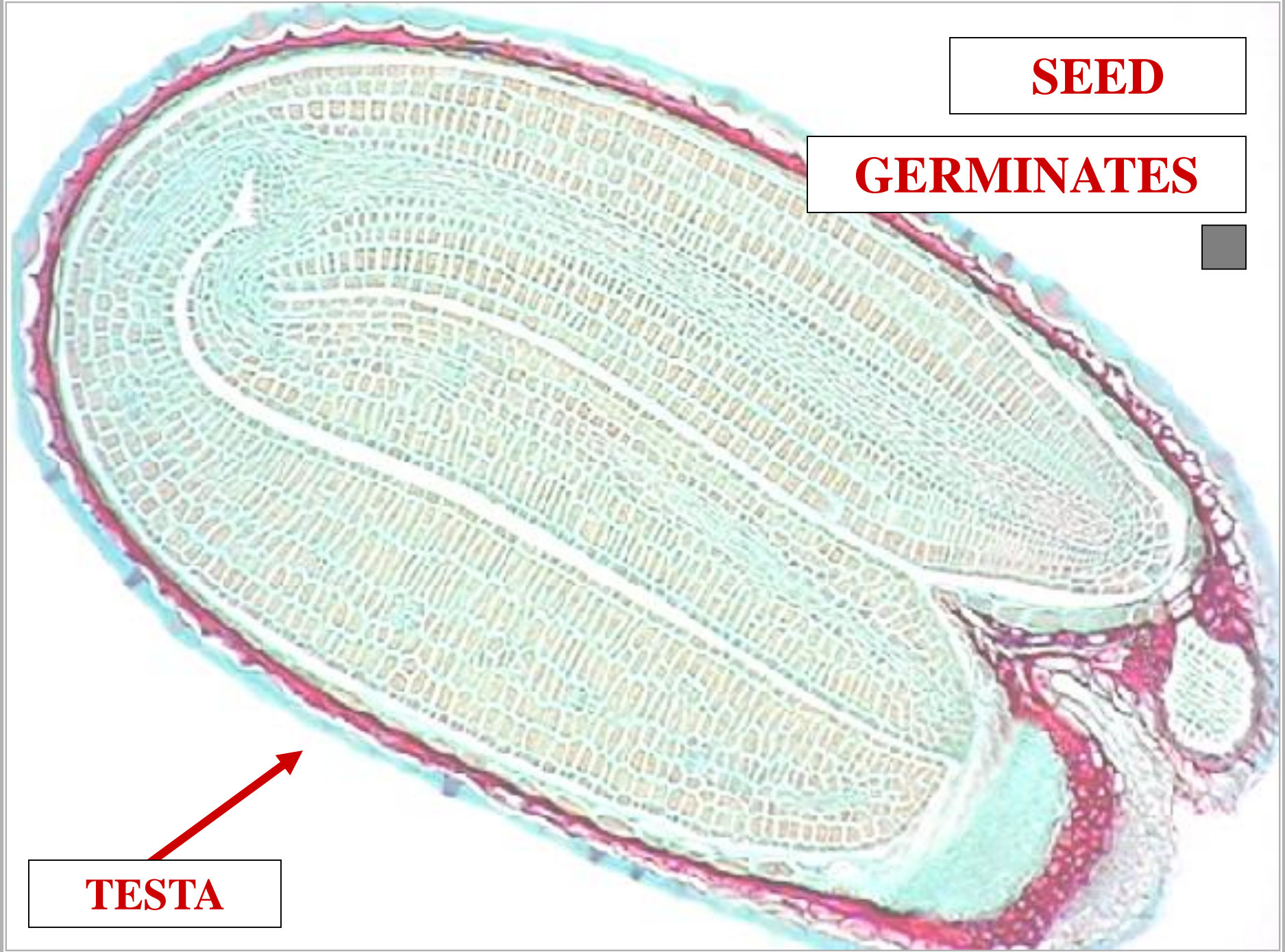


**FRUIT
DISSEMINATED**

SEED

GERMINATES

TESTA



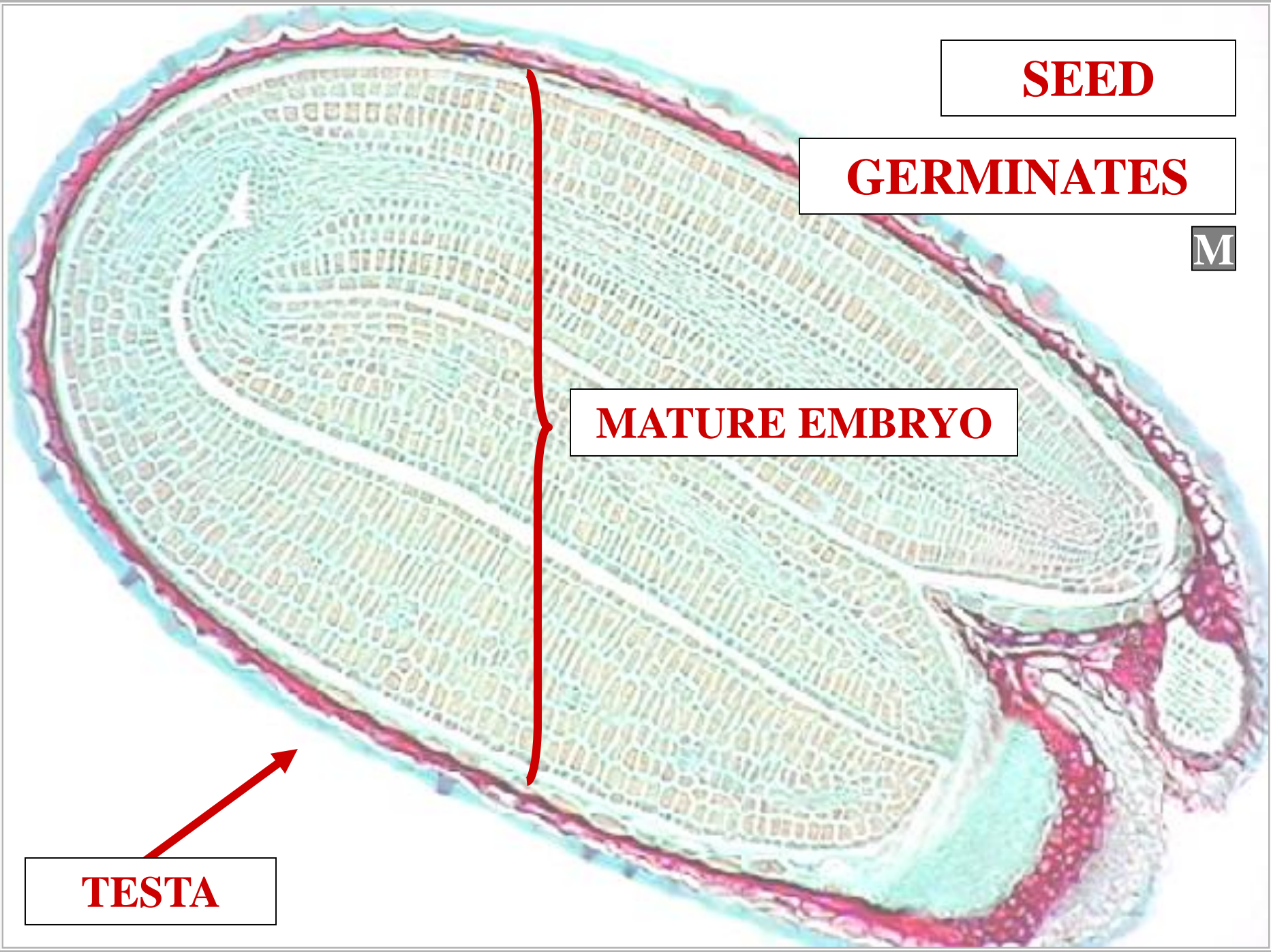
SEED

GERMINATES

M

MATURE EMBRYO

TESTA



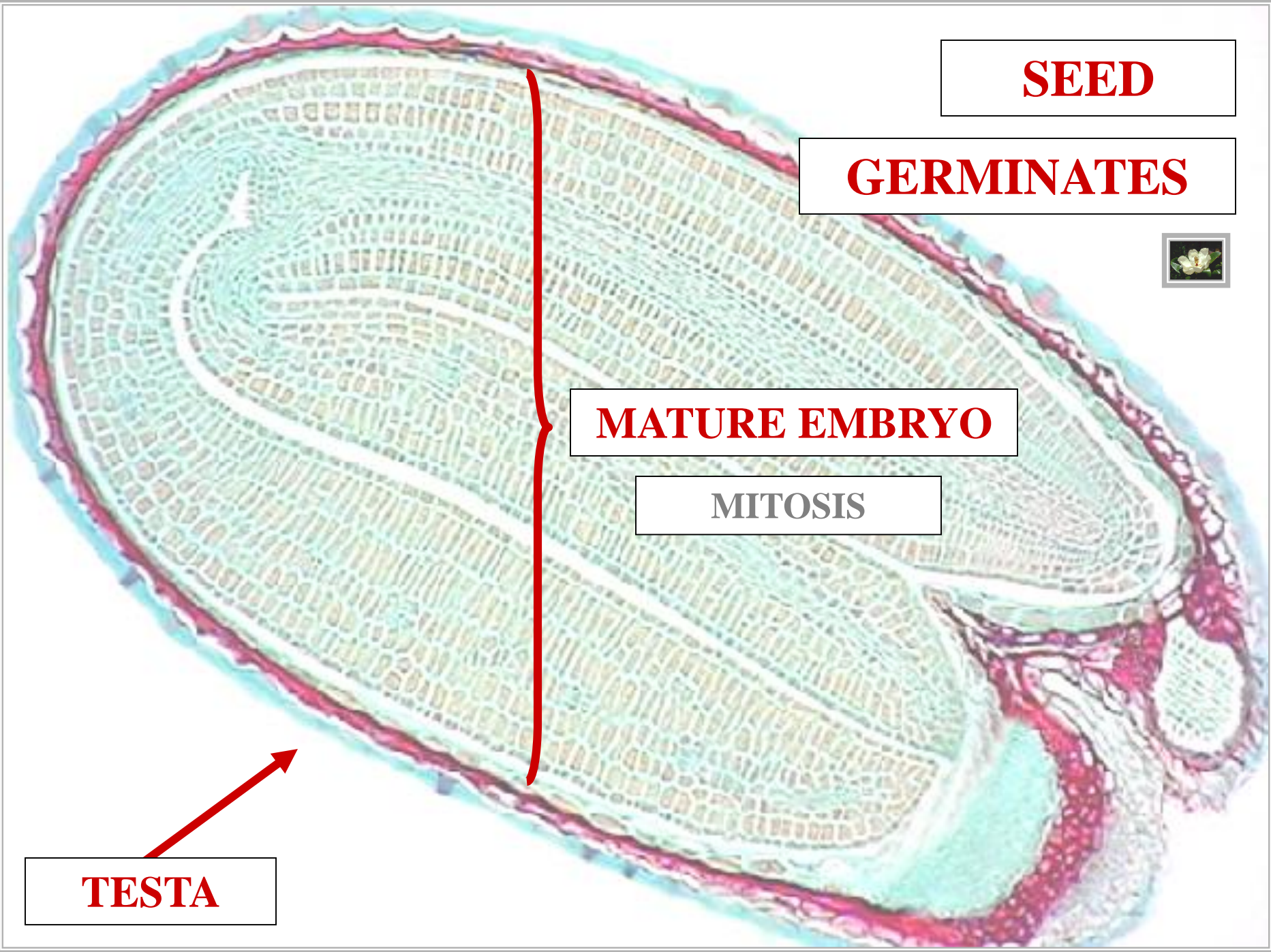
SEED

GERMINATES

MATURE EMBRYO

MITOSIS

TESTA





**MATURE
ANGIOSPERM
SPOROPHYTE**

ANGIOSPERM FRUIT

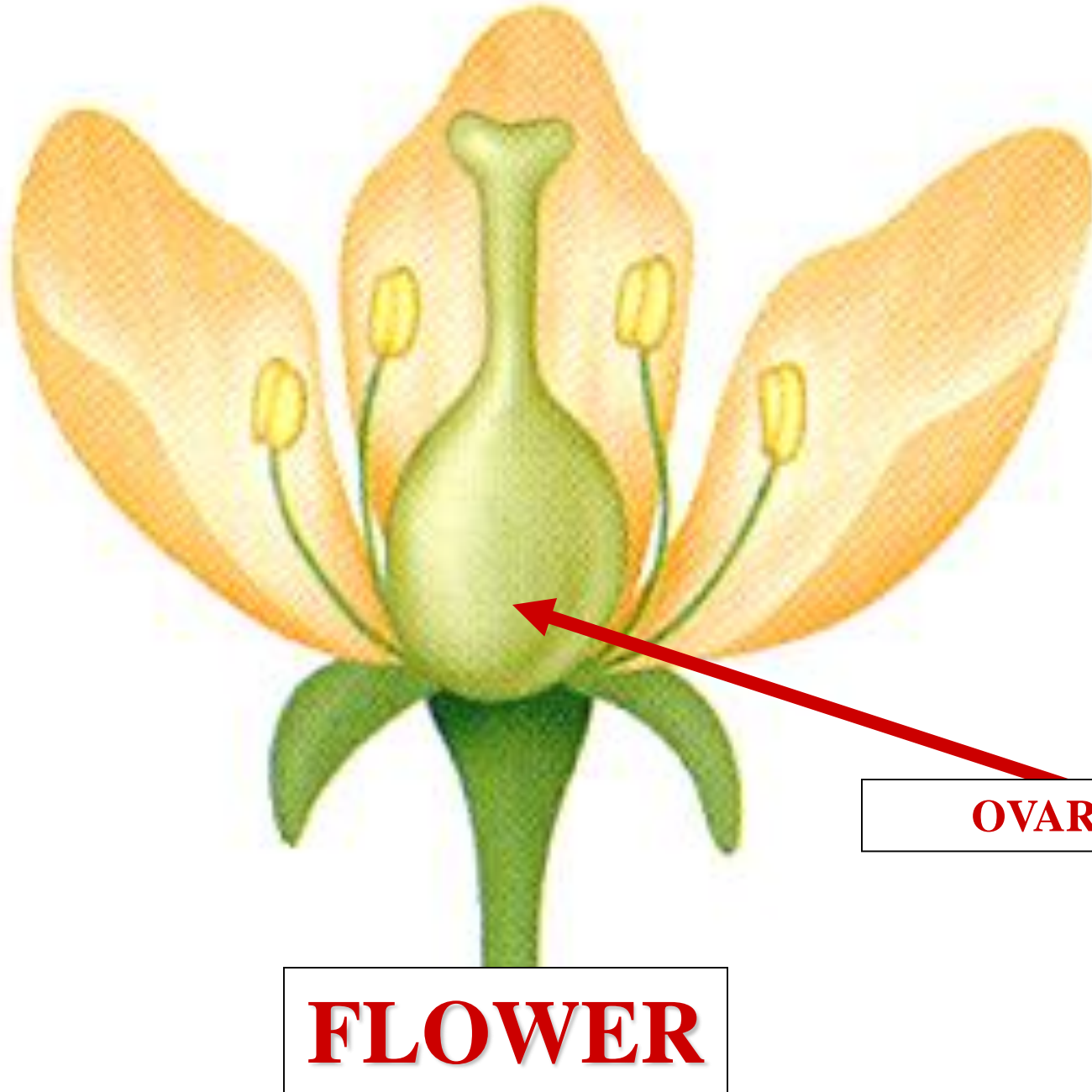


FRUIT

GENERAL FRUIT TYPES



SIMPLE FRUIT



FLOWER

OVARY

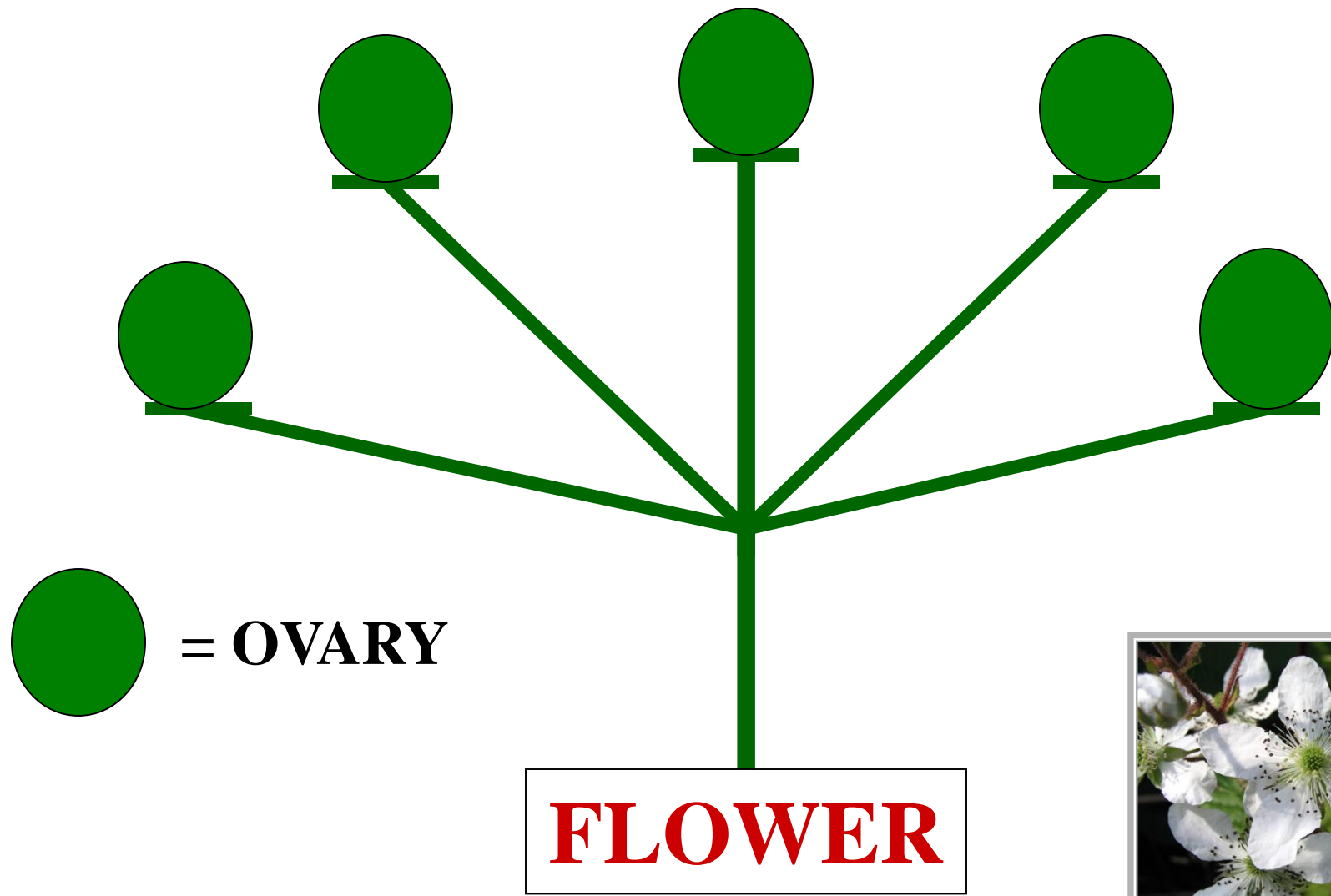
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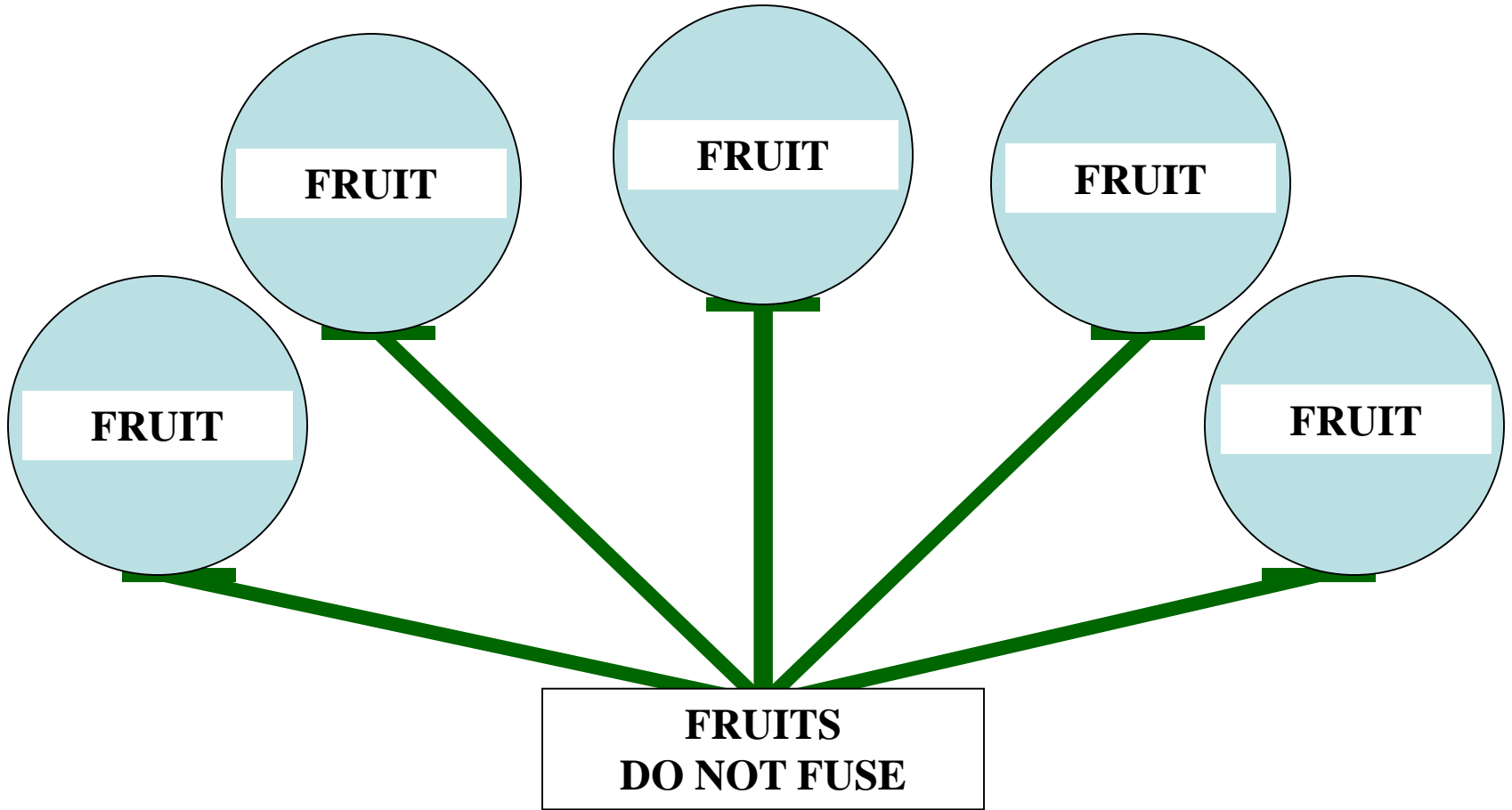




AGGREGATE FRUIT







**AGGREGATE
FRUIT**

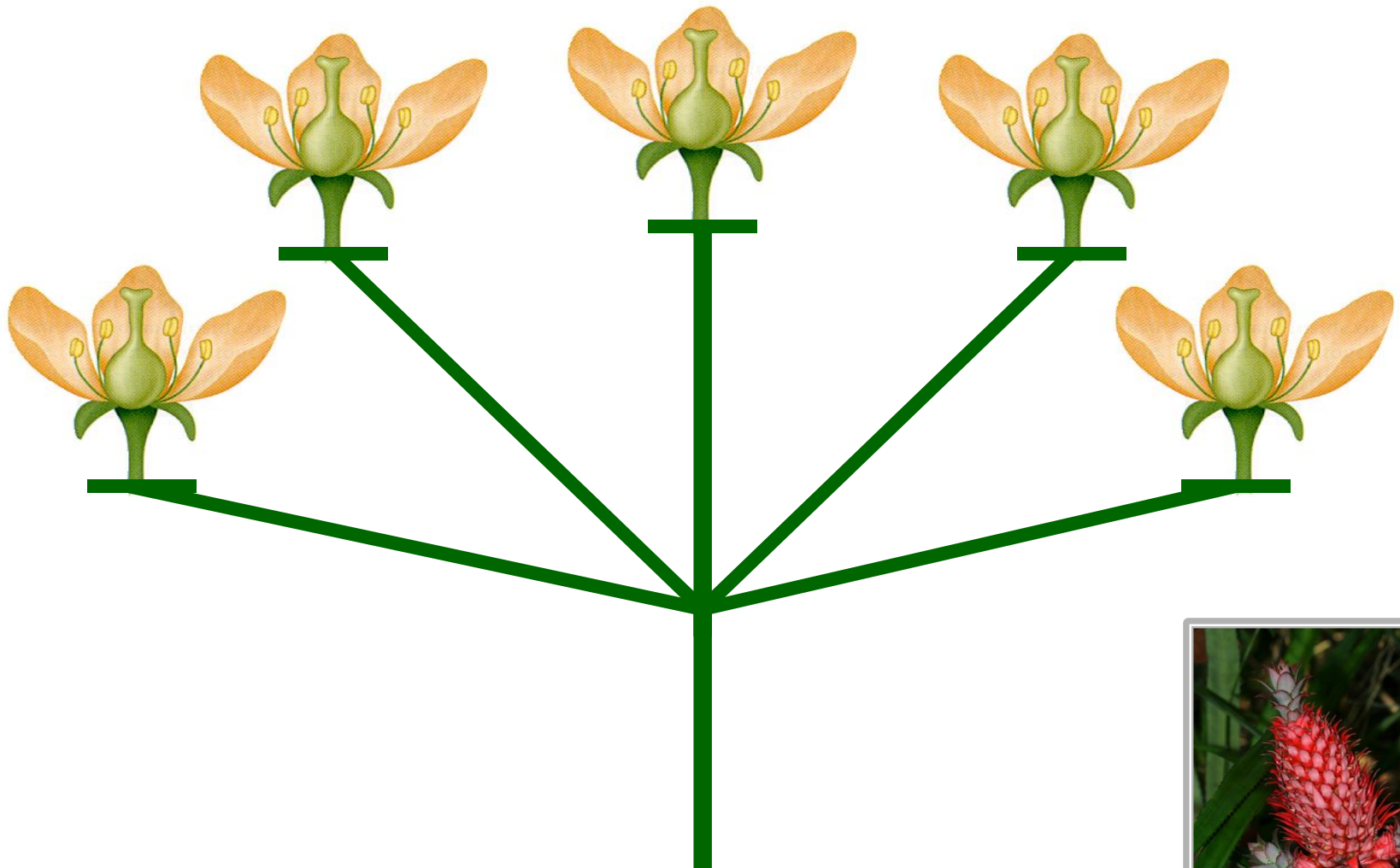






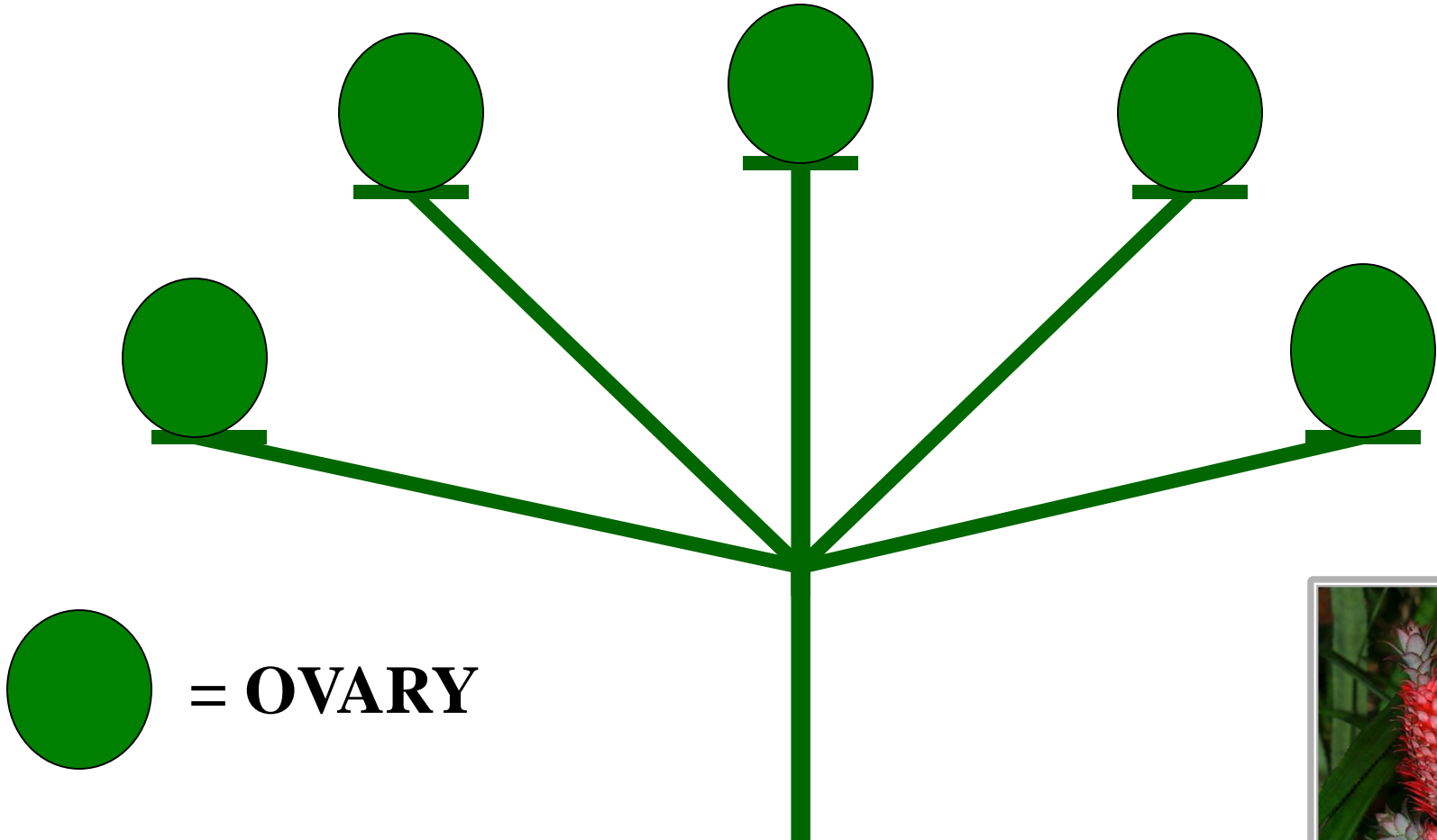
MULTIPLE FRUIT





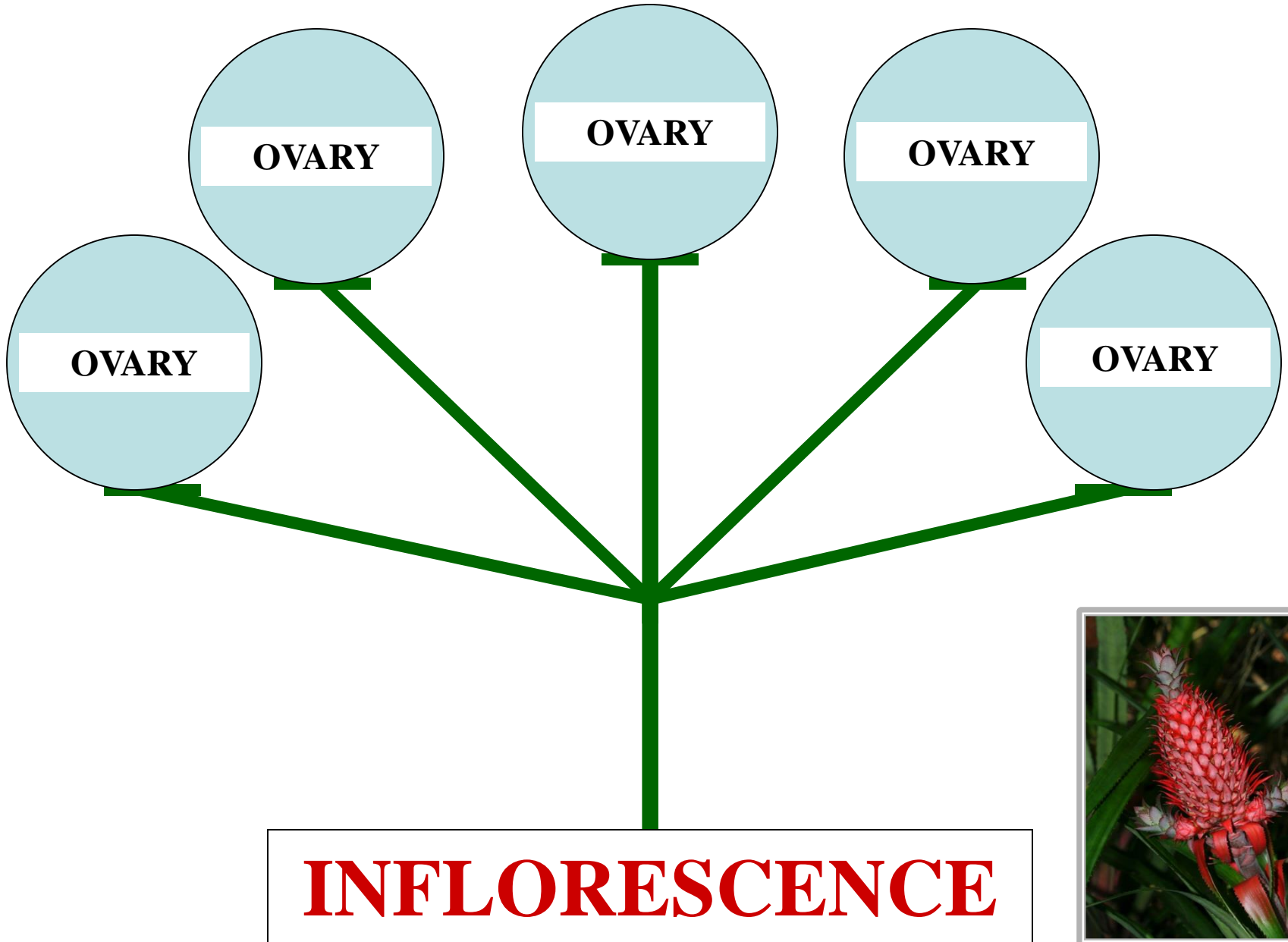
INFLORESCENCE

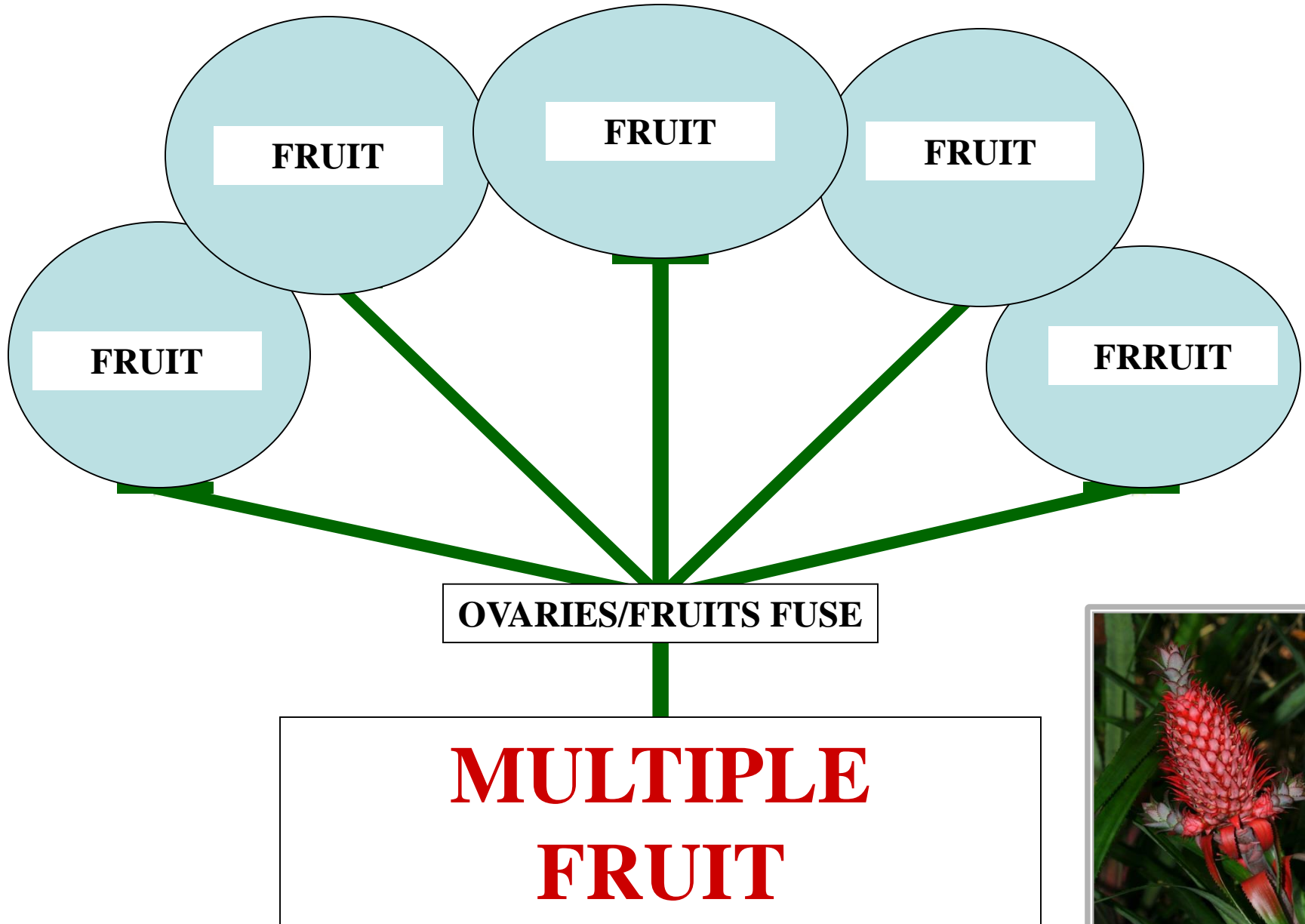




INFLORESCENCE











FRUIT ANATOMY

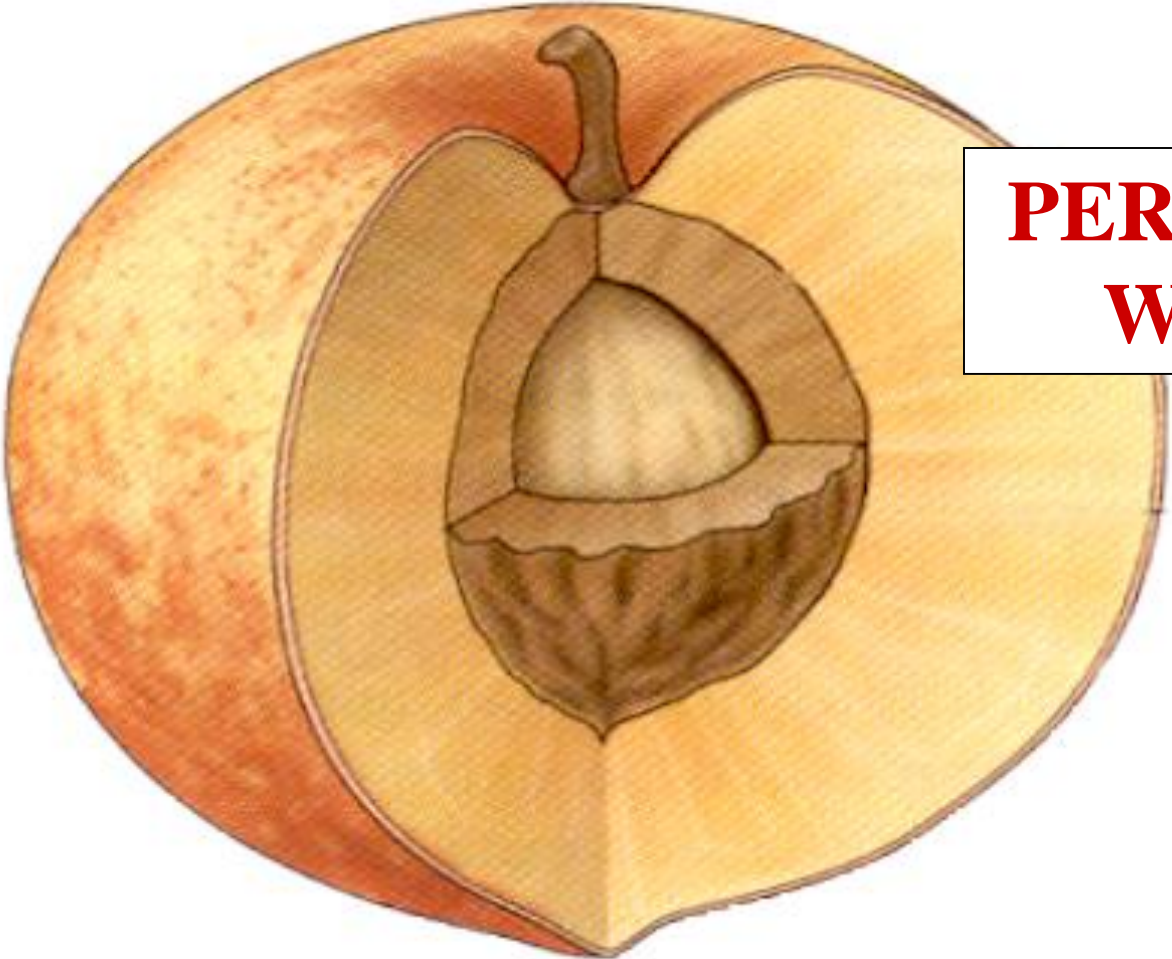
PERICARP



PERICARP



ANGIOSPERM FRUIT



**PERICARP
WALL**

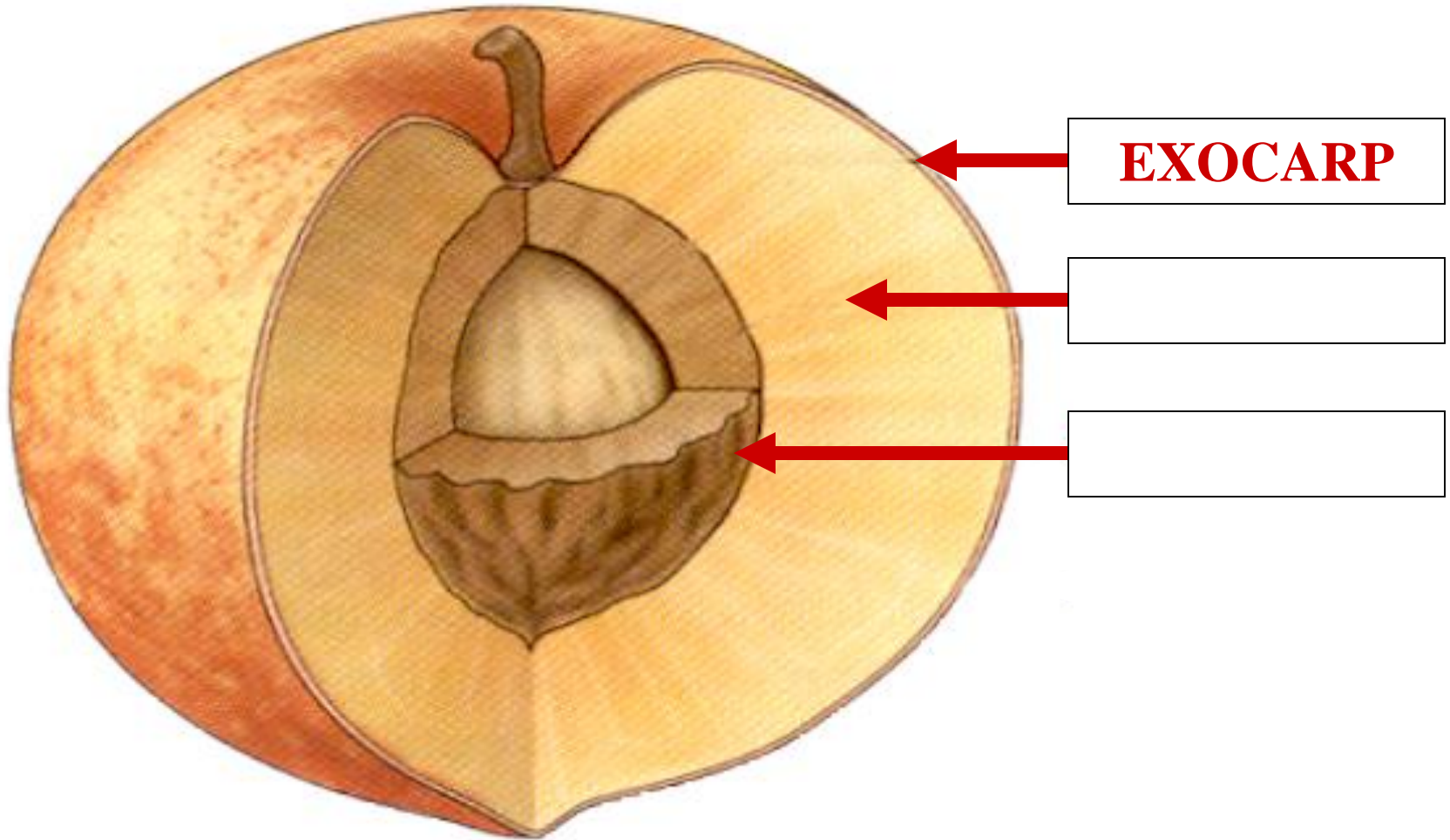
ANGIOSPERM FRUIT

PERICARP LAYERS



EXOCARP

ANGIOSPERM FRUIT



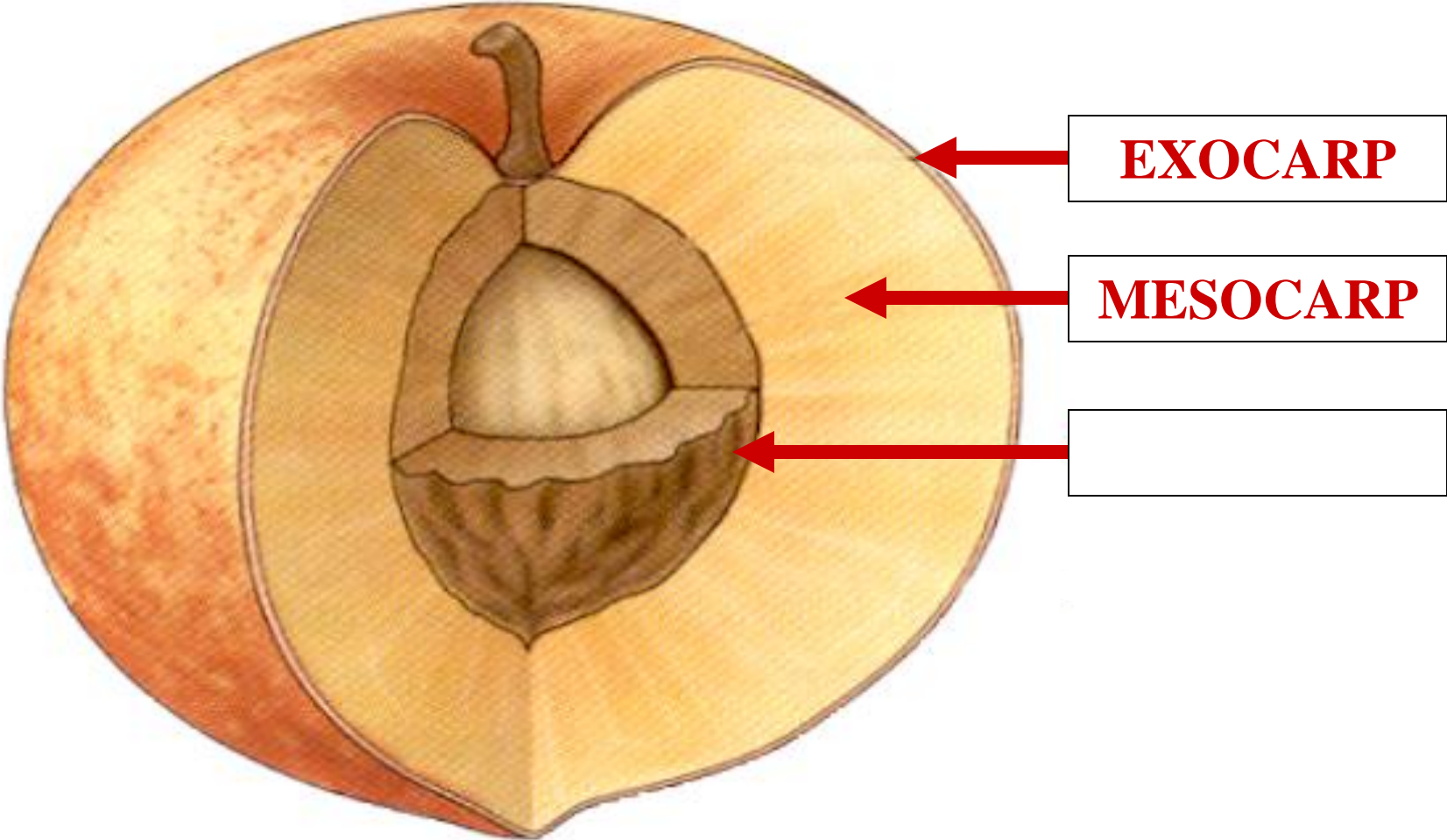
EXOCARP

PERICARP



MESOCARP

ANGIOSPERM FRUIT



EXOCARP

MESOCARP

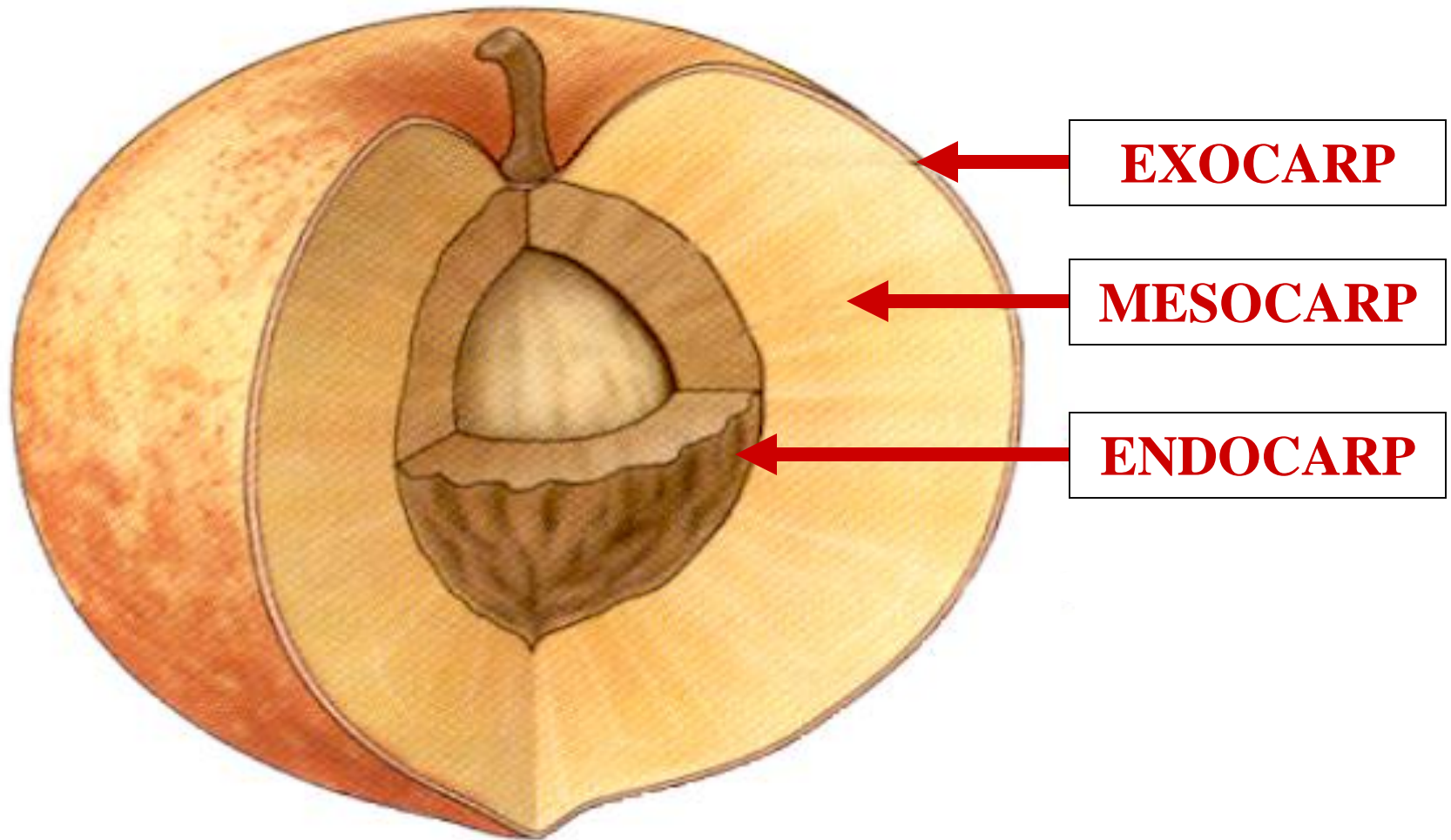
PERICARP



ENDOCARP

ANGIOSPERM FRUIT

S
!



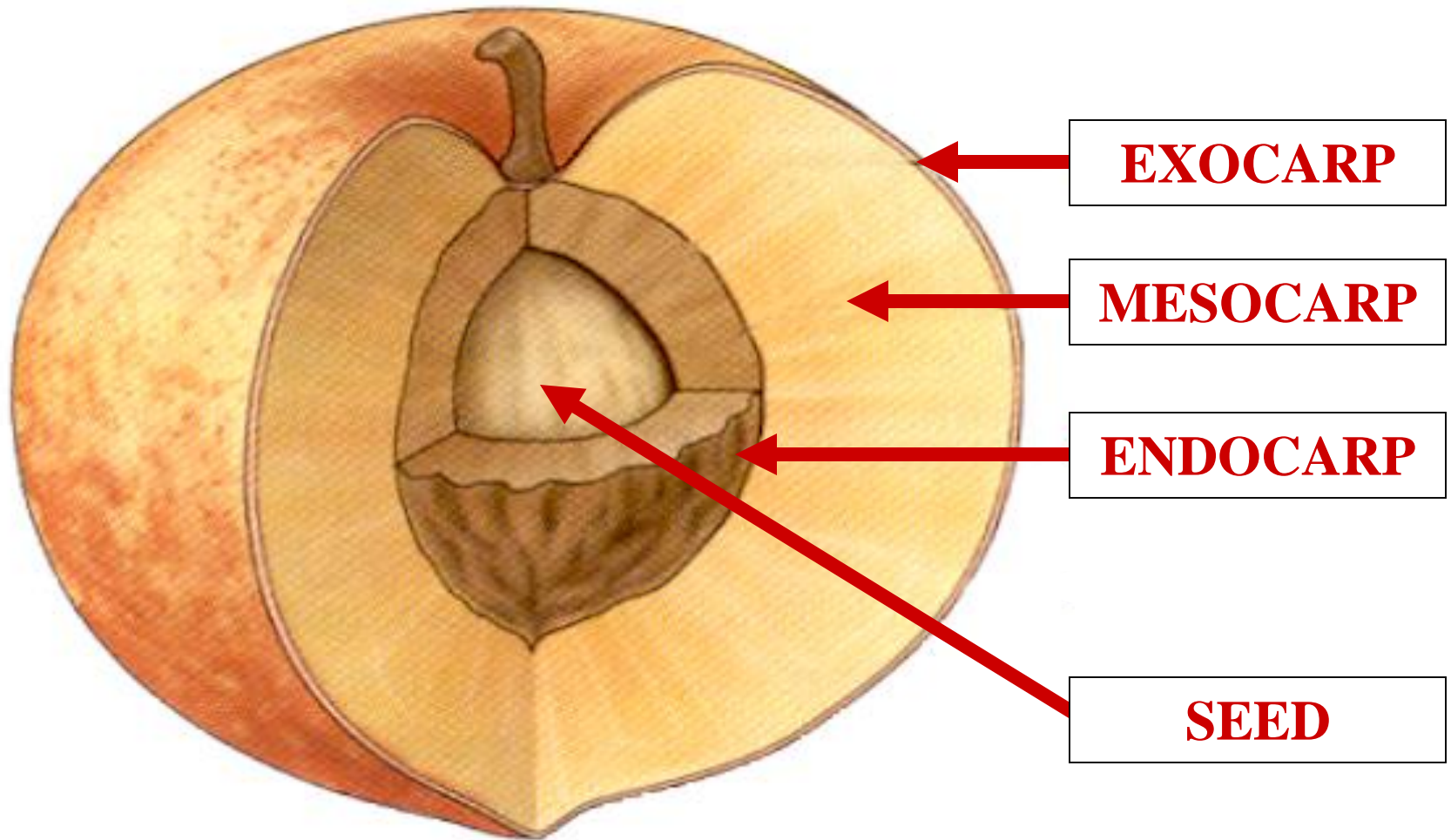
EXOCARP

MESOCARP

ENDOCARP

PERICARP

ANGIOSPERM FRUIT



EXOCARP

MESOCARP

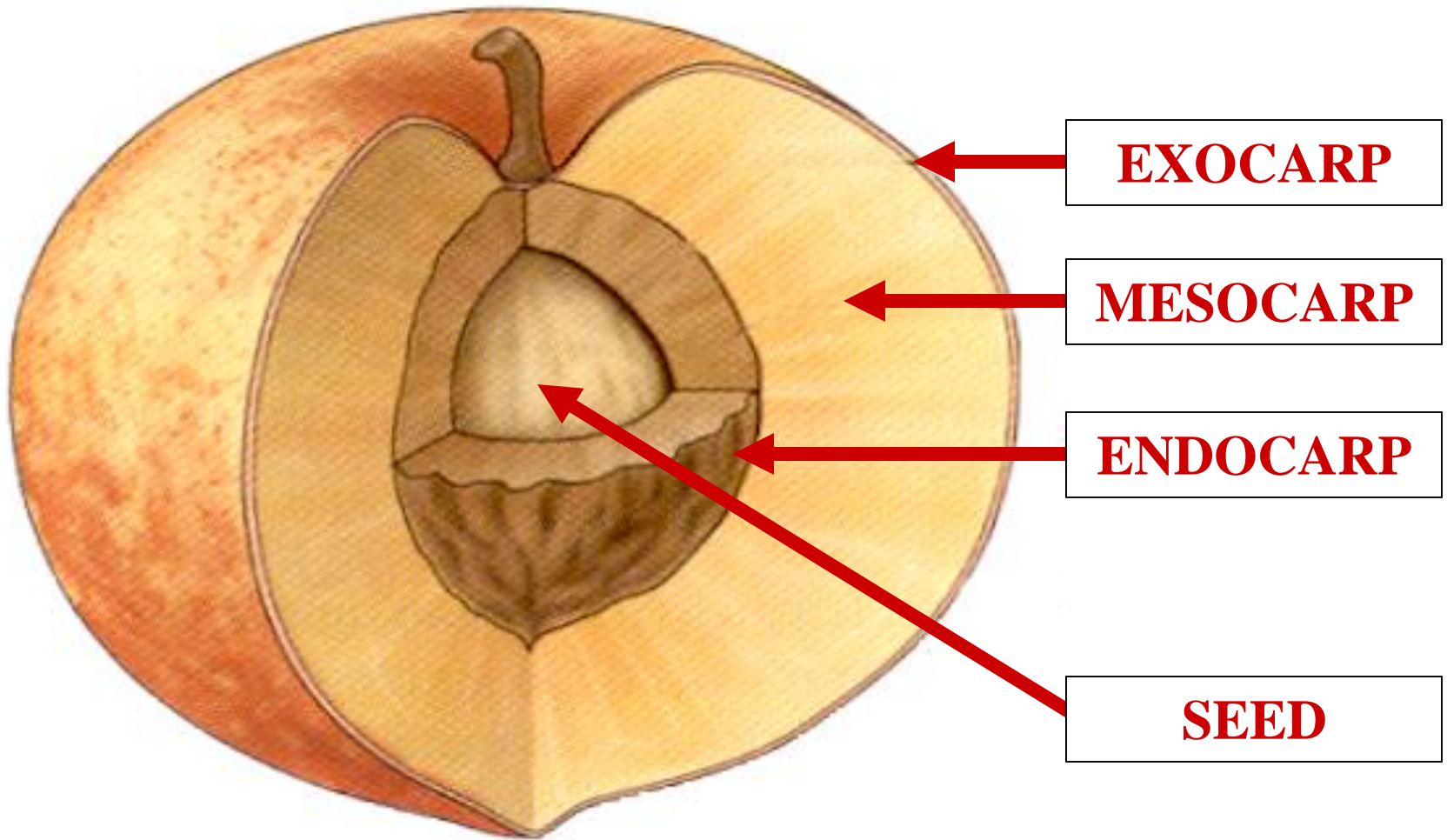
ENDOCARP

SEED

PERICARP



ANGIOSPERM FRUIT



**PREICARP LAYERS
NOT ALWAYS DISCERNIBLE**

**ANGIOSPERM
MEGAGAMETOPHYTE**



MEGAGAMETOPHYTE

=

EMBRYO SAC

Type	Megasporocyte	Meiosis		First Mitosis	Second Mitosis	Third Mitosis	Mature embryo sac
Polygonum							
Allium							
Penaea							
Lilium							
Plumbagella							
Plumbago							

NUMEROUS EMBRYO SACS

Fusion

Triploid

Triploid



Type	Megasporocyte	Meiosis		First Mitosis	Second Mitosis	Third Mitosis	Mature embryo sac
Polygonum							
Allium							
Penaea							
Lilium							
Plumbagella							
Plumbago							

Polygonum

Allium

Penaea

Lilium

Plumbagella

Plumbago



Fusion

Triploid

Triploid

Fusion

Triploid



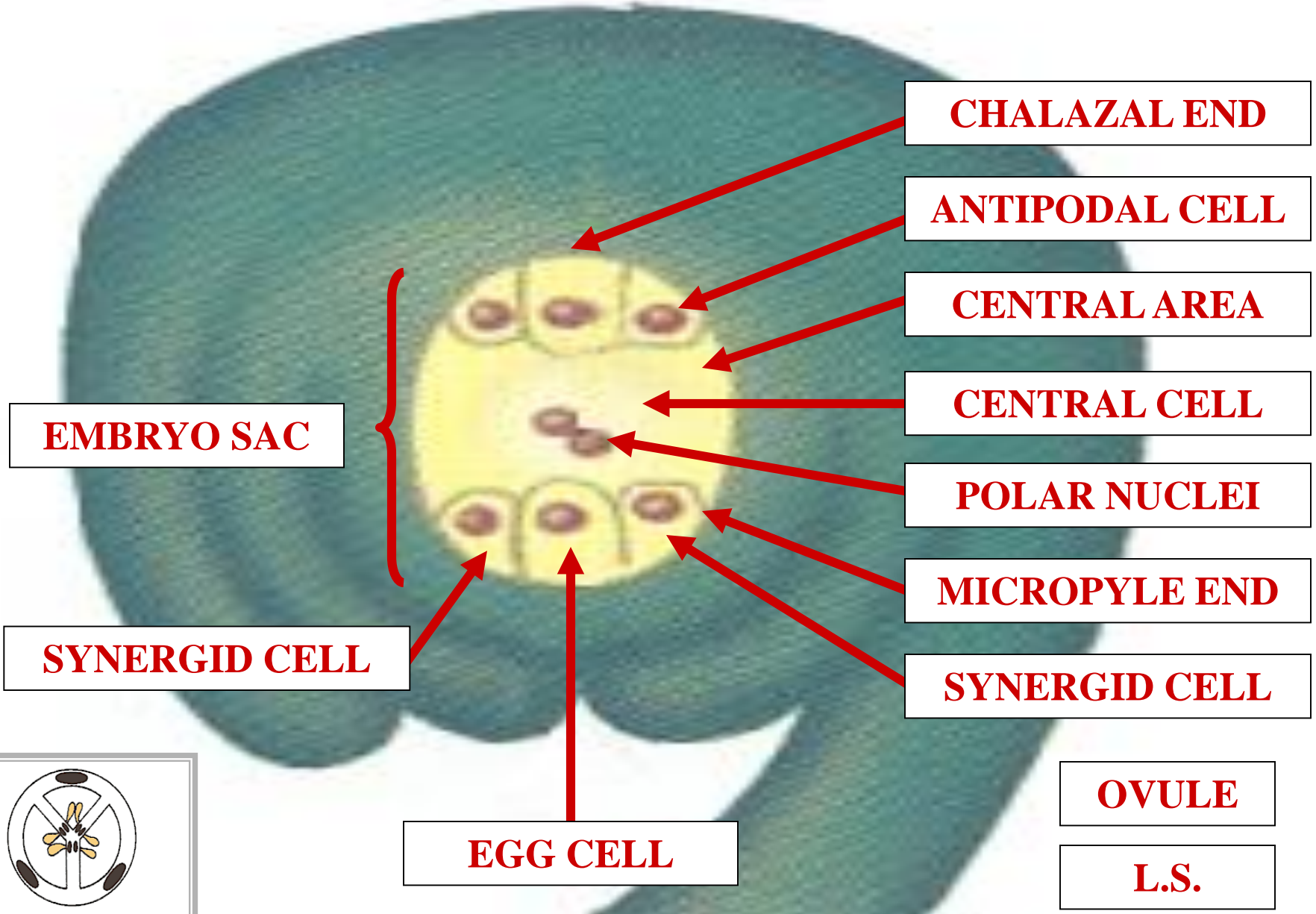
POLYGONUM
EMBRYO SAC





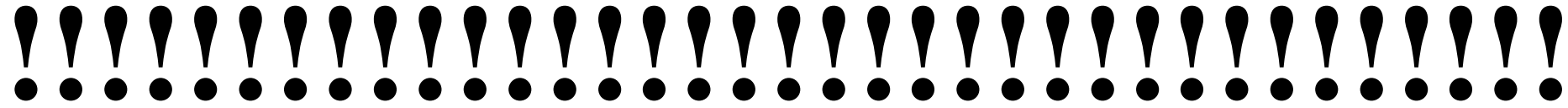
POLYGONUM
EMBRYO SAC

POLYGONUM EMBRYO SAC





ATTENTION STUDENTS



REQUIRED MATERIAL

LAB EXAM #4

&

FINAL EXAM



ATTENTION STUDENTS



**POWERPOINT SLIDES
WILL BE POSTED
ASAP**