



ATTENTION STUDENTS



BIOLOGY 363

VASCULAR PLANTS

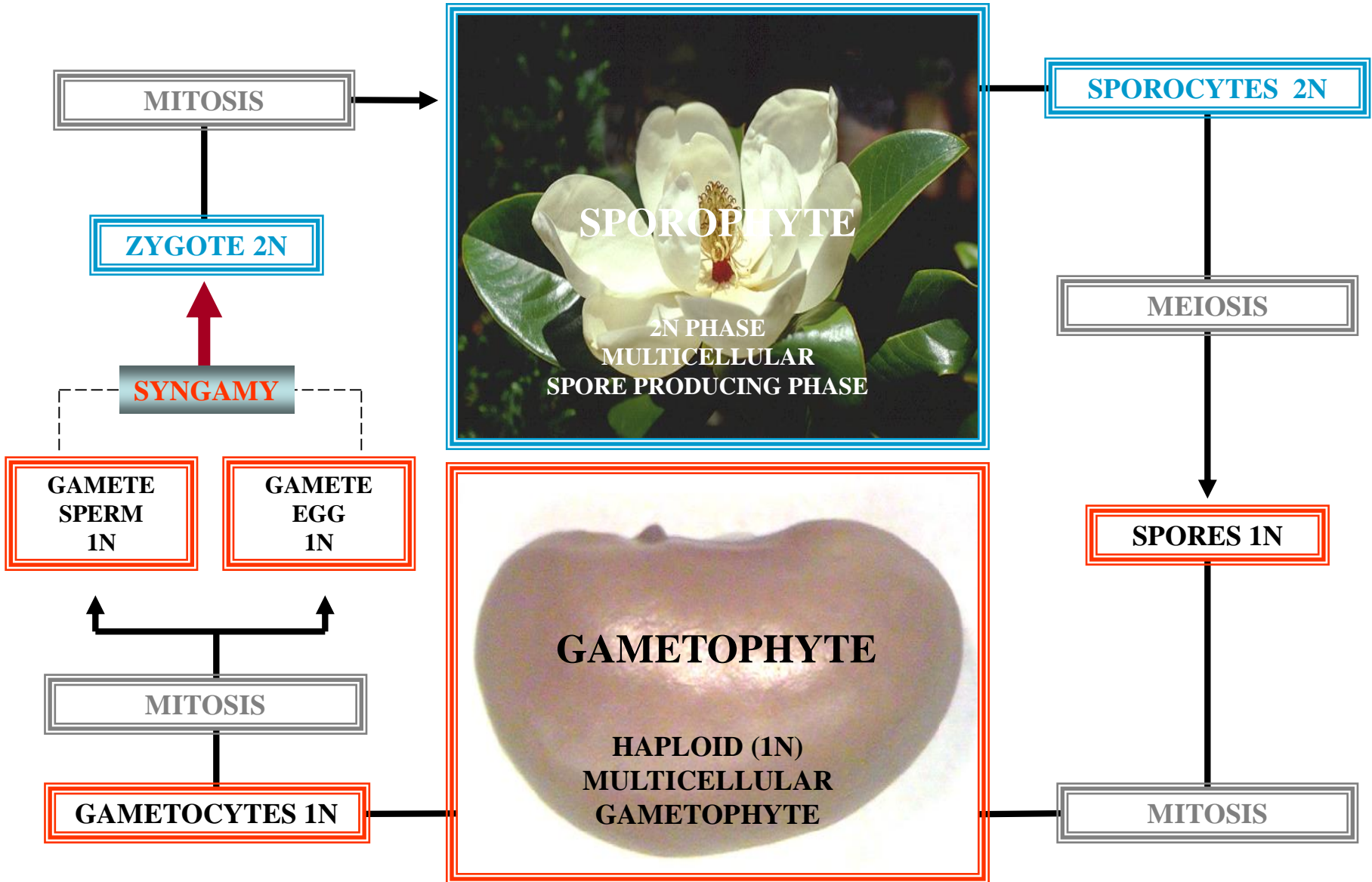
LABORATORY #13



ANGIOSPERM LIFE CYCLE



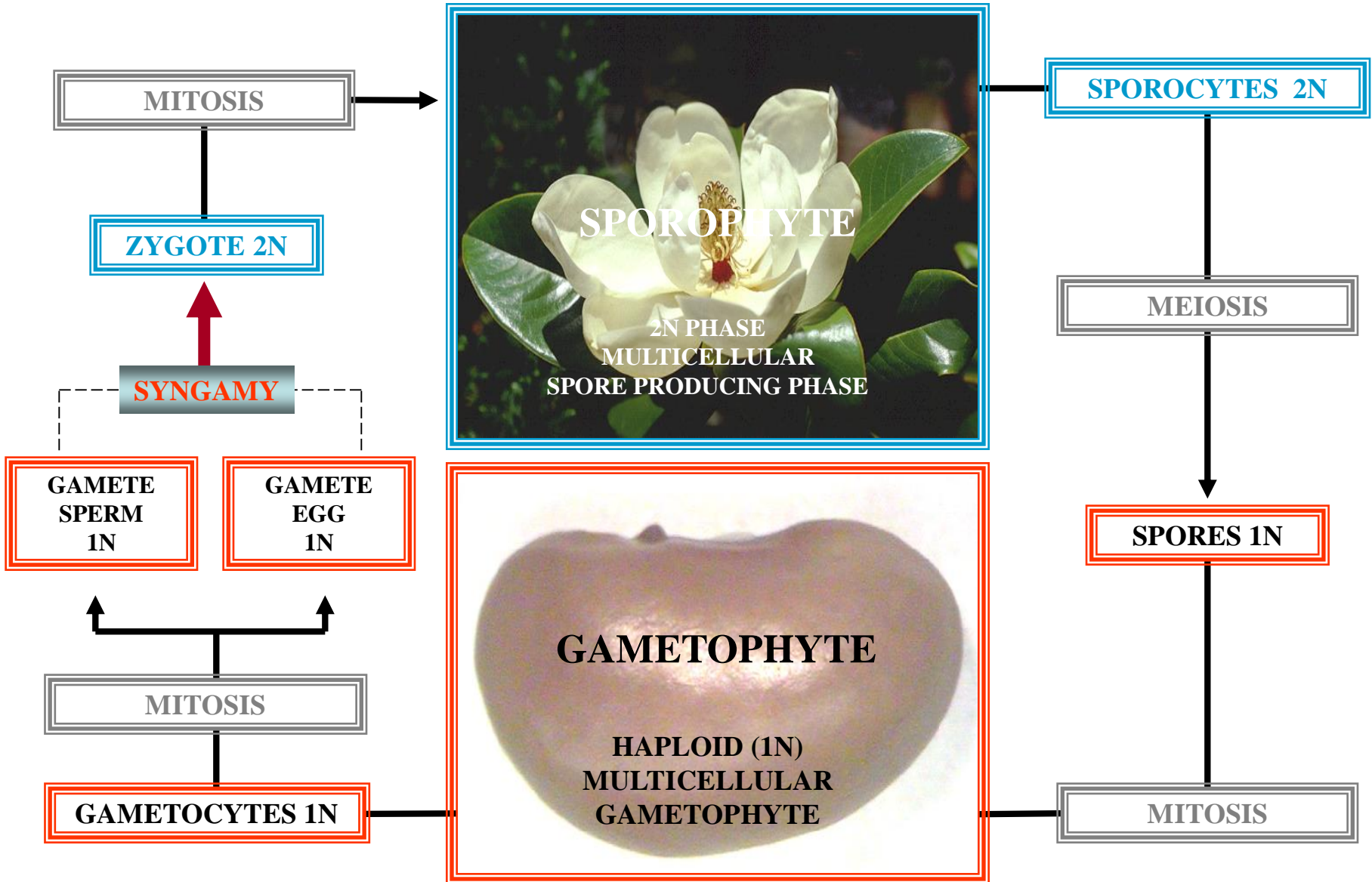
ANGIOSPERM LIFE CYCLE





ANGIOSPERM

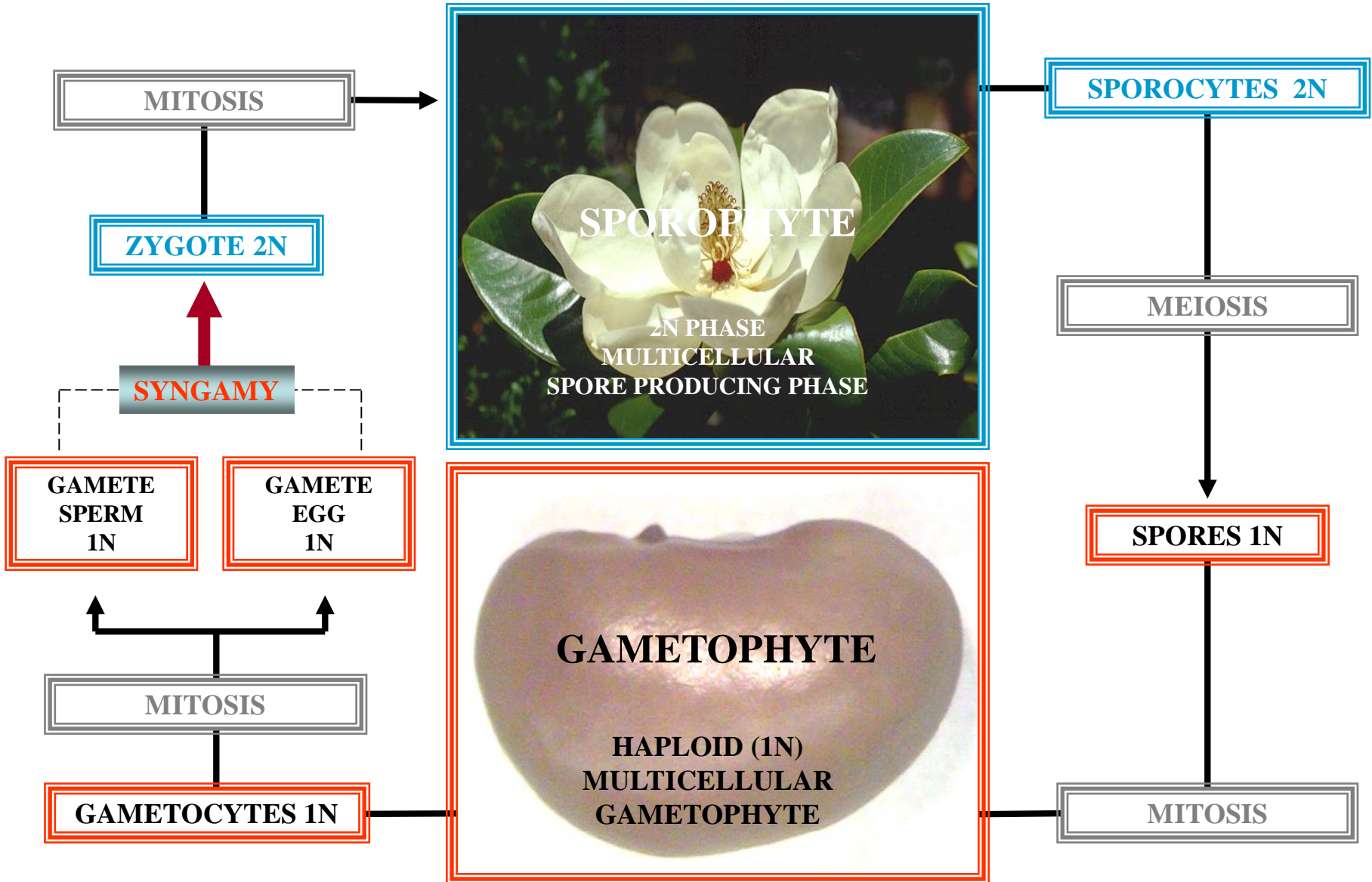
SPORIC LIFE CYCLE



ANGIOSPERM



HETEROMORPHIC SPORIC LIFE CYCLE

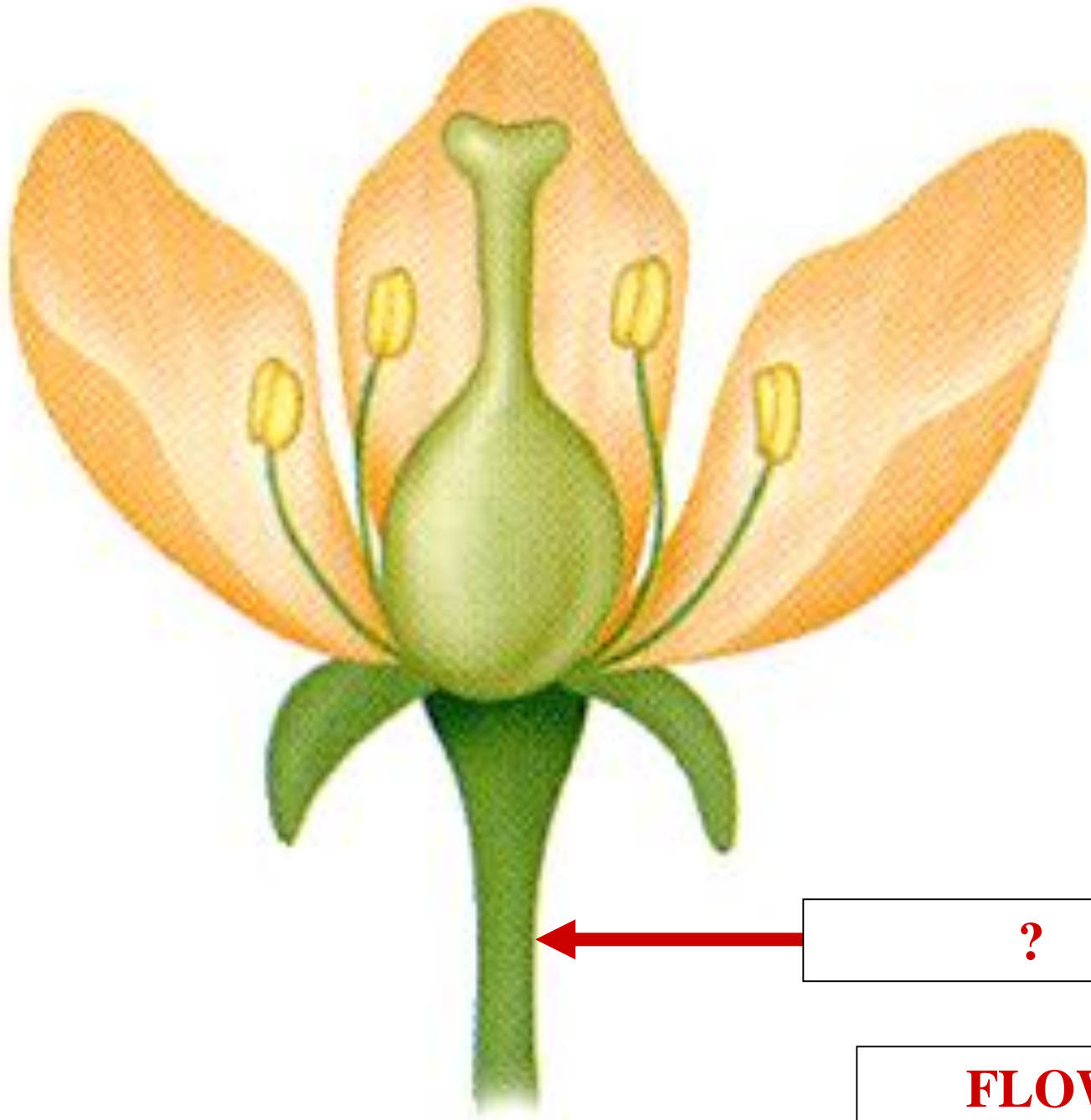




FLOWER MORPHOLOGY REVIEW

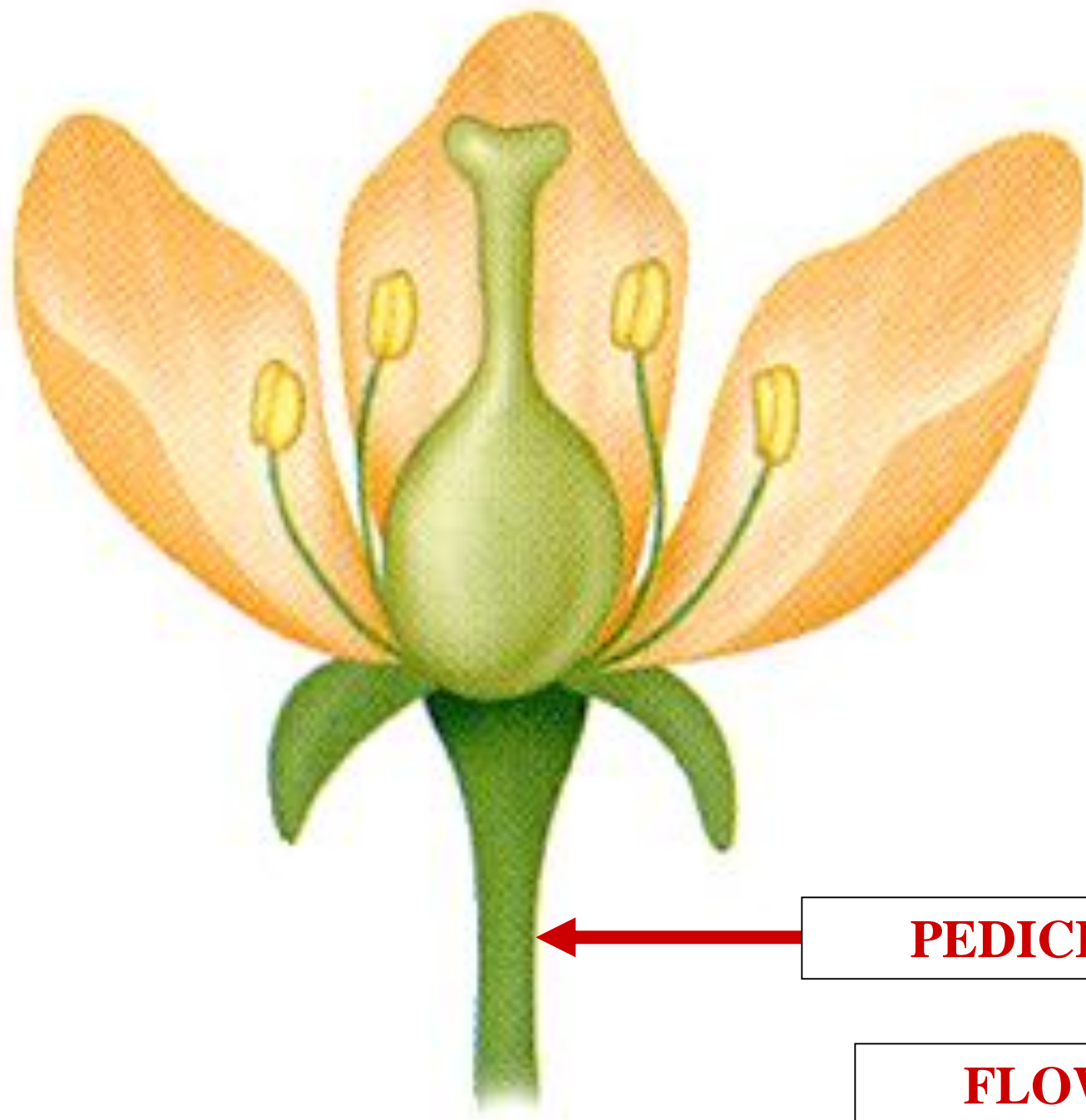


FLOWER



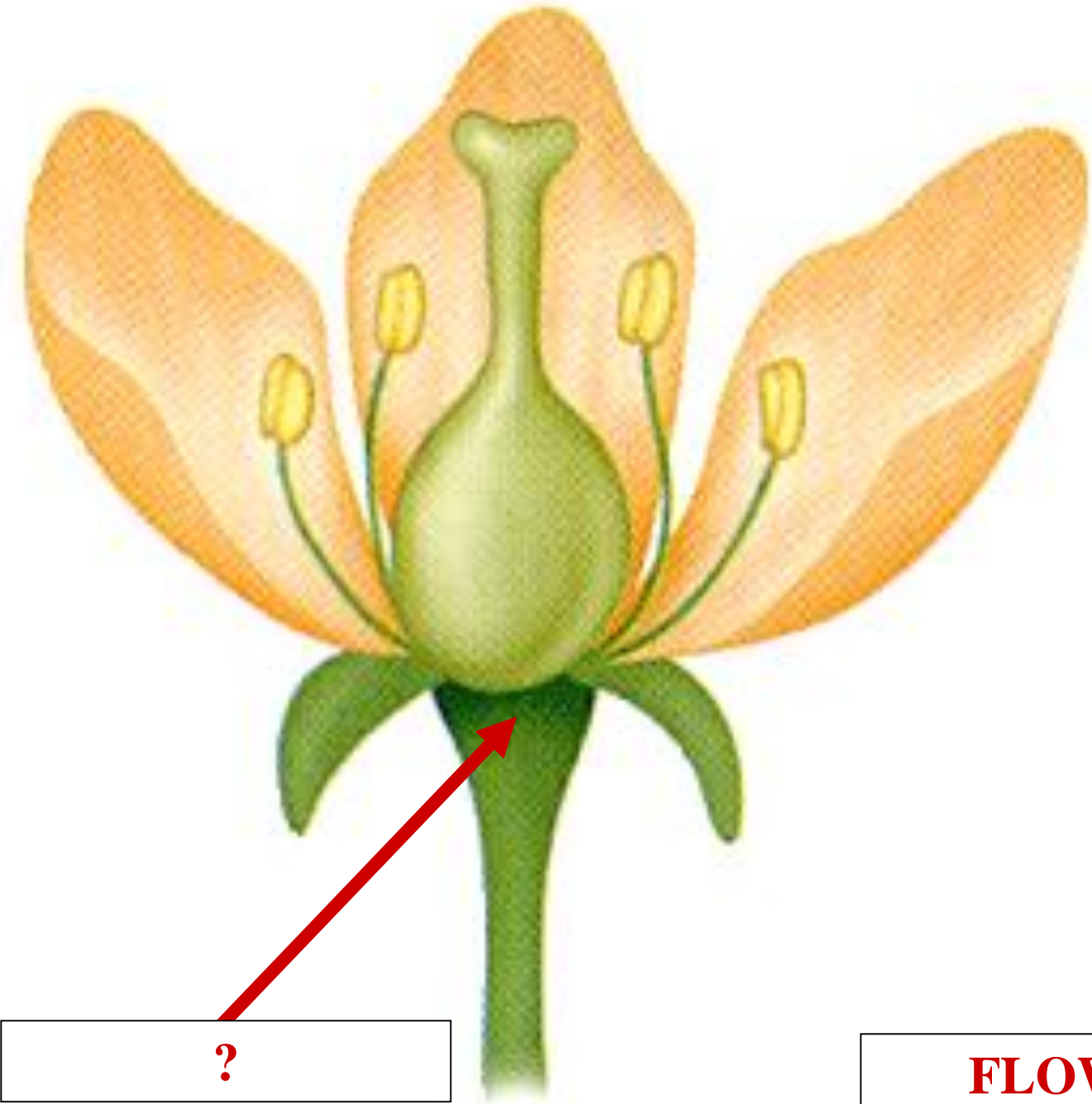
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FLOWER



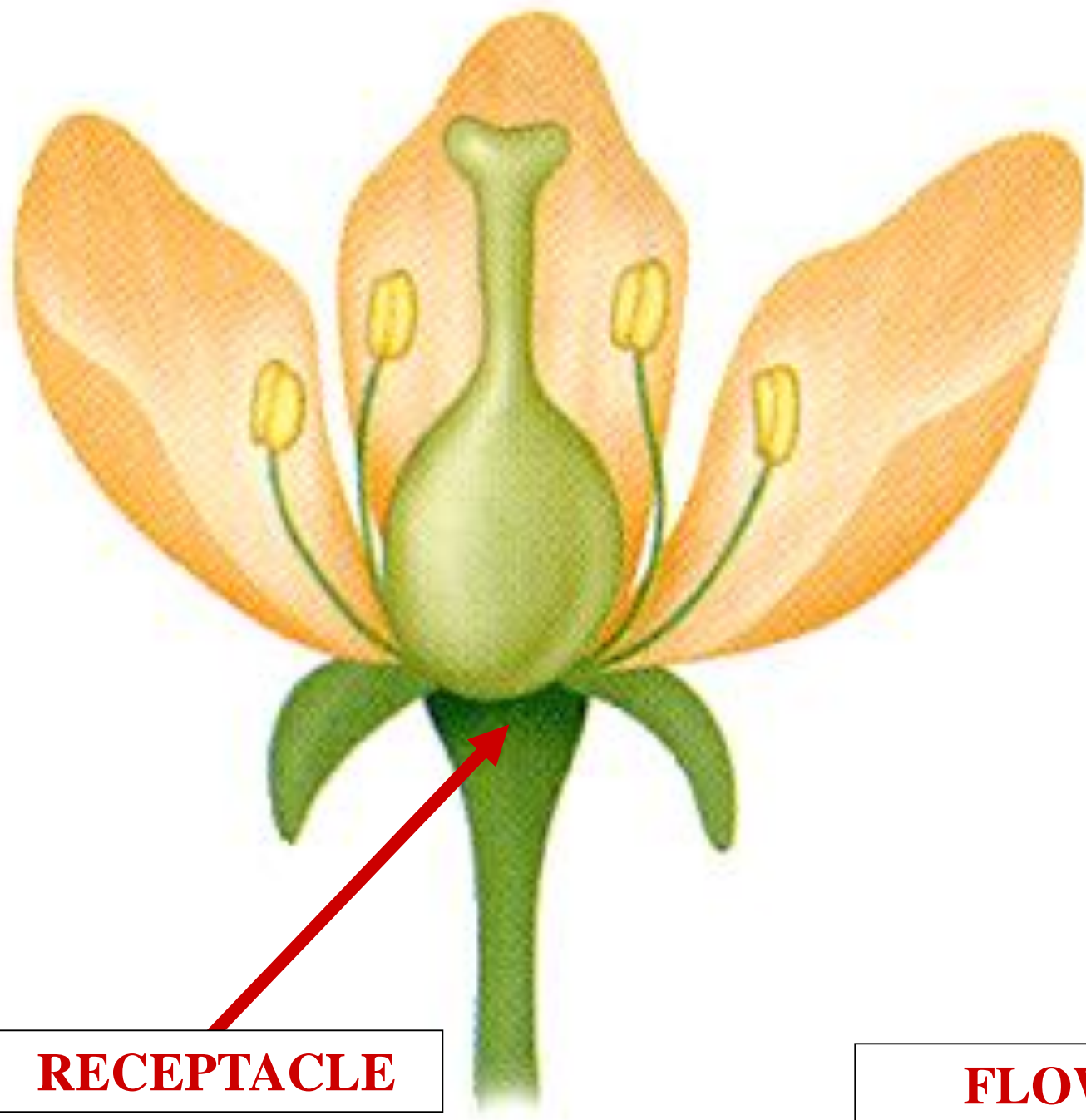
PEDICEL

FLOWER



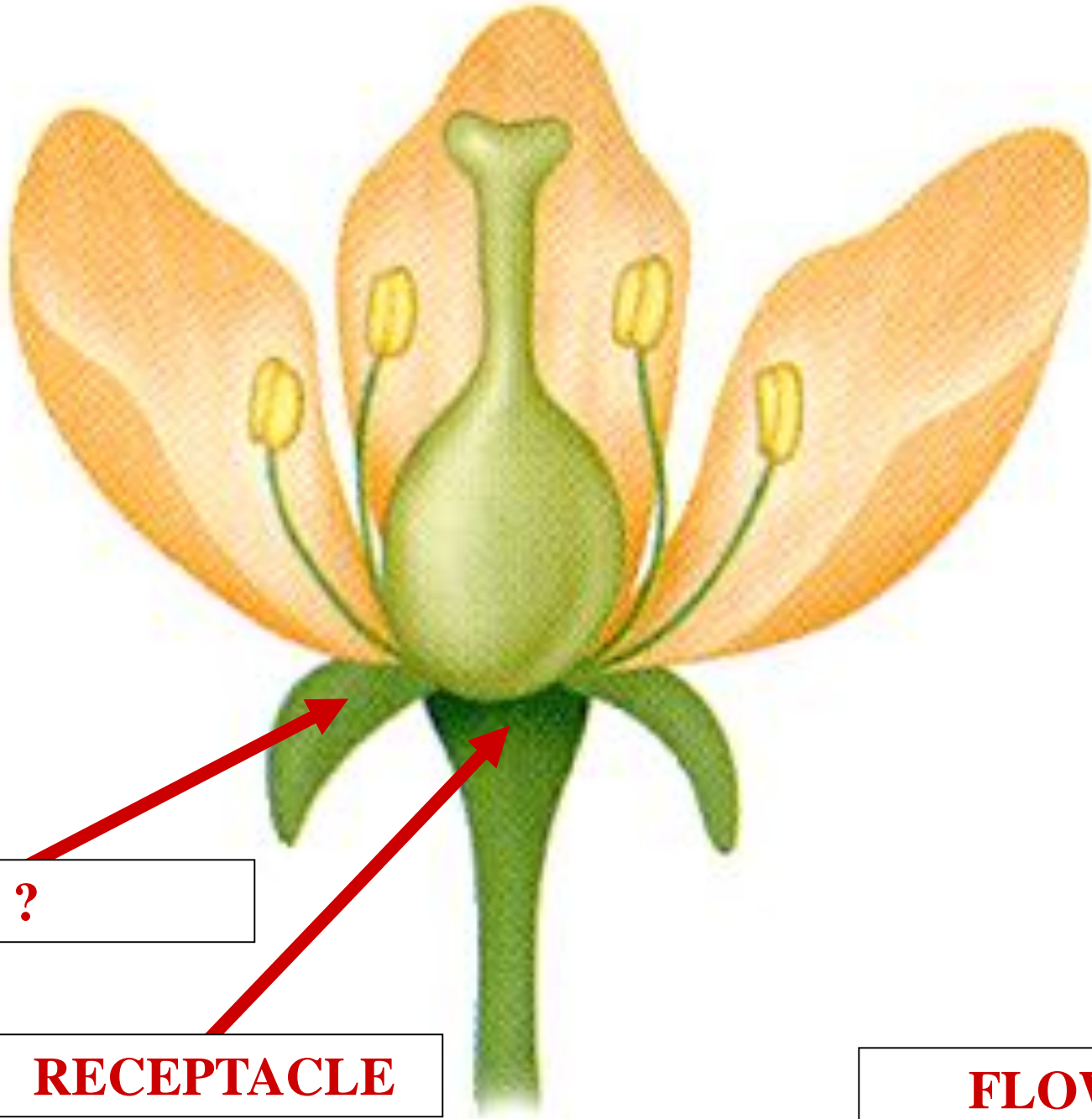
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FLOWER



RECEPTACLE

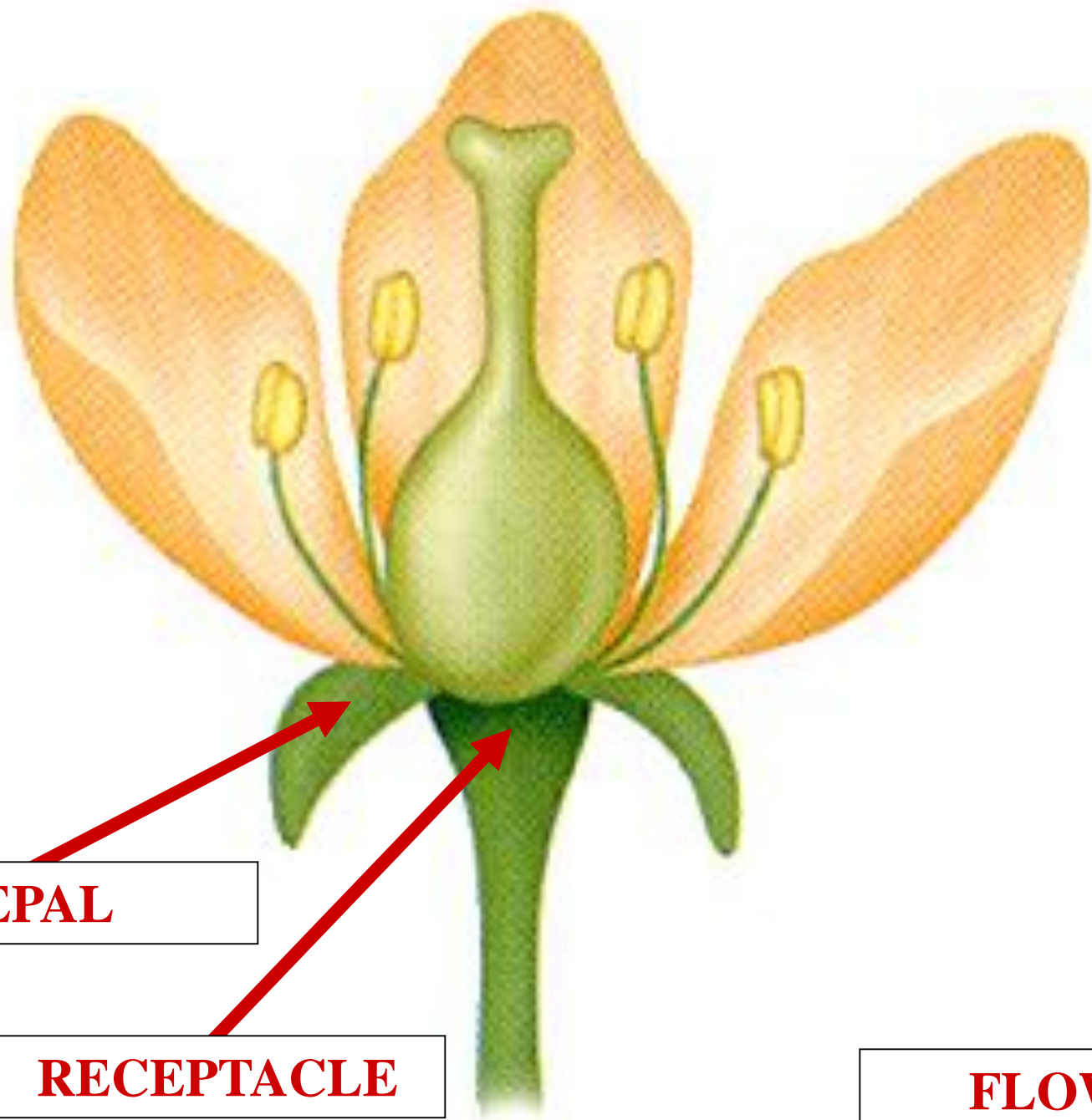
FLOWER



?

RECEPTACLE

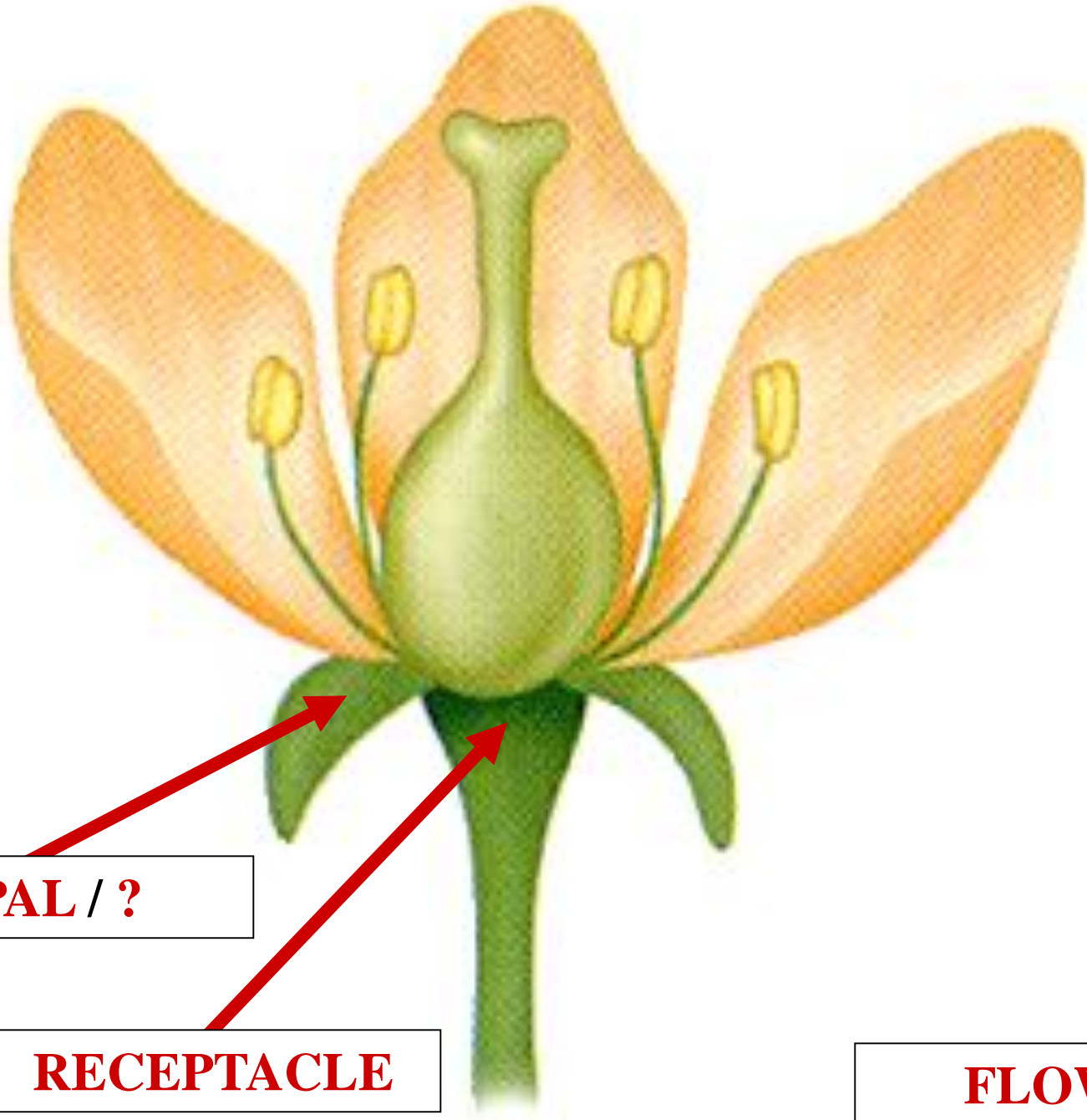
FLOWER



SEPAL

RECEPTACLE

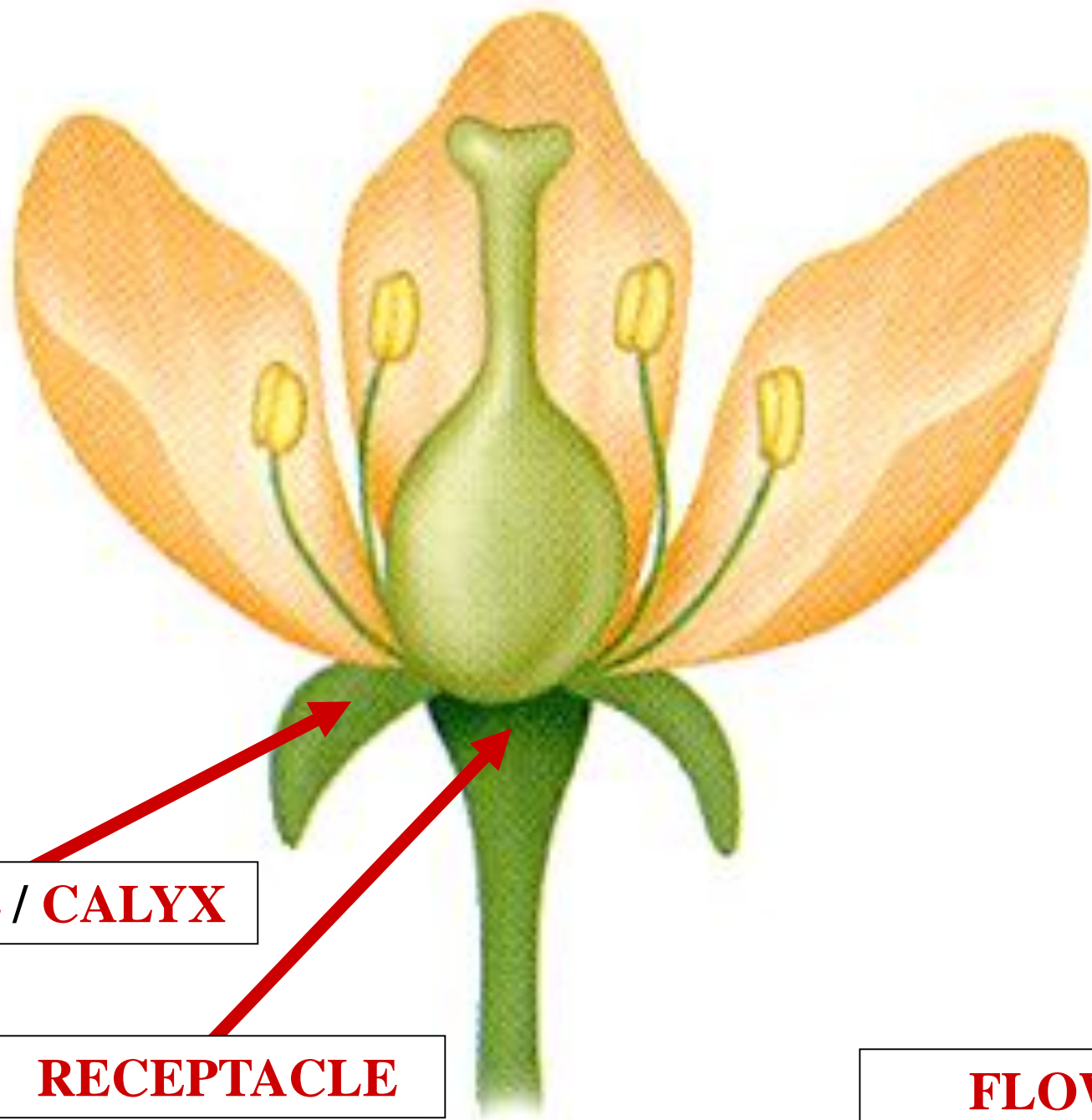
FLOWER



SEPAL / ?

RECEPTACLE

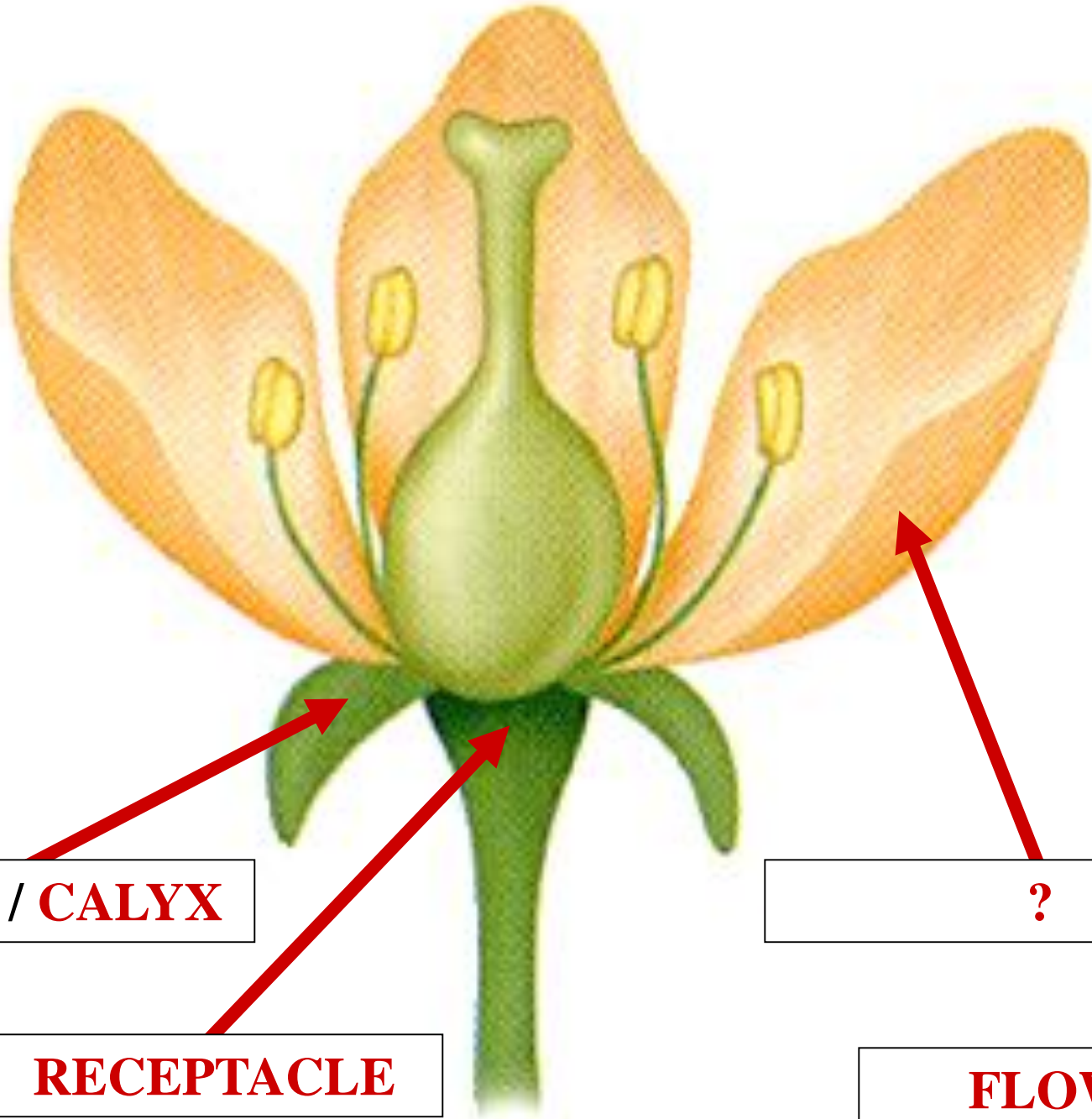
FLOWER



SEPAL / CALYX

RECEPTACLE

FLOWER

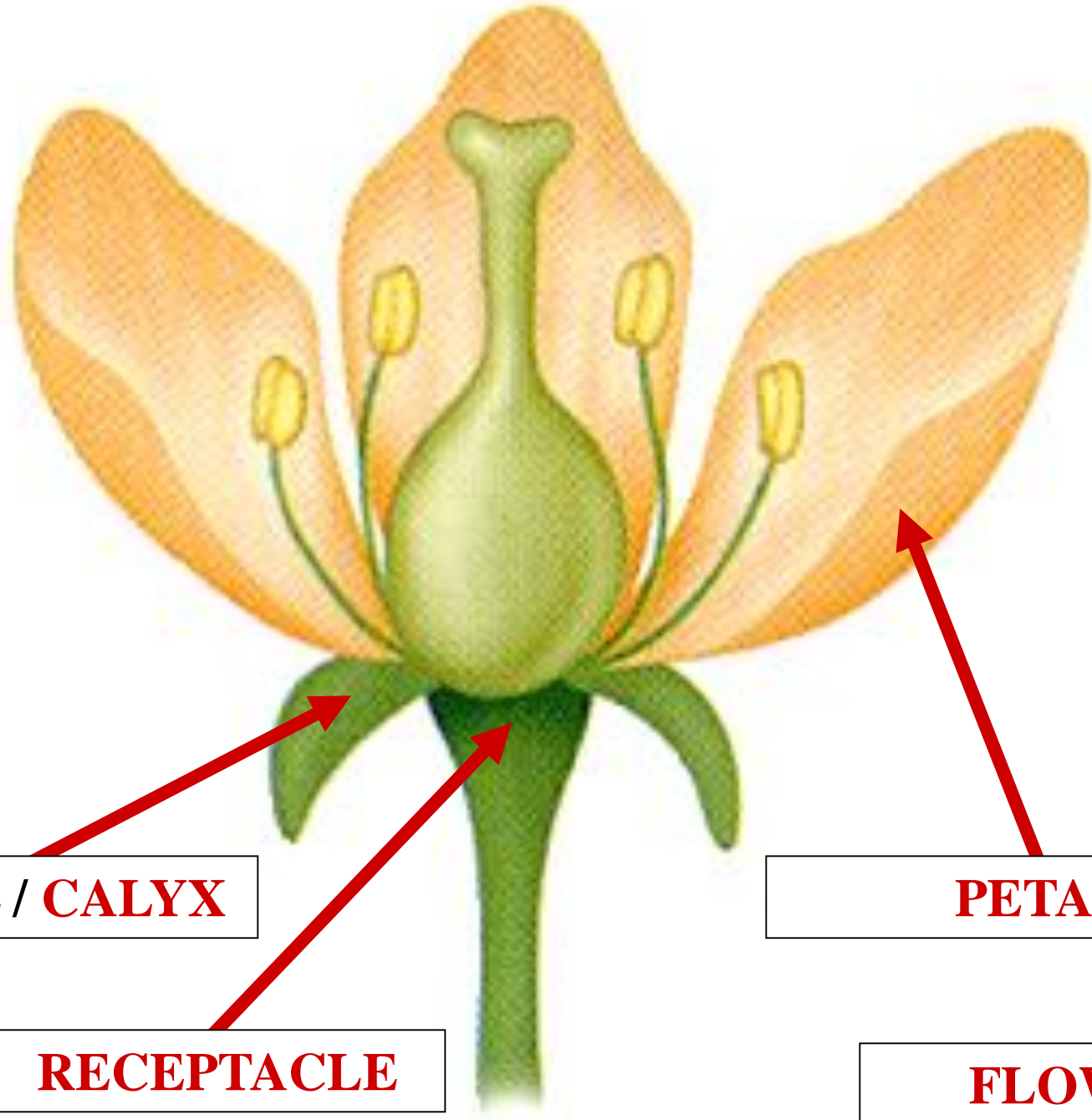


SEPAL / CALYX

RECEPTACLE

?

FLOWER

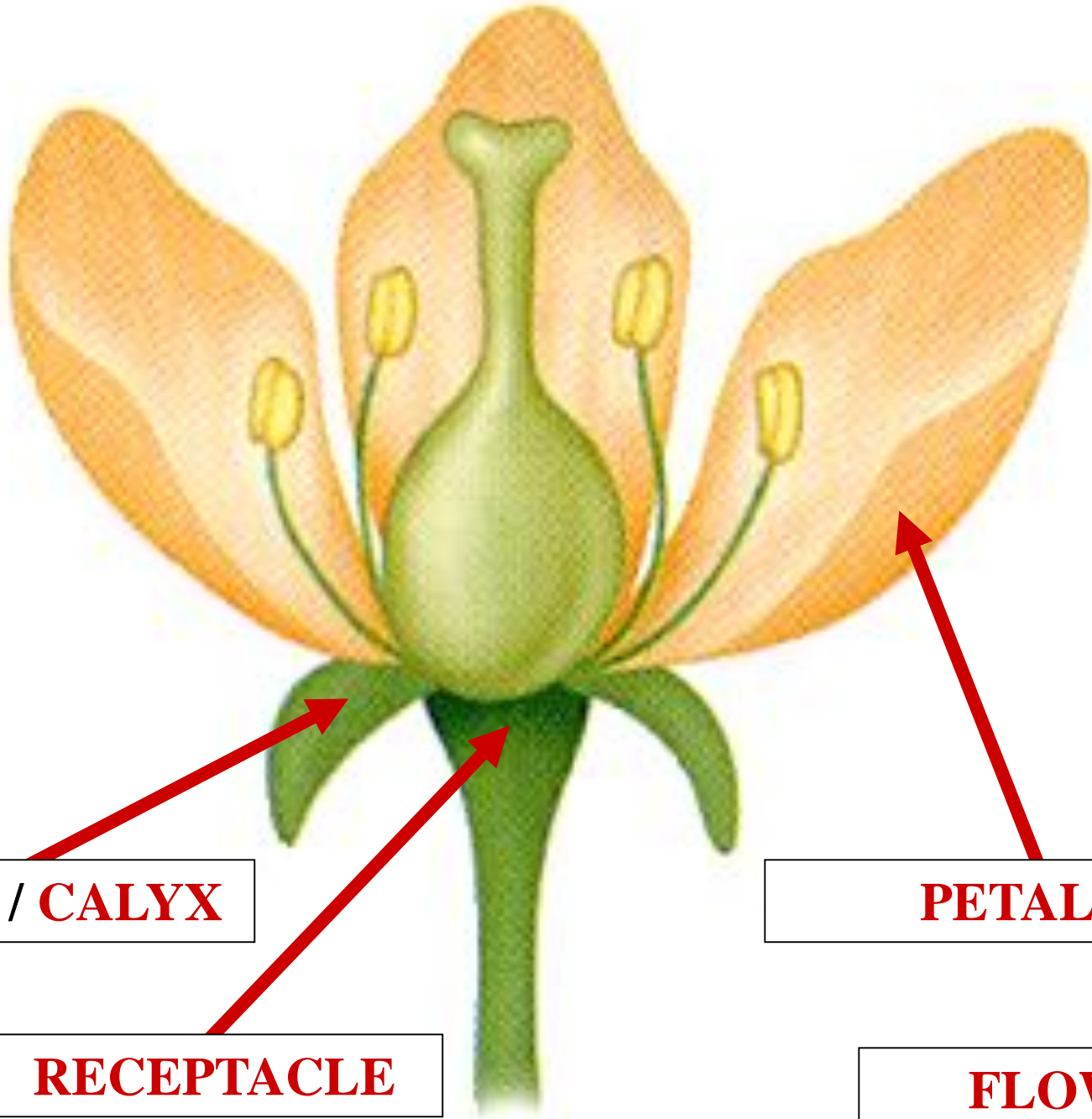


SEPAL / CALYX

PETAL

RECEPTACLE

FLOWER

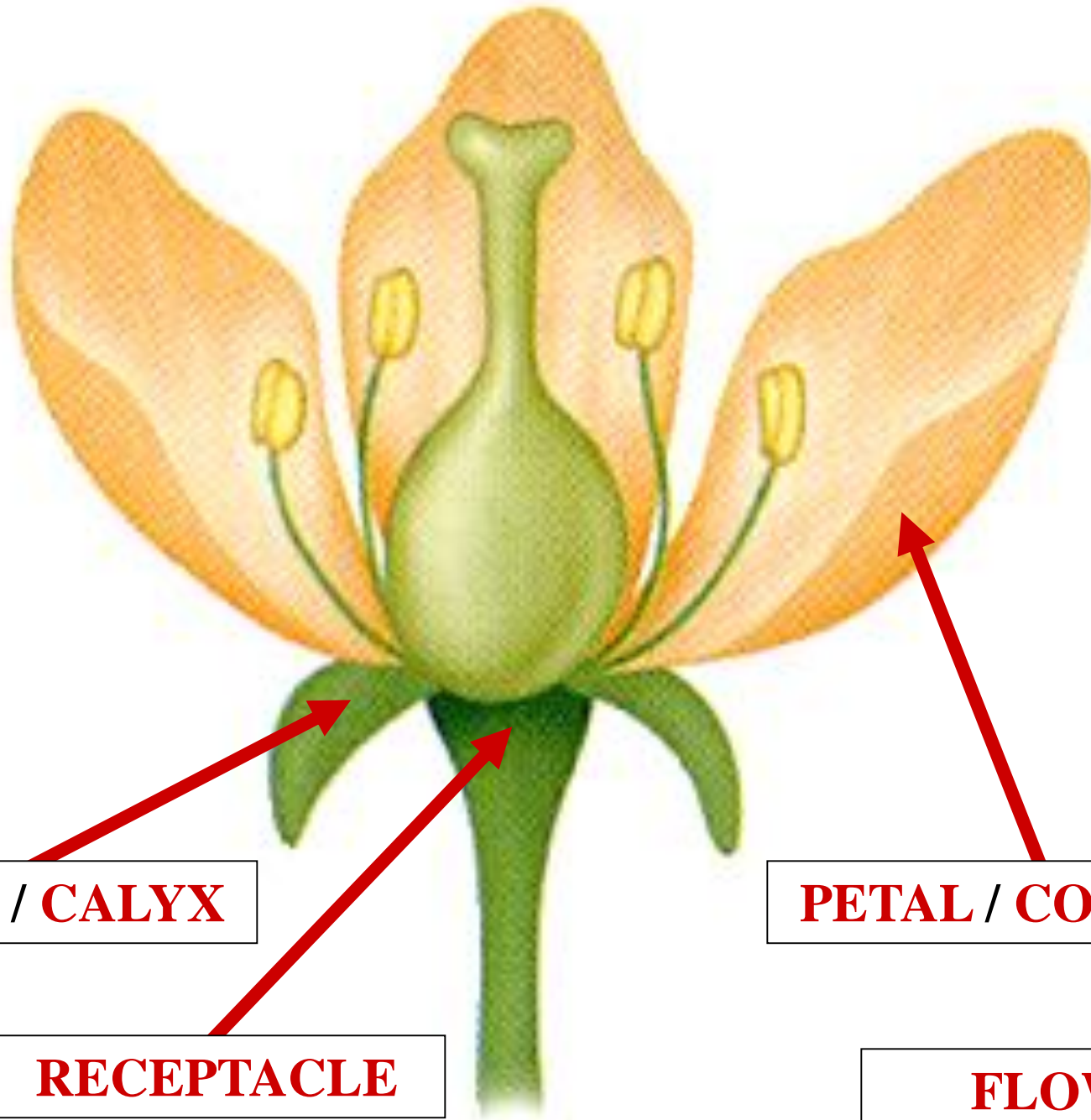


SEPAL / CALYX

RECEPTACLE

PETAL / ?

FLOWER

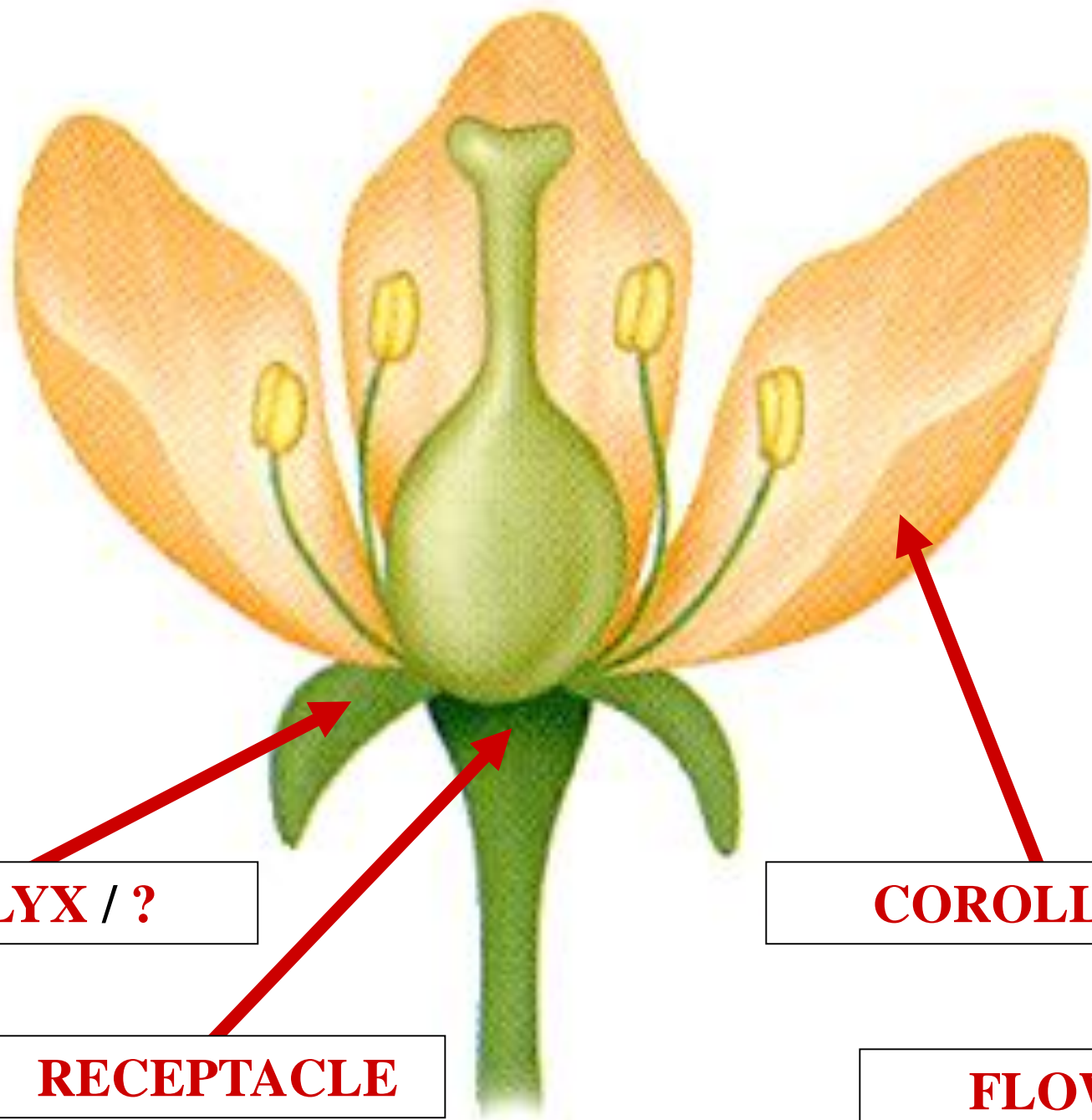


SEPAL / CALYX

PETAL / COROLLA

RECEPTACLE

FLOWER

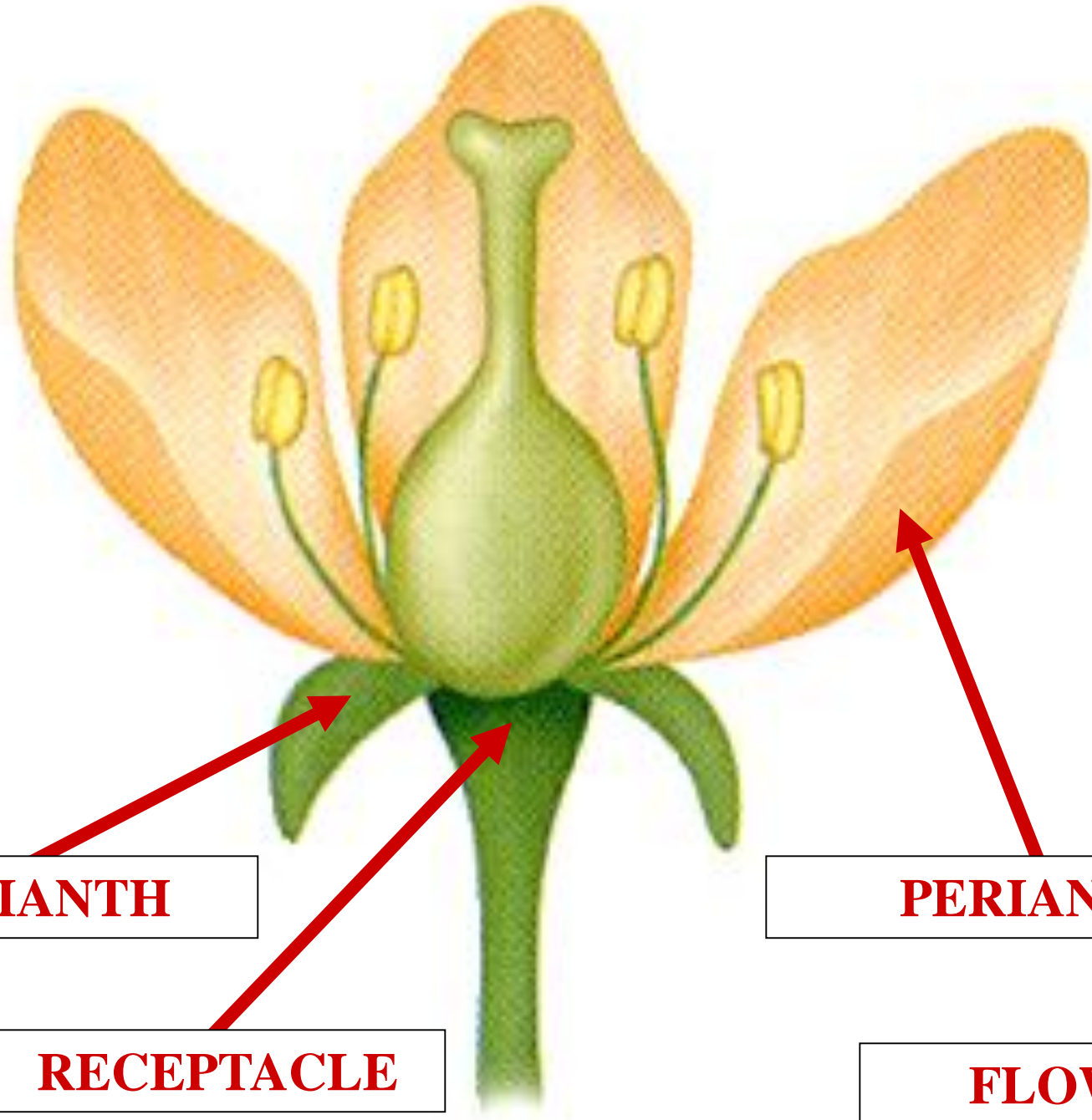


CALYX / ?

RECEPTACLE

COROLLA / ?

FLOWER



PERIANTH

RECEPTACLE

PERIANTH

FLOWER

?

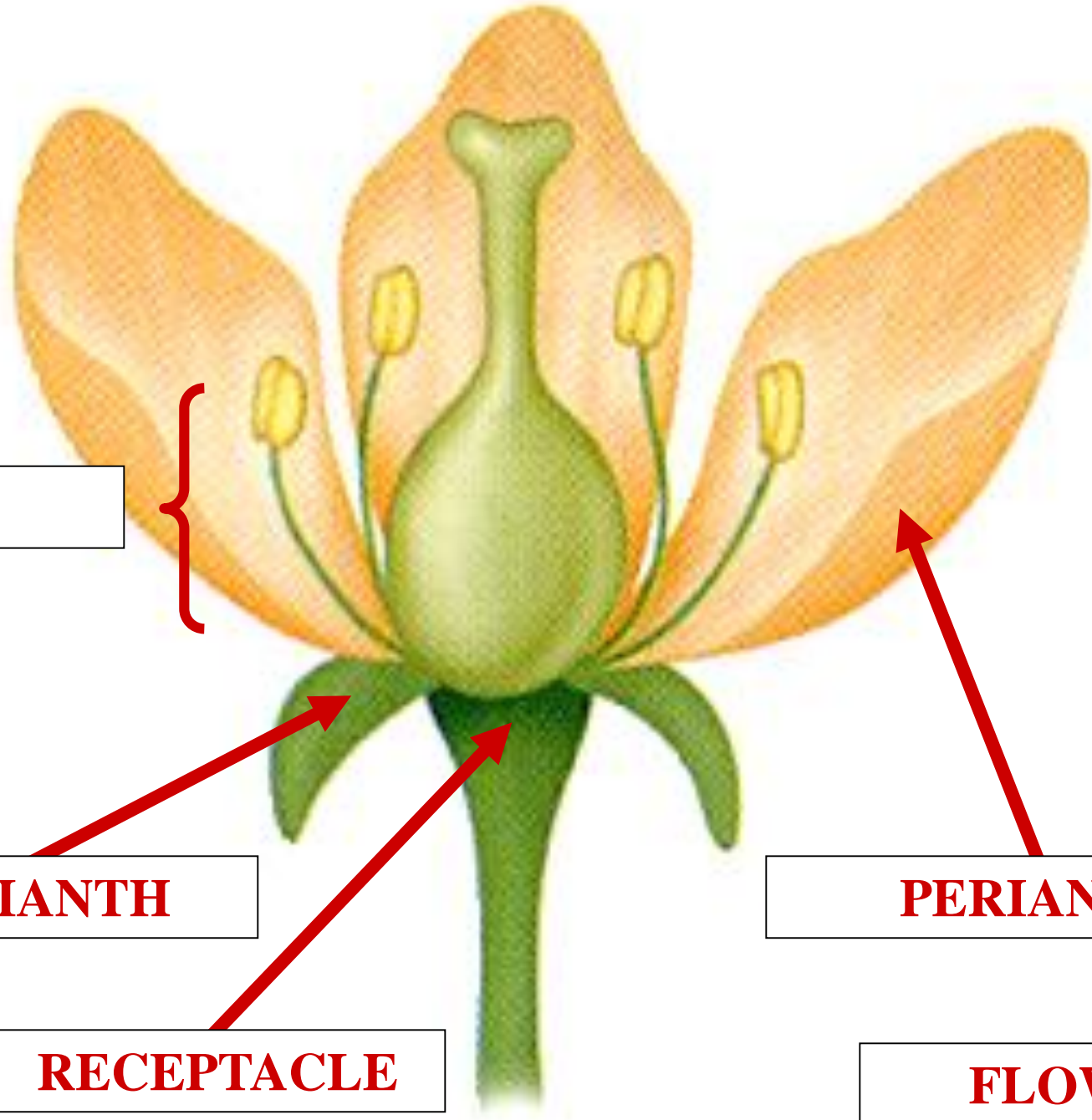


PERIANTH

RECEPTACLE

PERIANTH

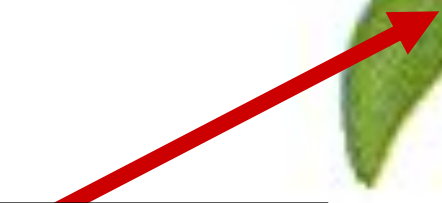
FLOWER



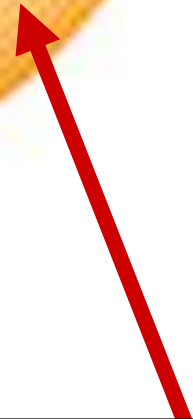
STAMEN



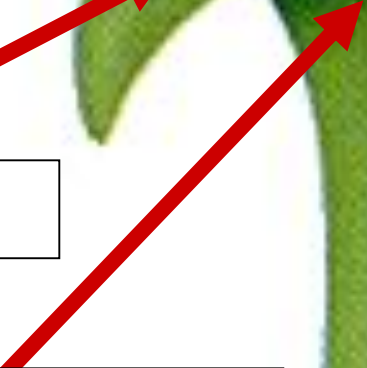
PERIANTH



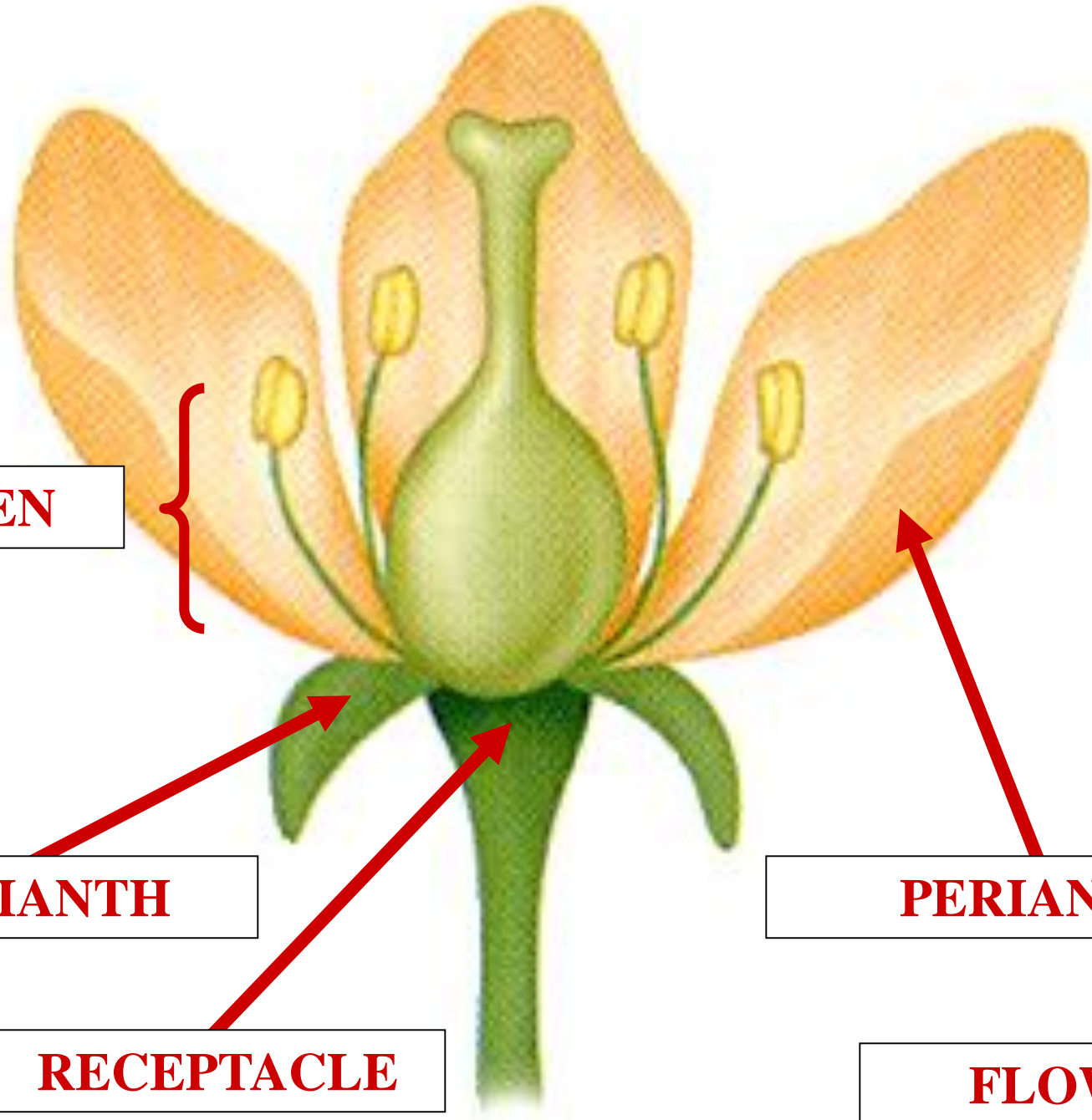
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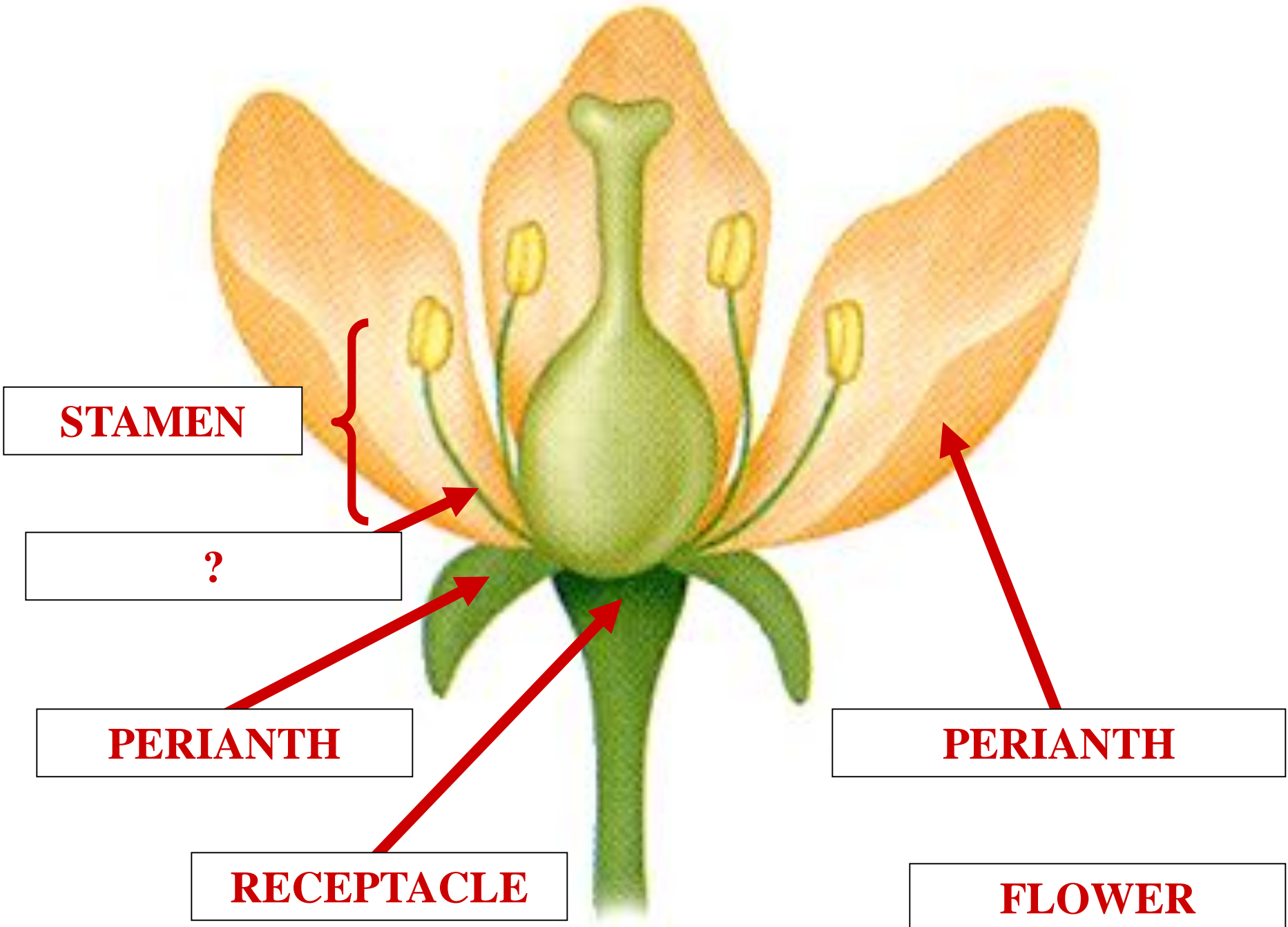


RECEPTACLE



FLOWER





STAMEN

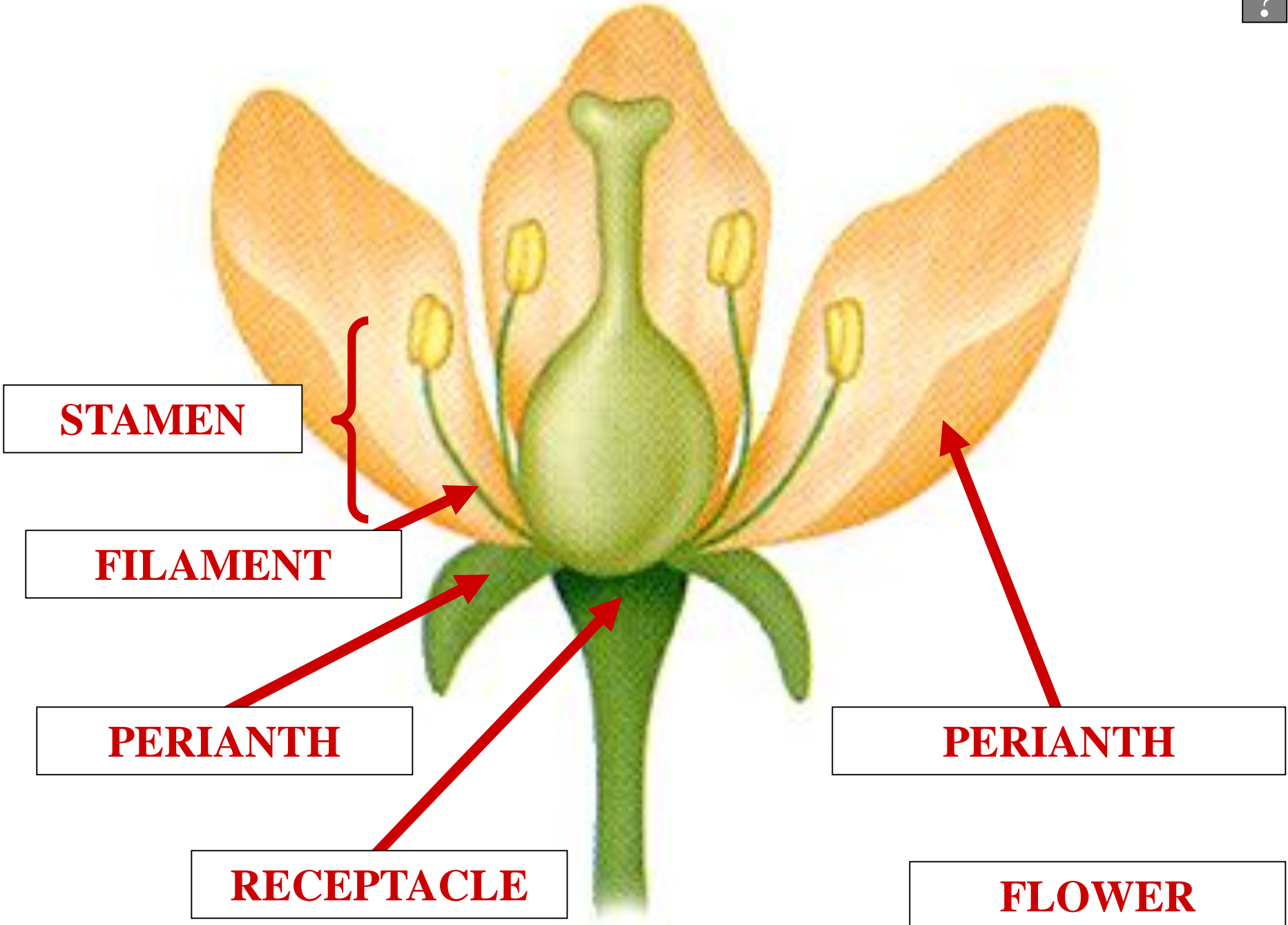
?

PERIANTH

PERIANTH

RECEPTACLE

FLOWER



STAMEN

FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER

?

STAMEN

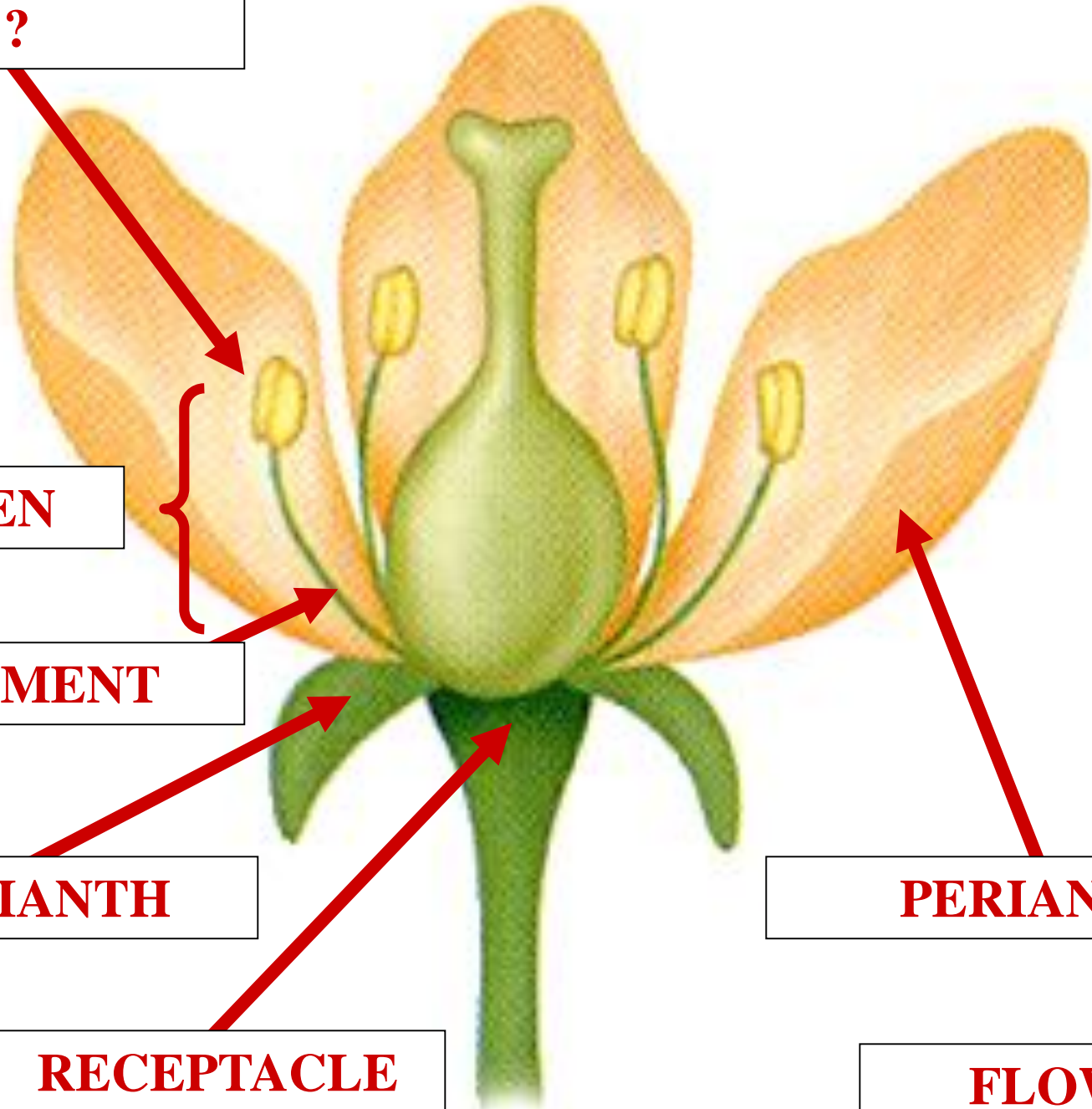
FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER



STAMEN



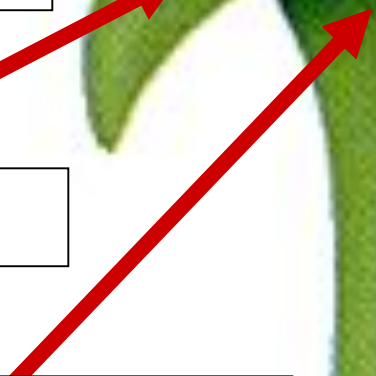
FILAMENT



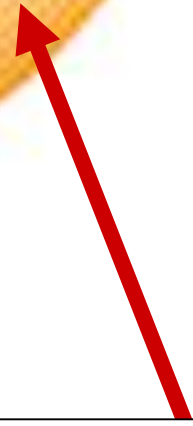
PERIANTH



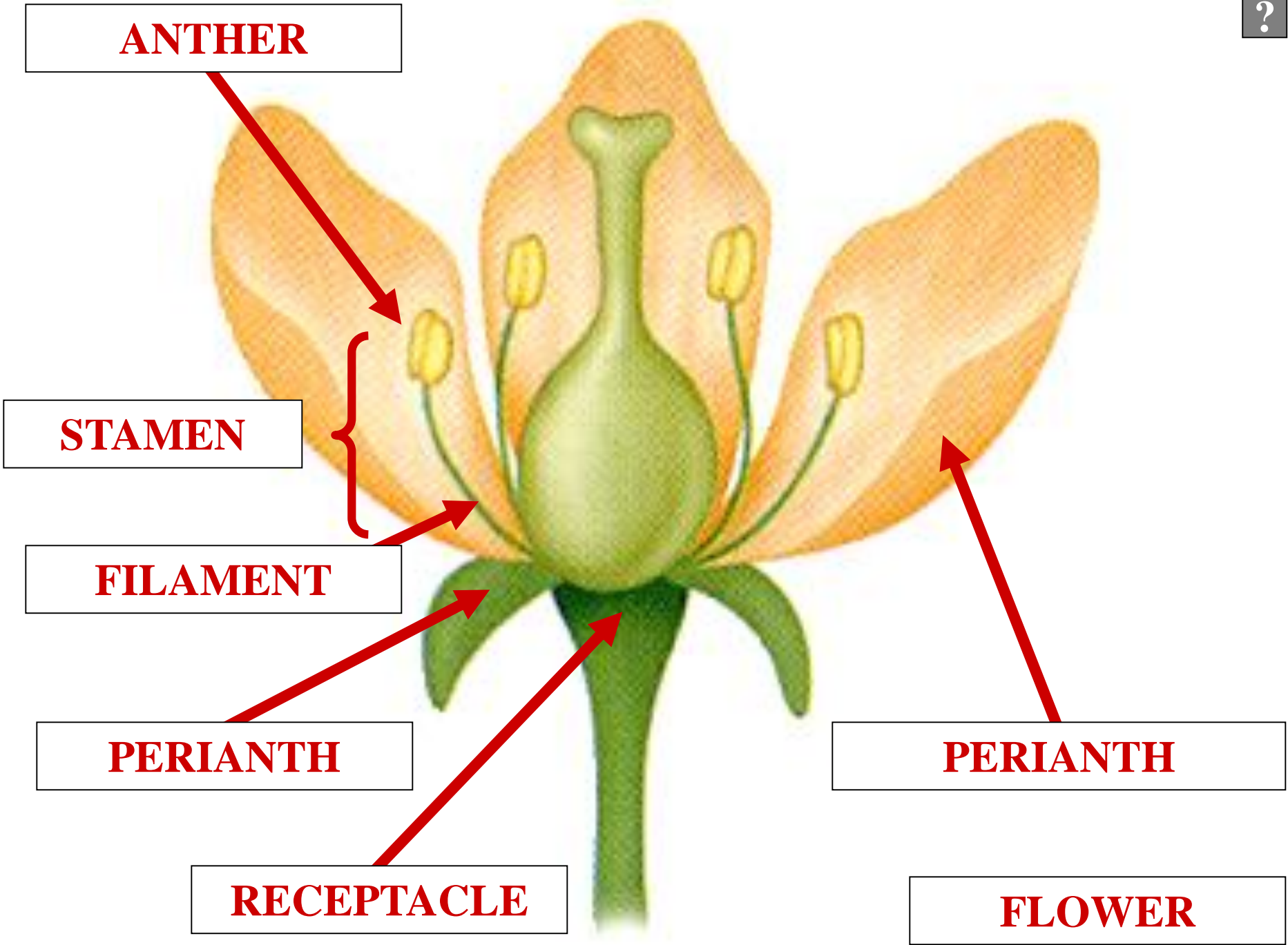
RECEPTACLE



PERIANTH



FLOWER



ANTHER

?

STAMEN

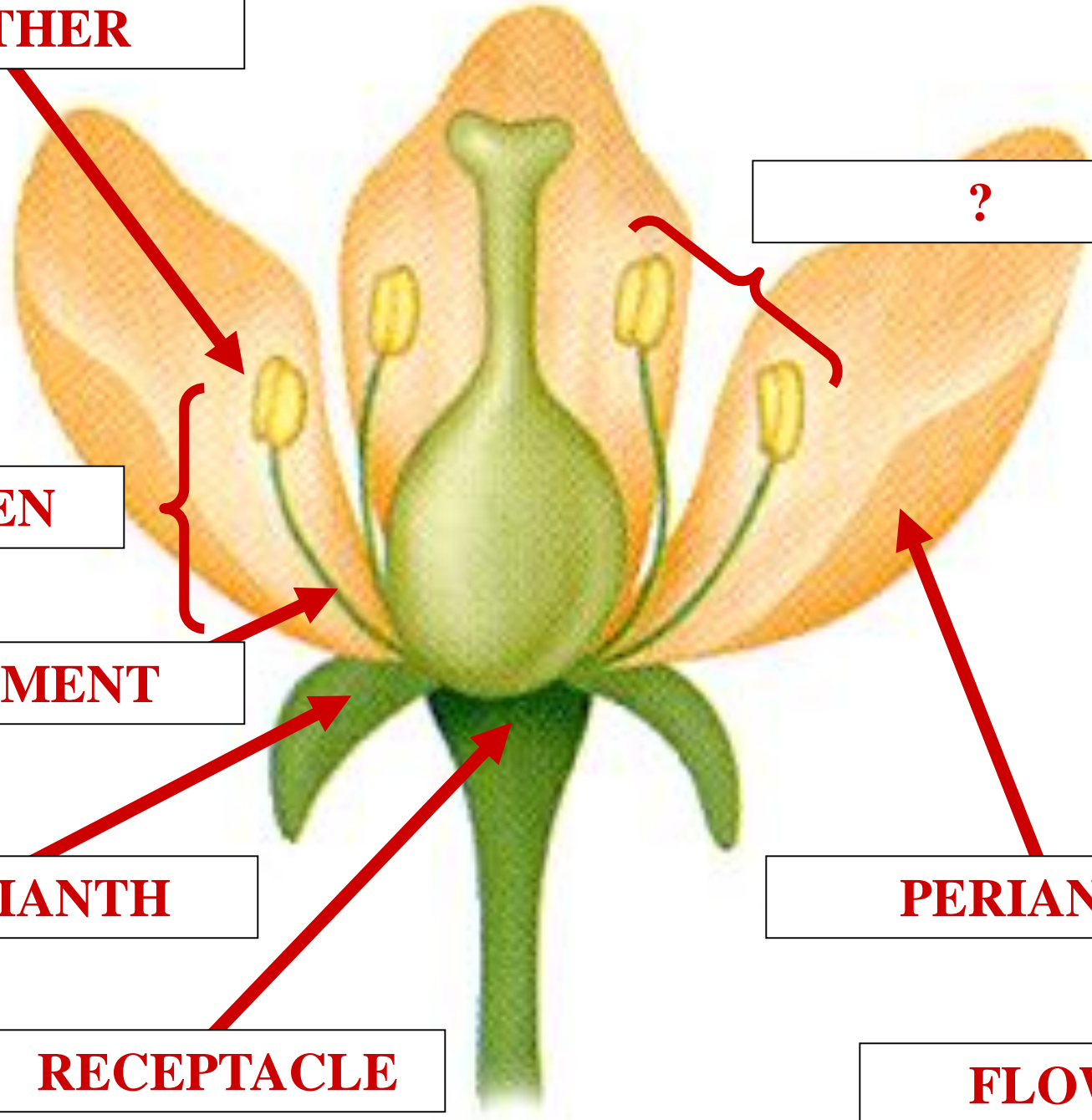
FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

ANDROECIUM

STAMEN

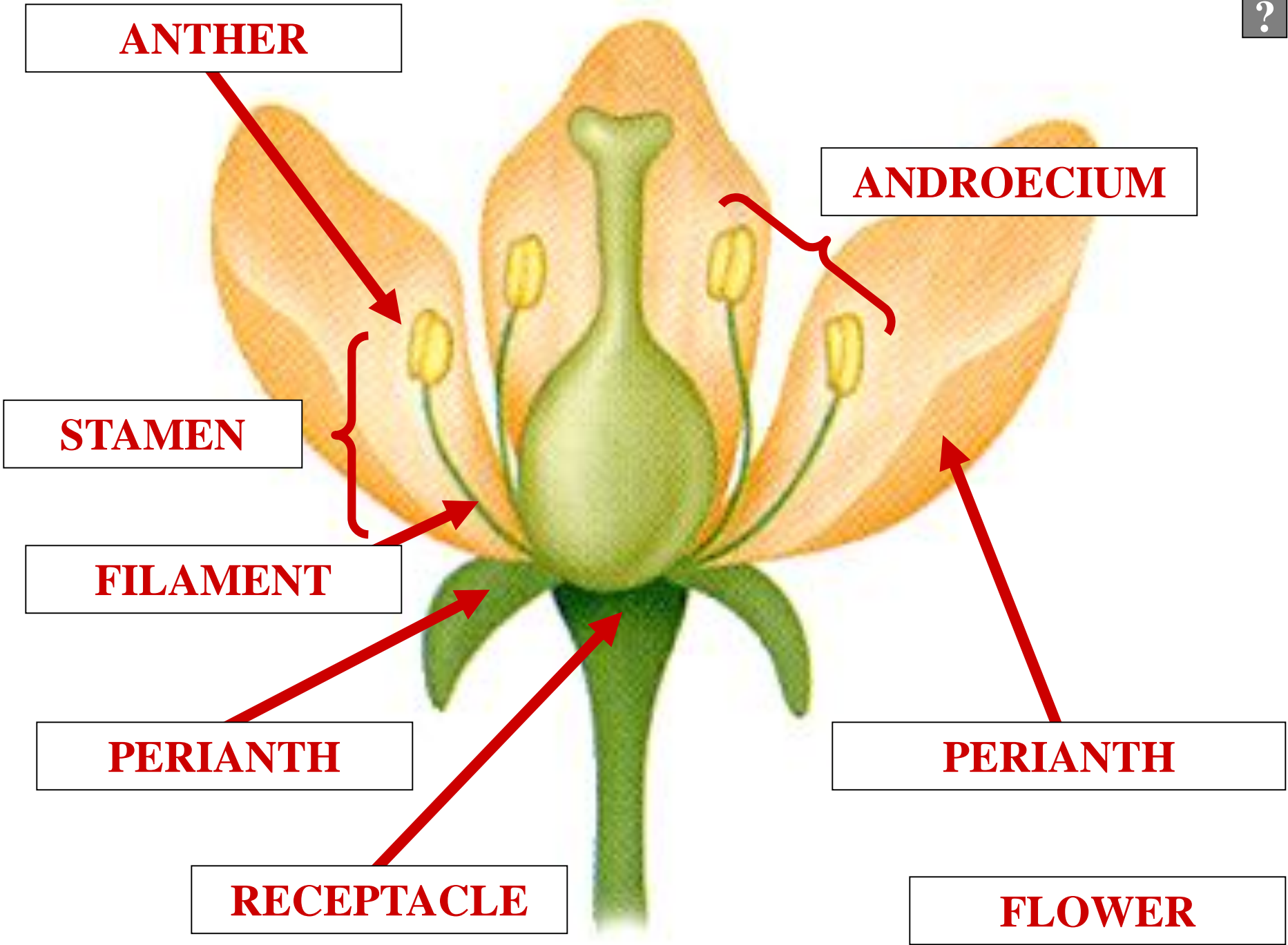
FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

STAMEN

FILAMENT

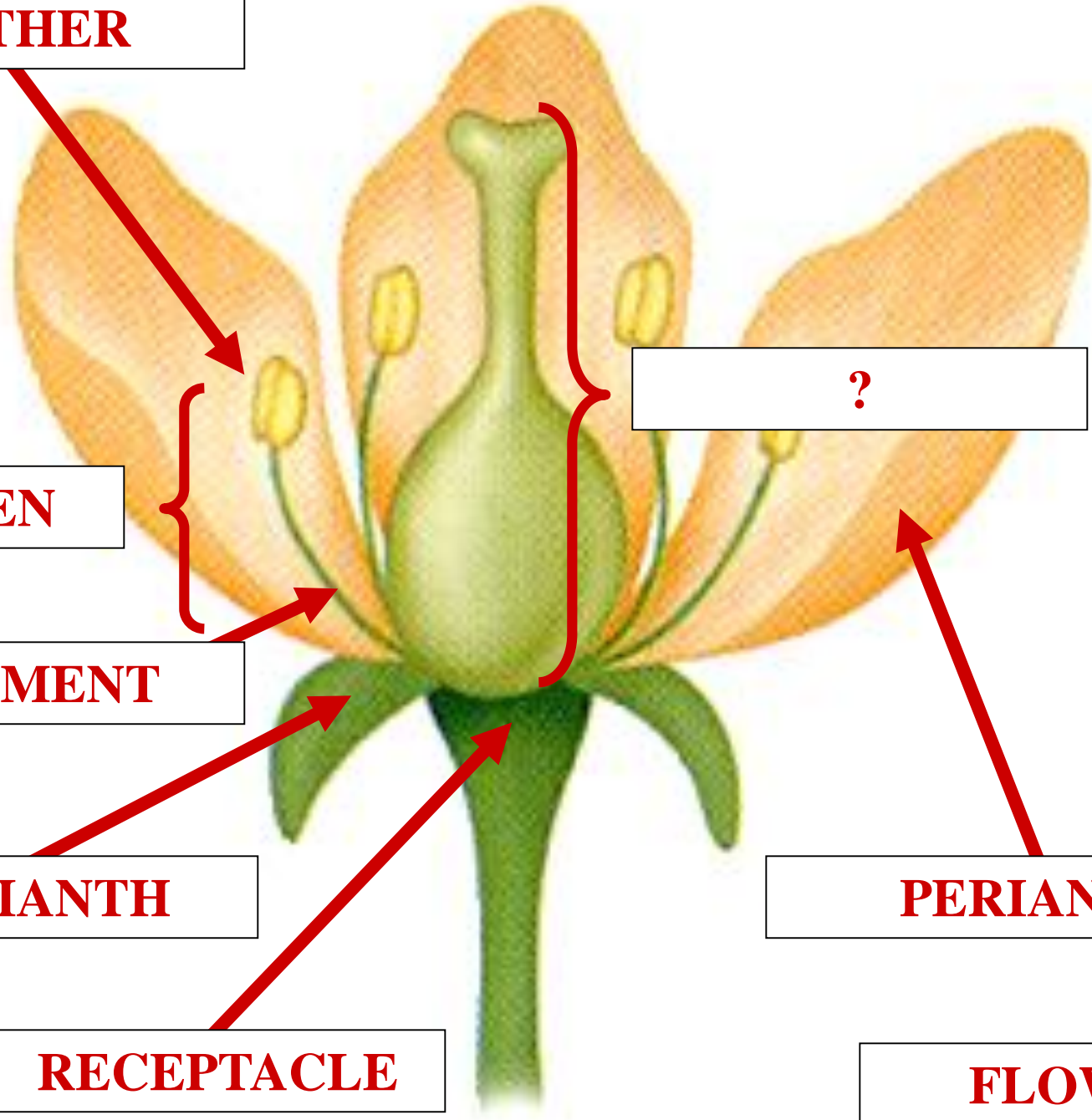
PERIANTH

RECEPTACLE

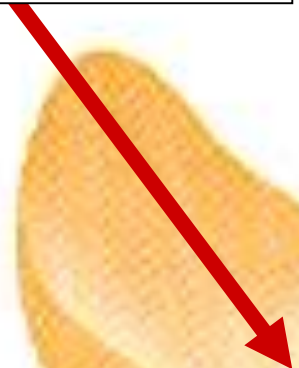
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PERIANTH

FLOWER



ANTHER



STAMEN



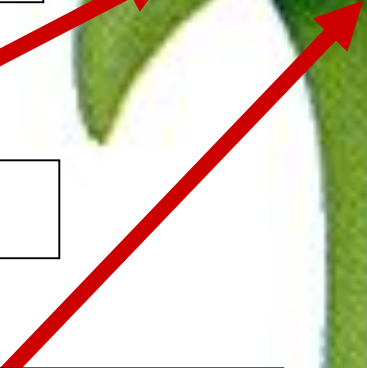
FILAMENT



PERIANTH



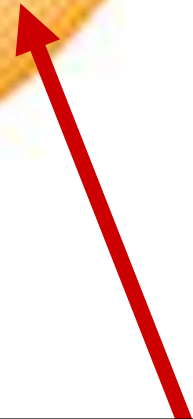
RECEPTACLE



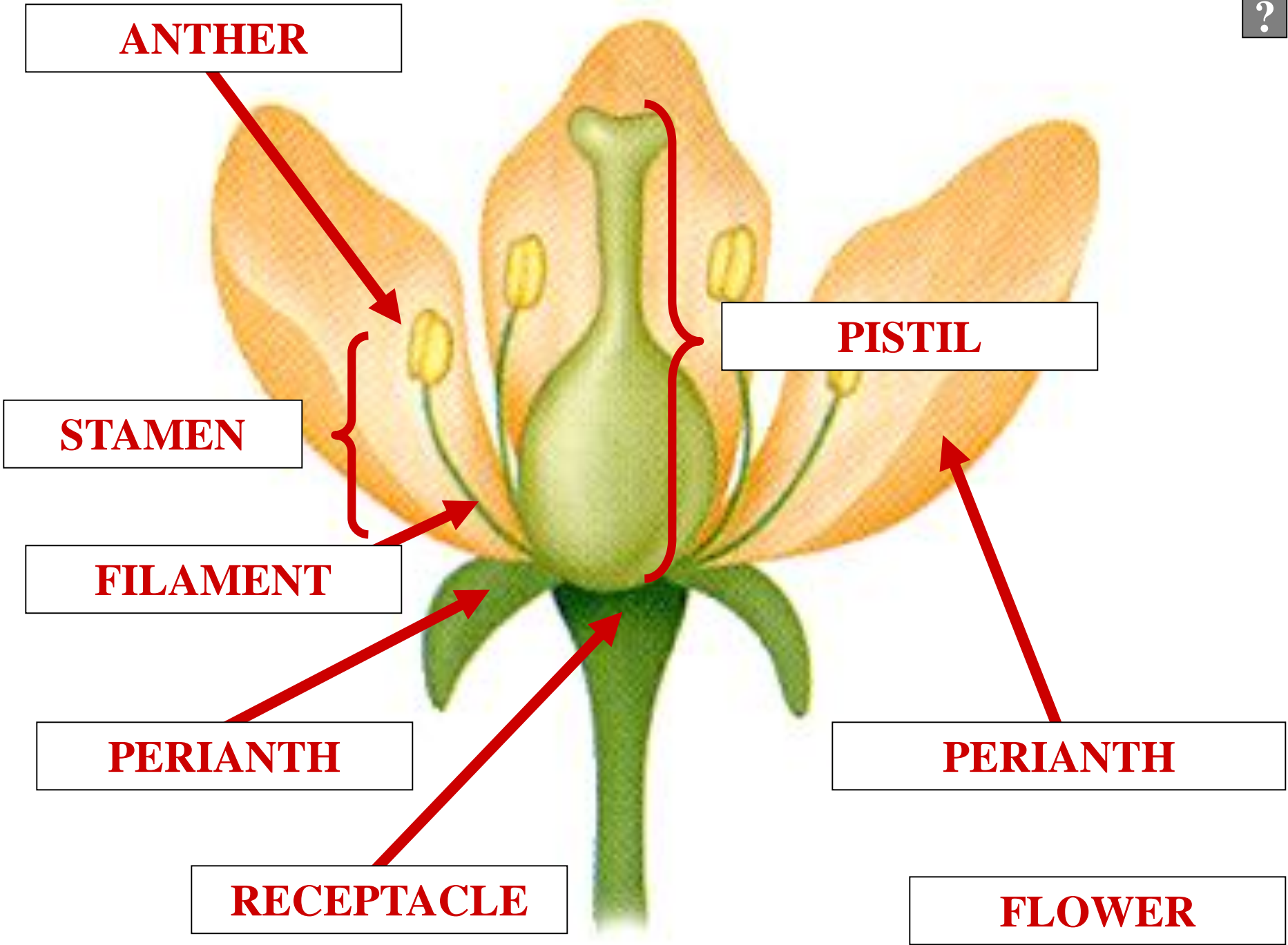
PISTIL



PERIANTH



FLOWER



ANTHER

?

STAMEN

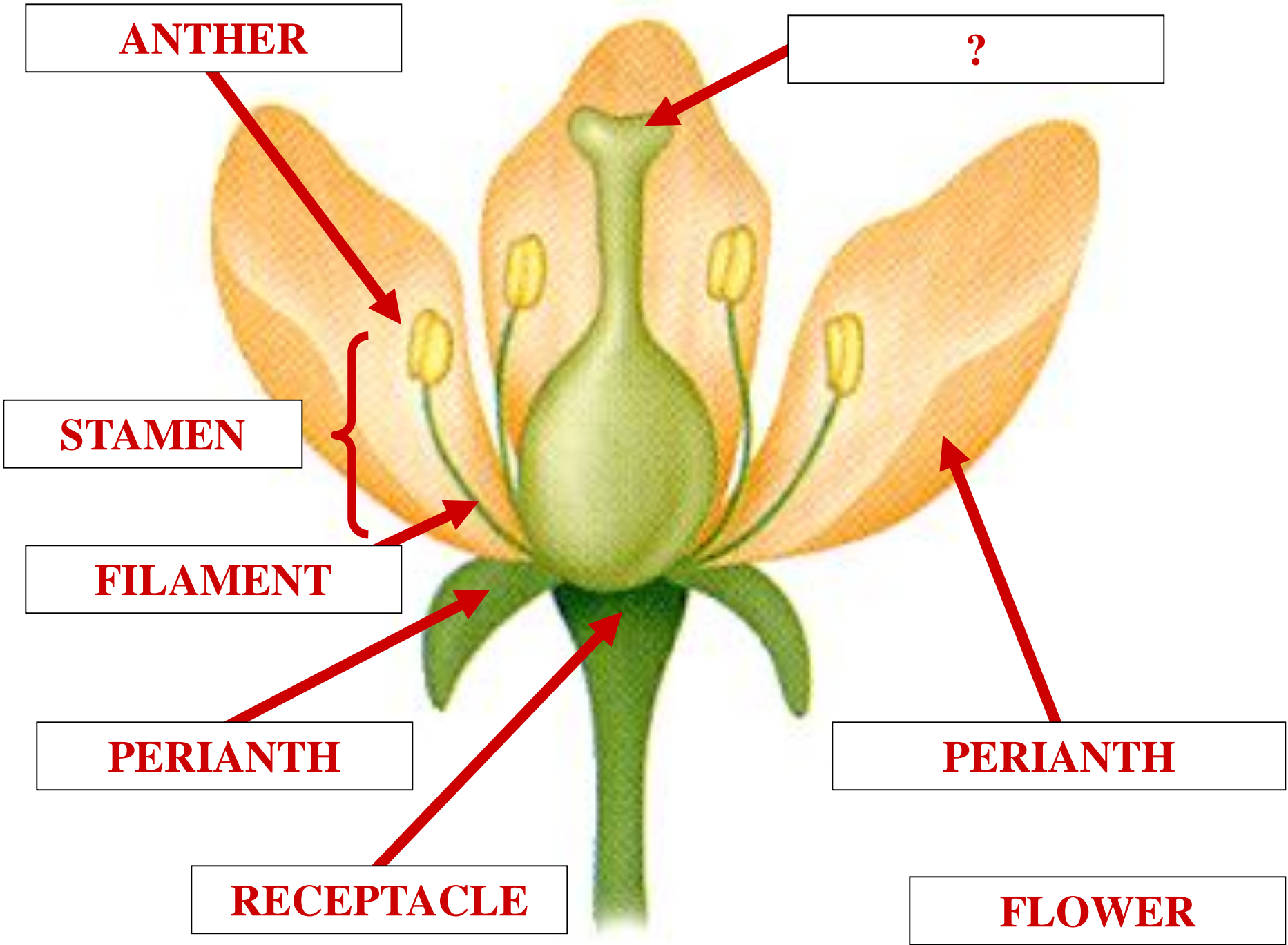
FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER





ANTHER

STIGMA

STAMEN

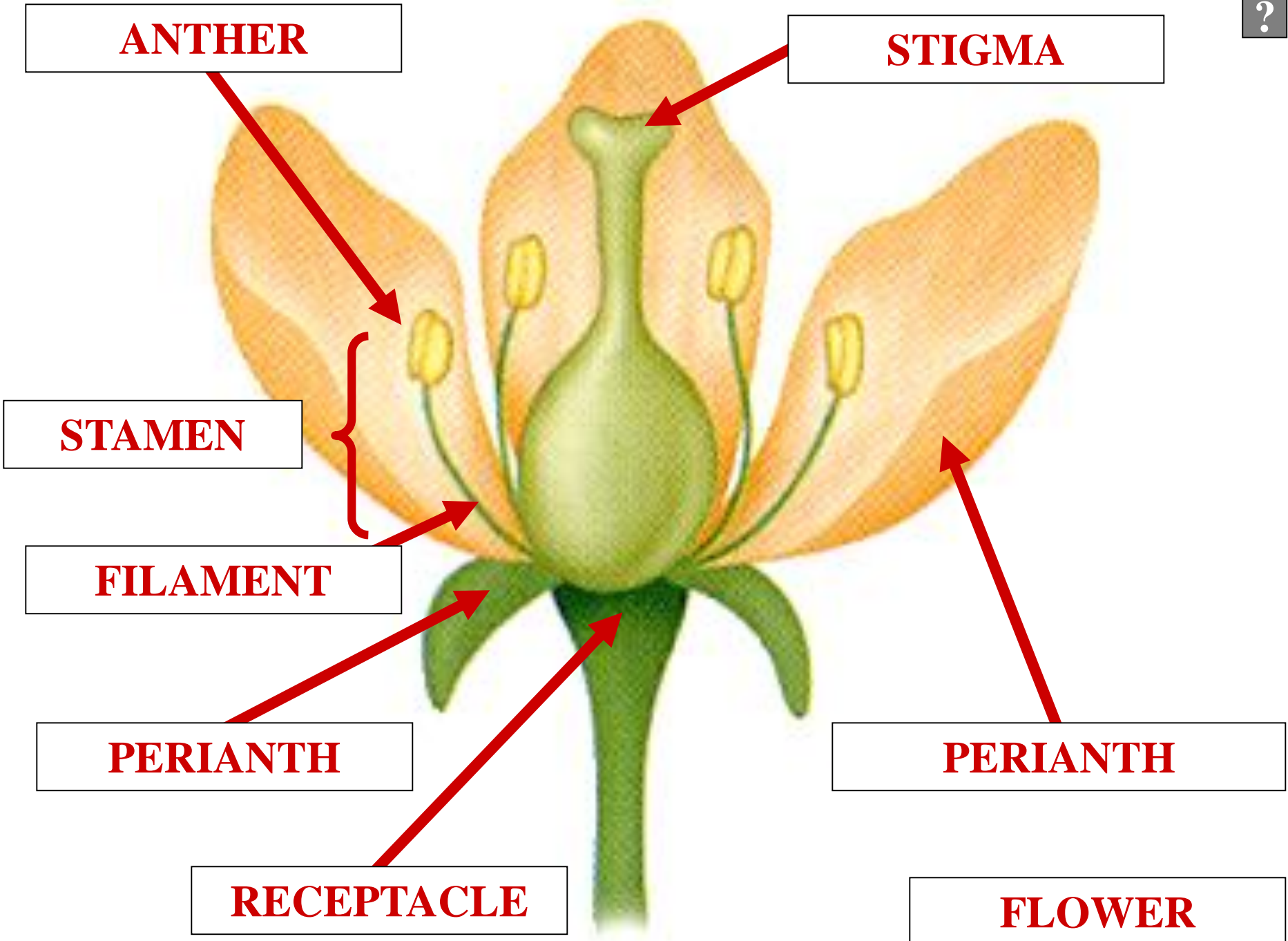
FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER



ANTHER

STIGMA

?

STAMEN

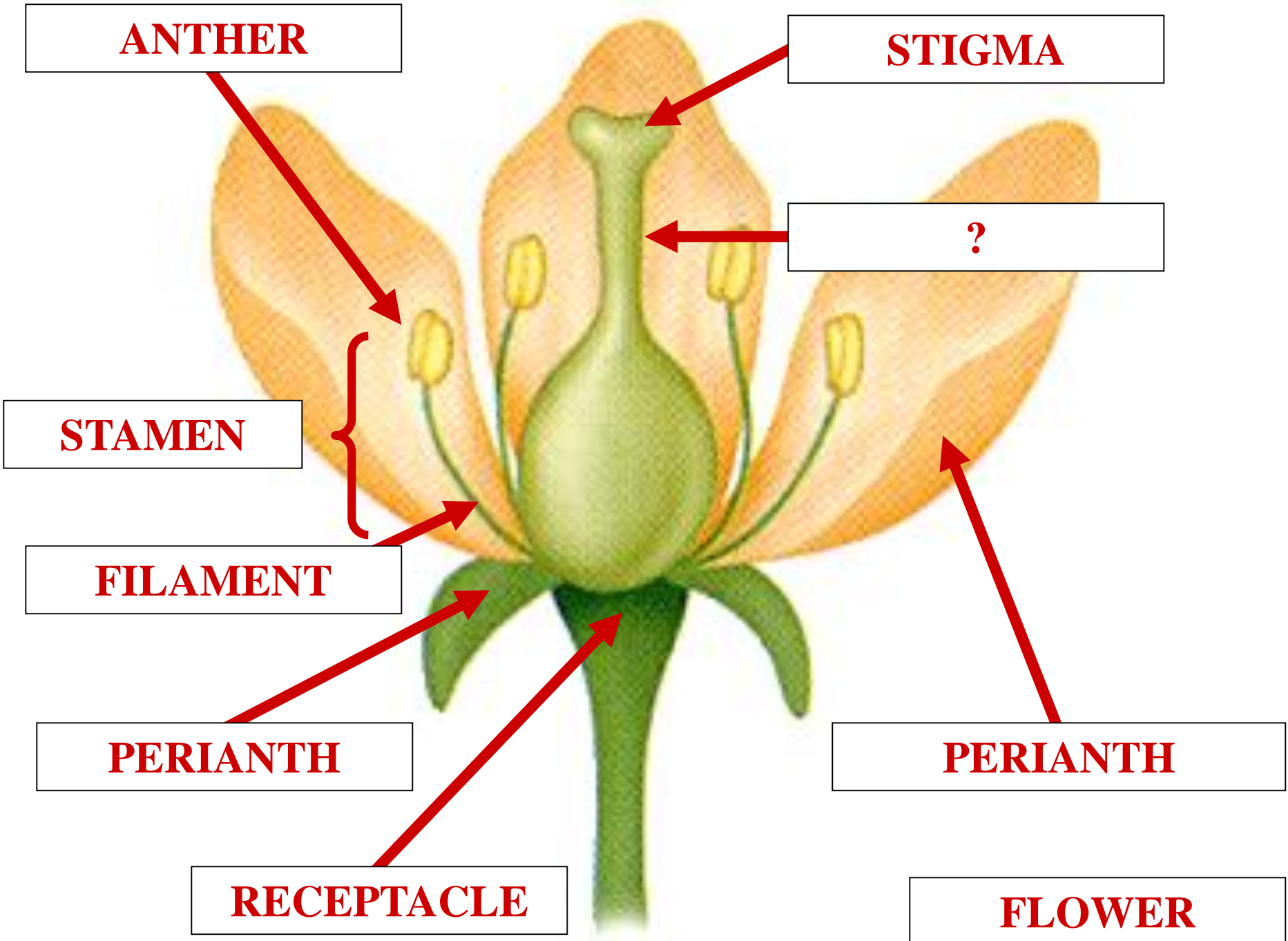
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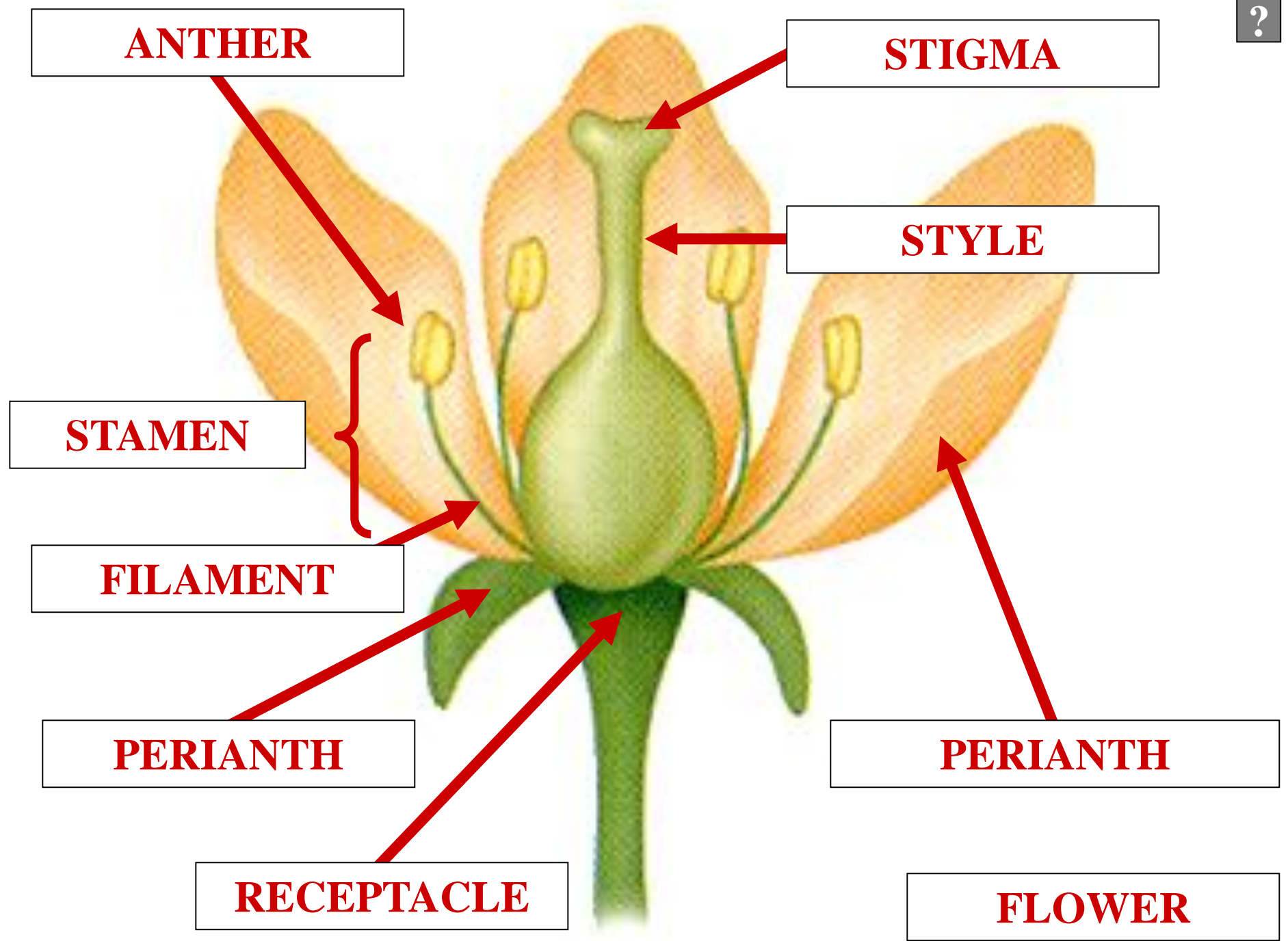
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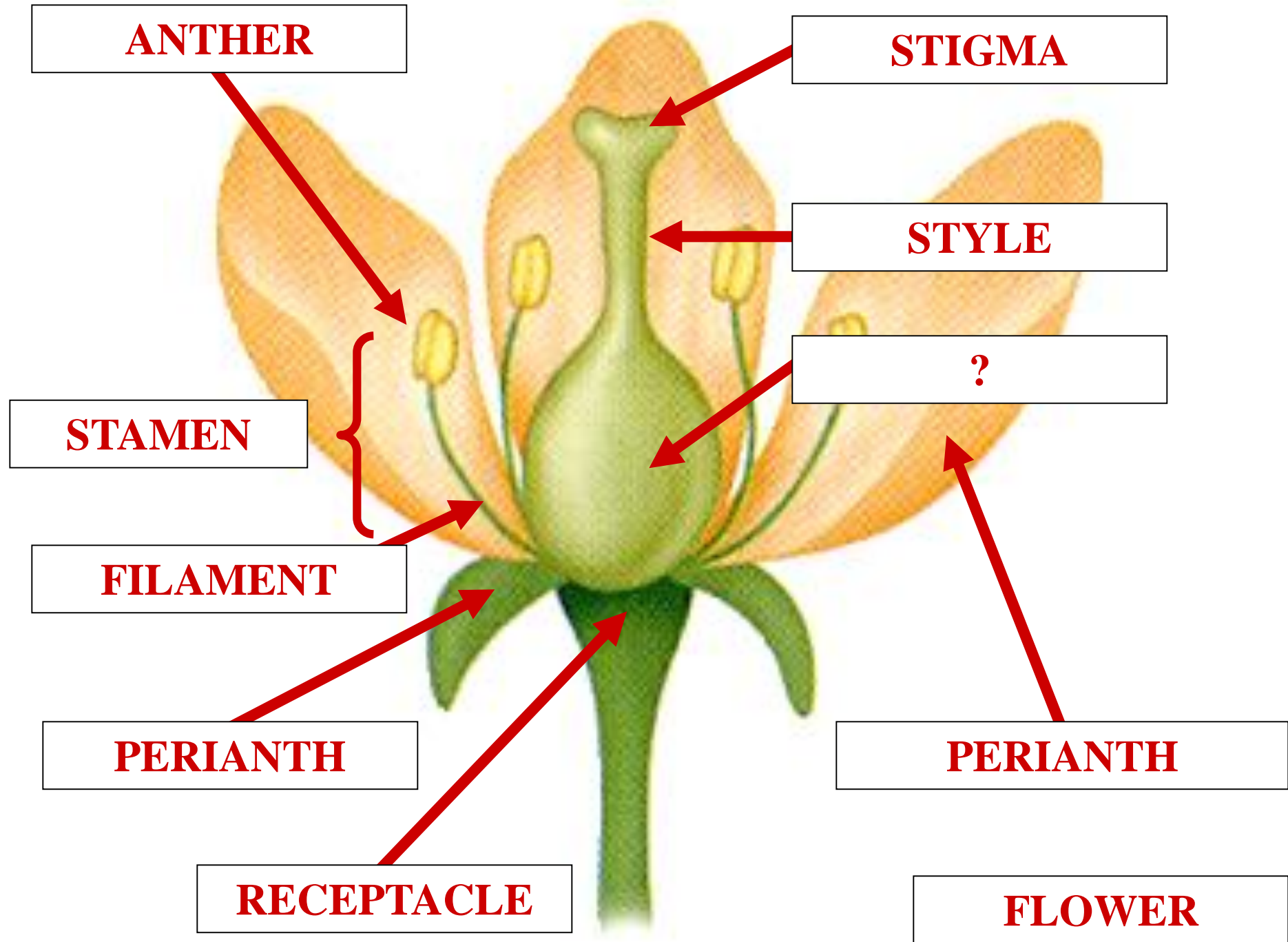
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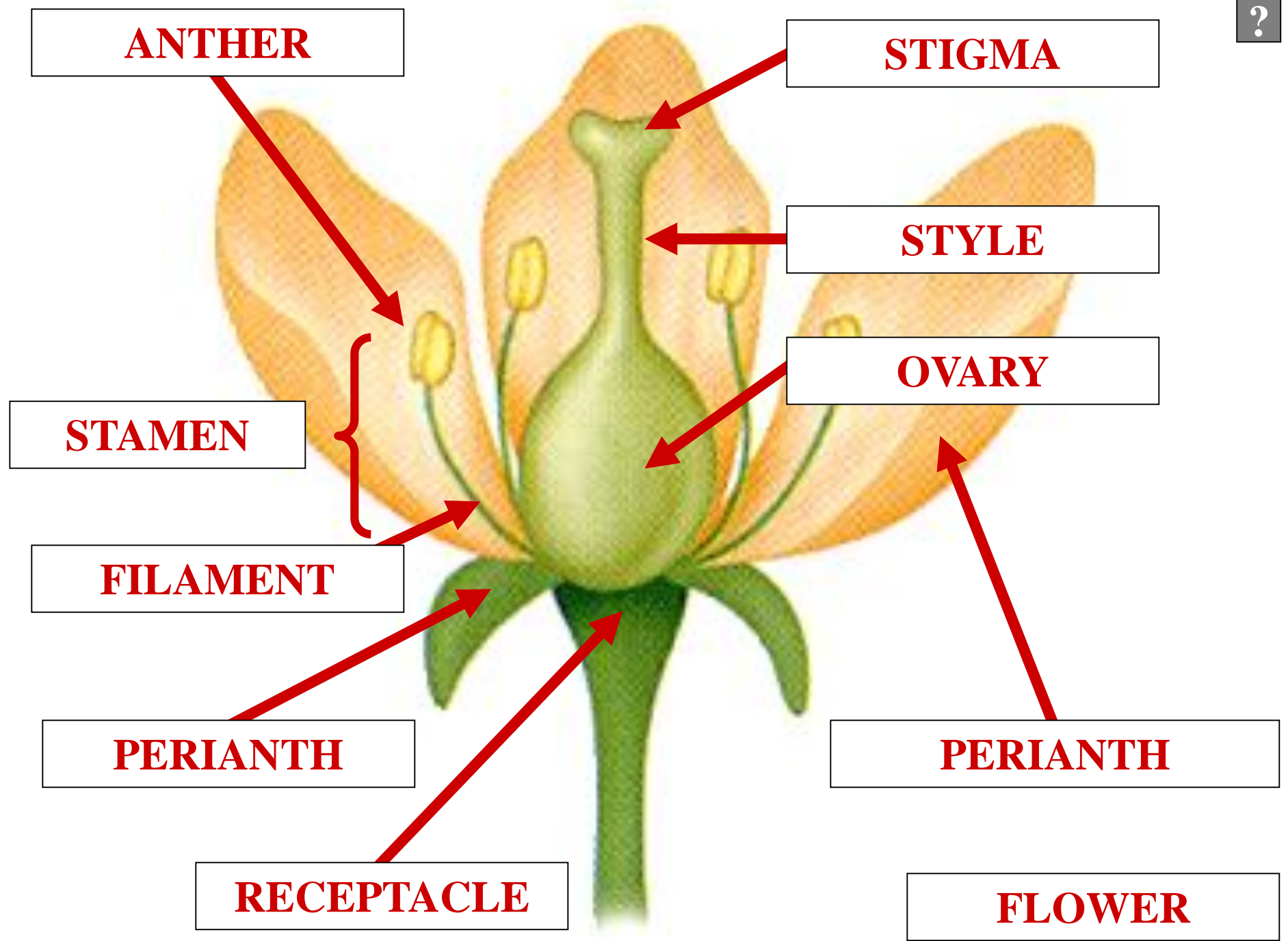
PERIANTH

FLOWER









ANTHER

STAMEN

FILAMENT

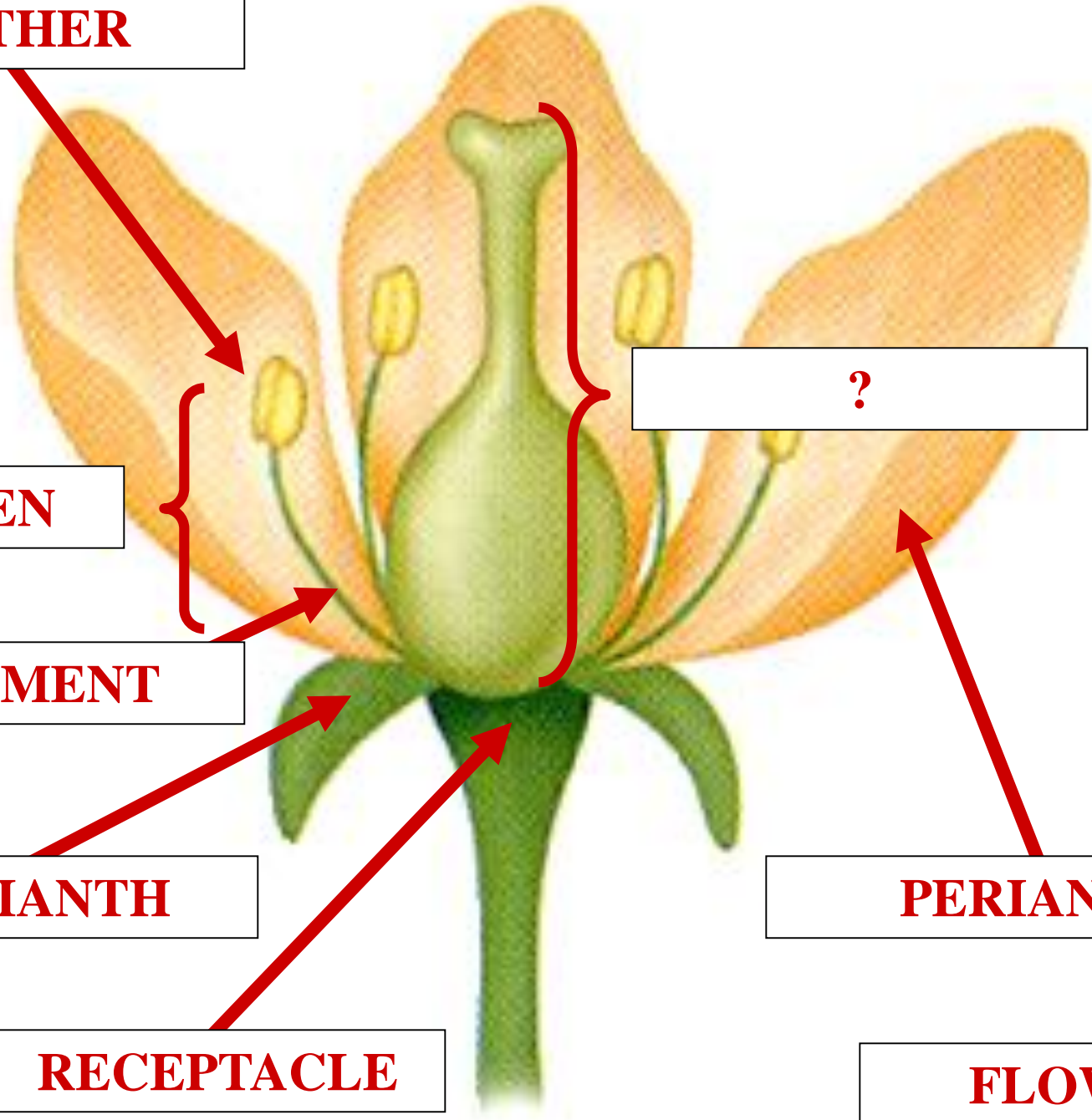
PERIANTH

RECEPTACLE

?

PERIANTH

FLOWER





ANTHER

GYNOECIUM

STAMEN

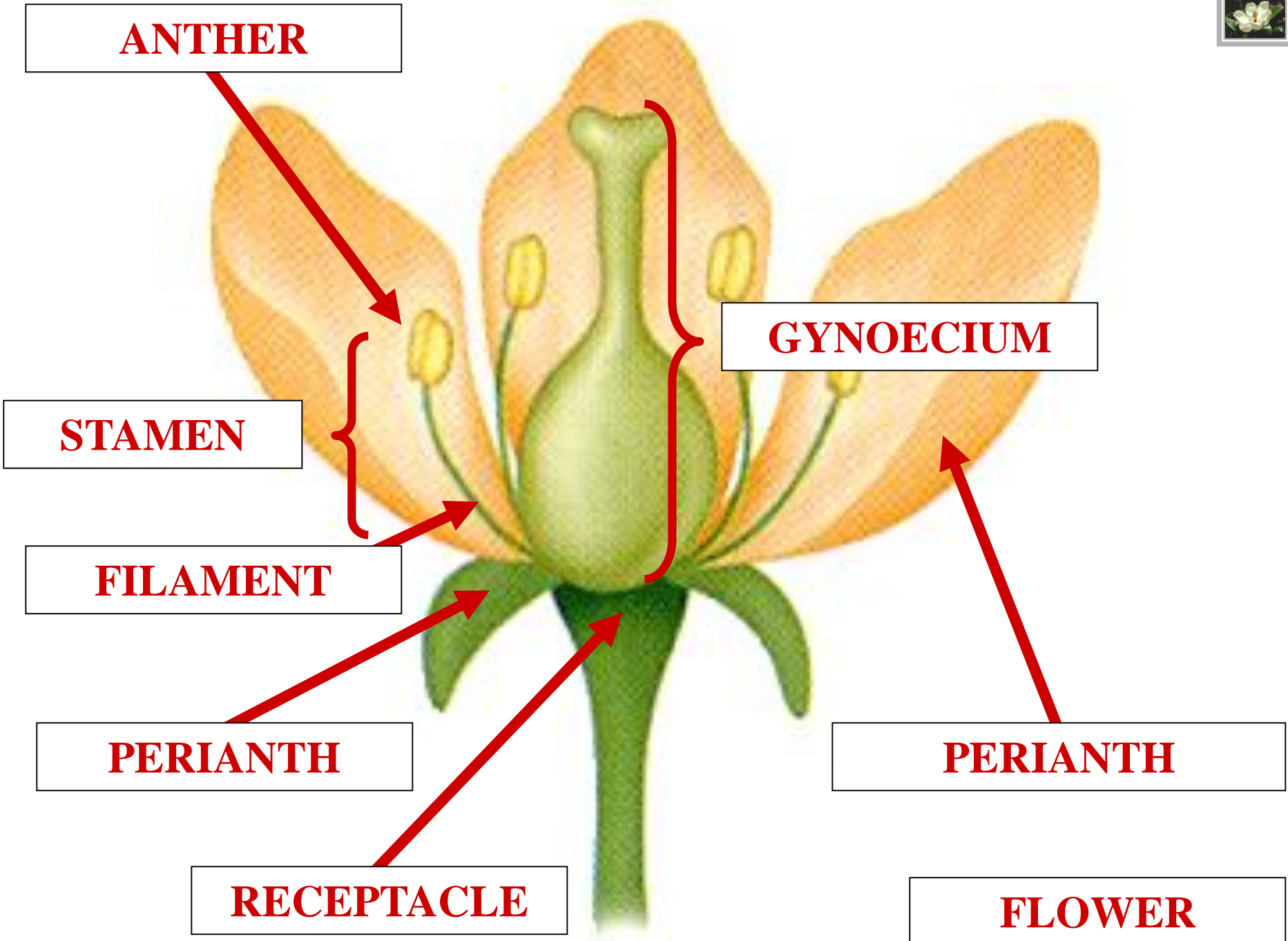
FILAMENT

PERIANTH

RECEPTACLE

PERIANTH

FLOWER



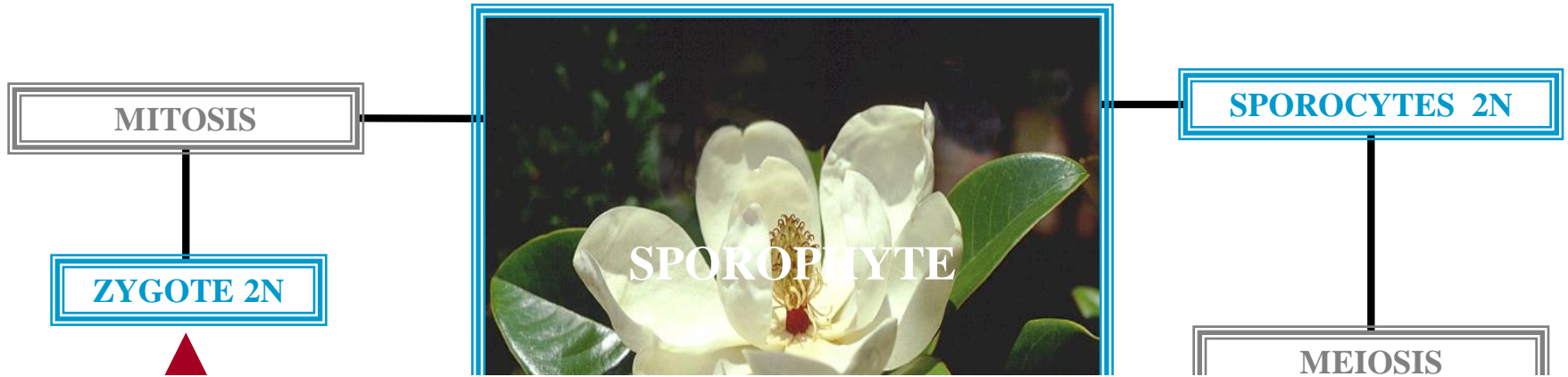
A close-up photograph of a white magnolia flower with a prominent yellow stamen and a red pistil, surrounded by green leaves. The background is dark and out of focus.

ANGIOSPERM LIFE CYCLE

ANGIOSPERM

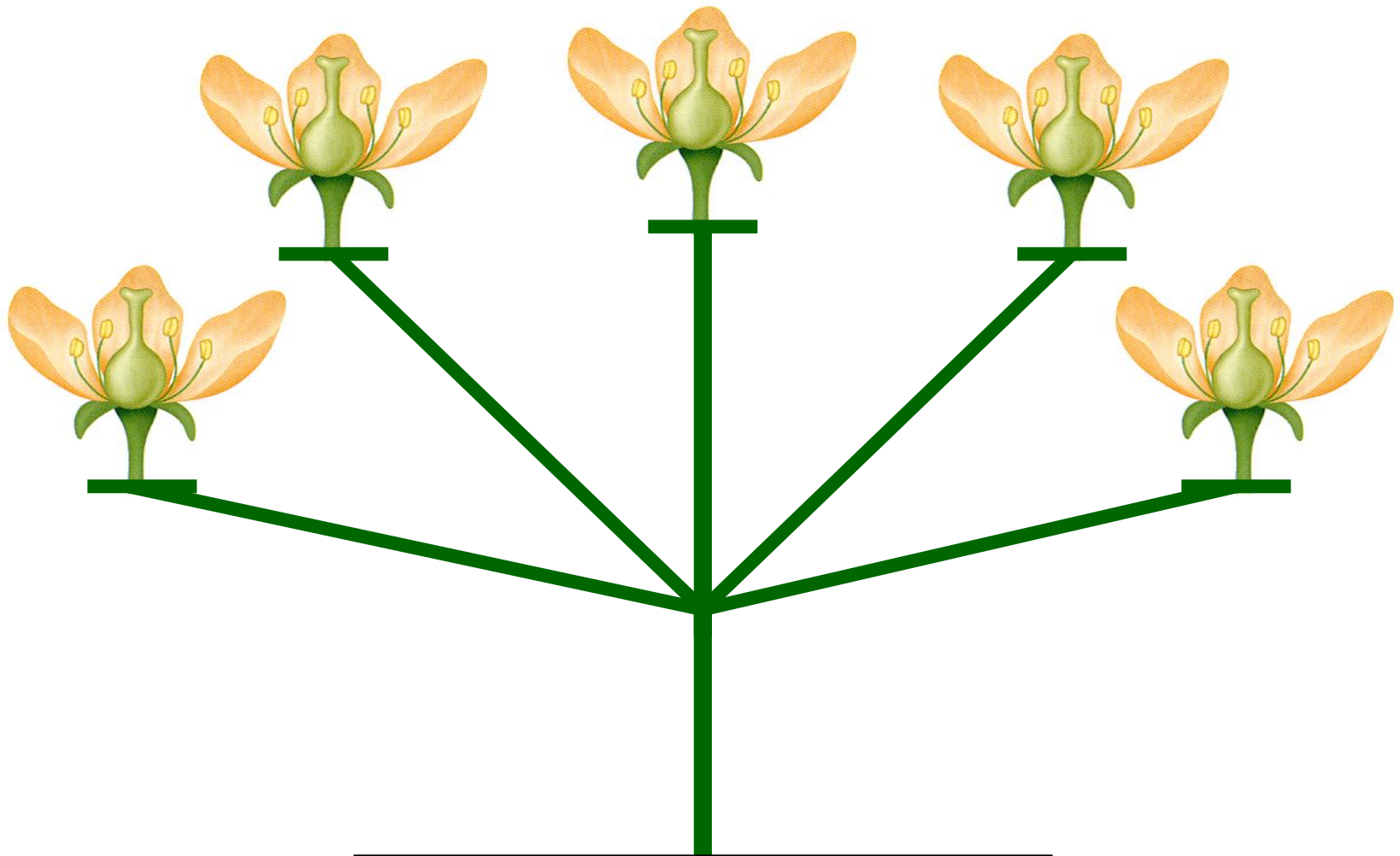


HETEROMORPHIC SPORIC LIFE CYCLE

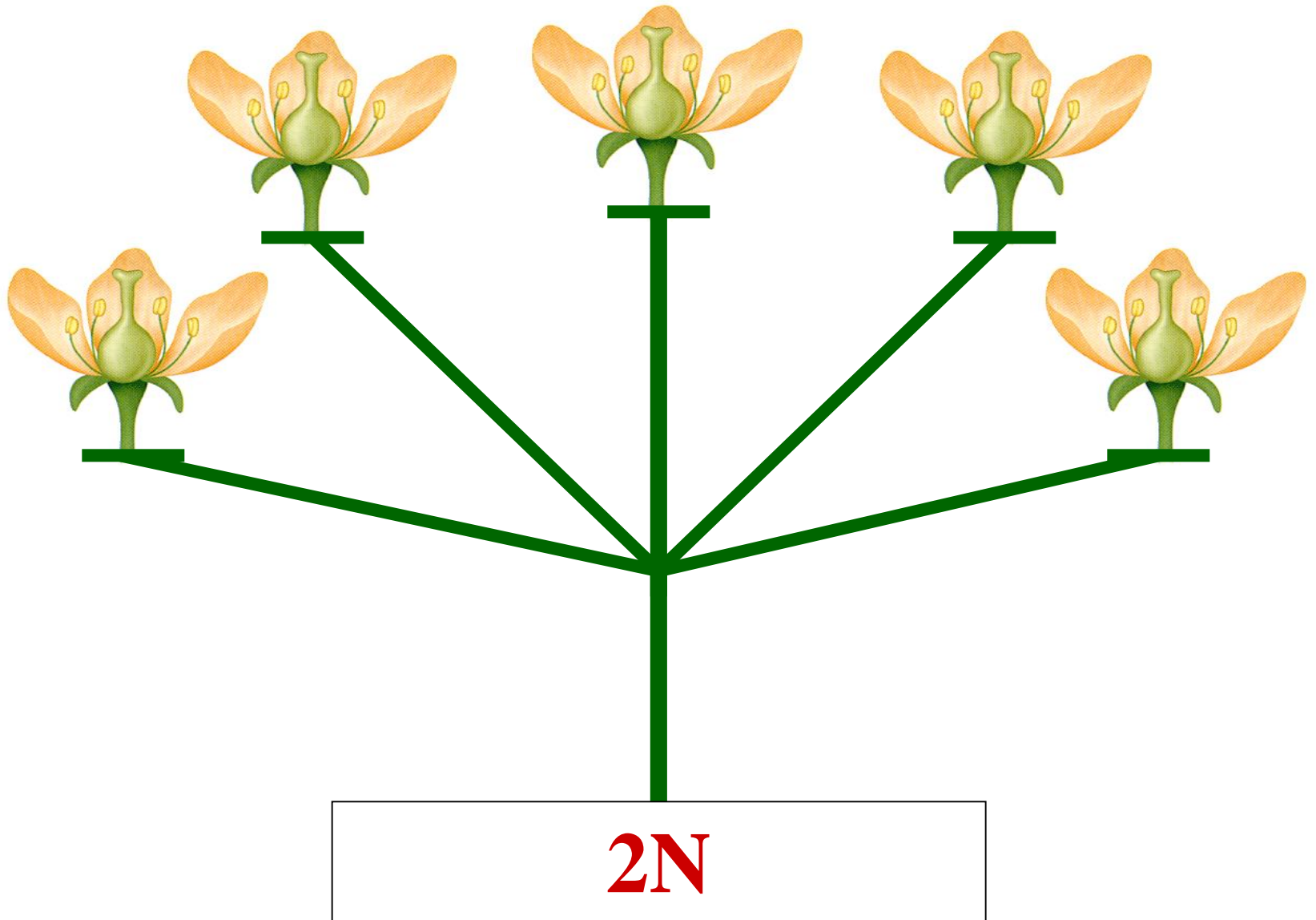


!!! CONSULT PG 472-473!!!



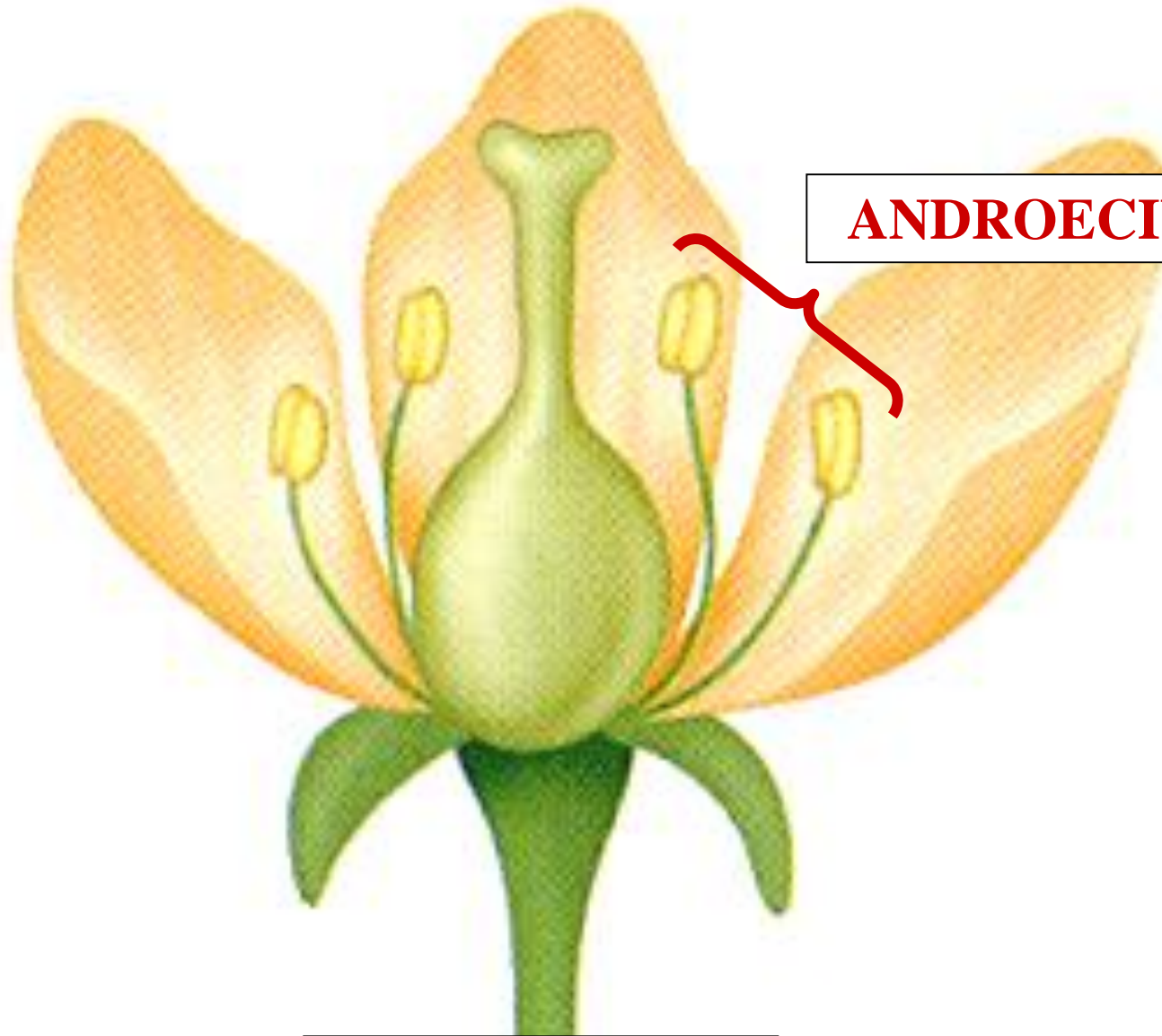


SPOROPHYTE



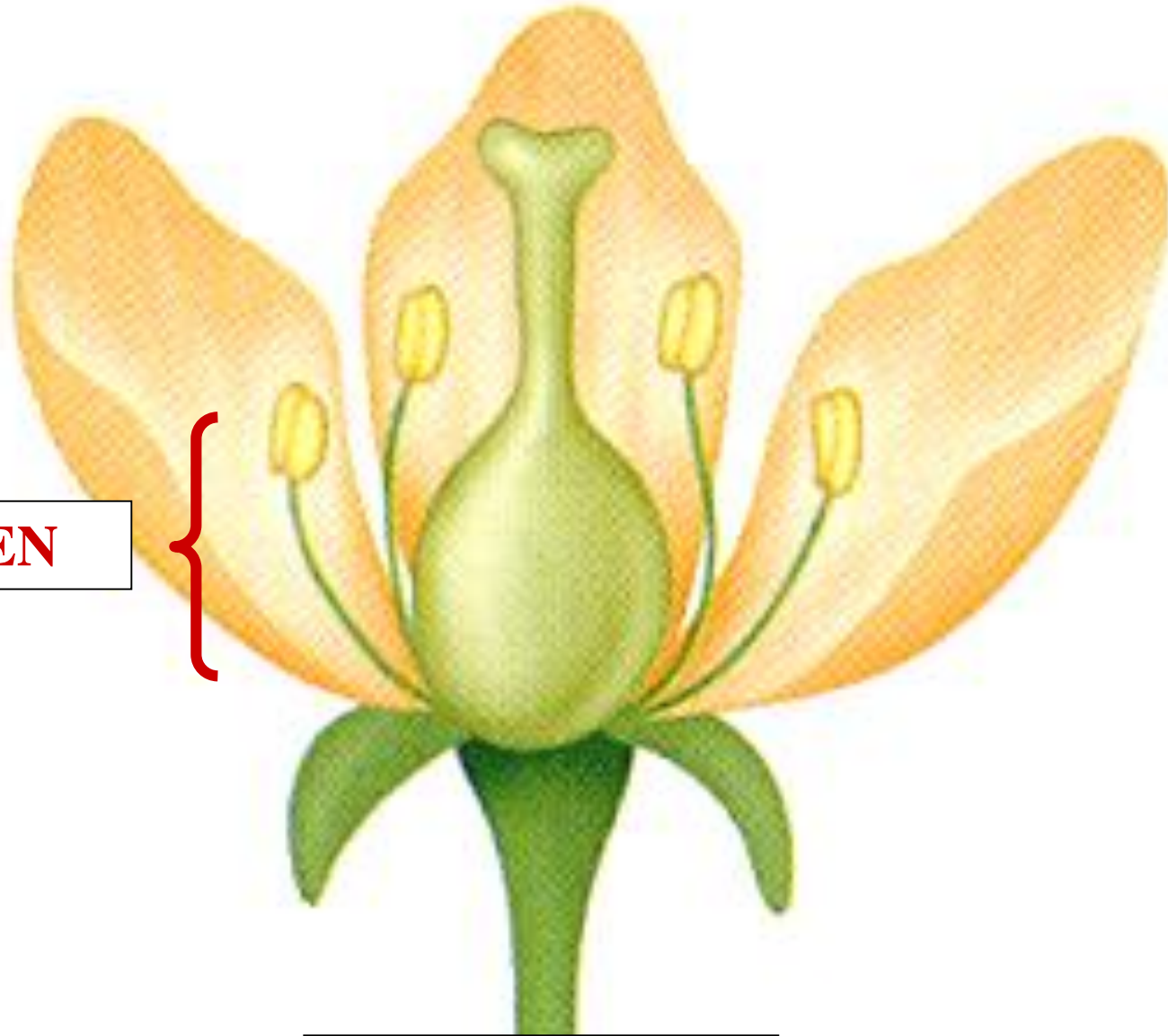


FLOWER



ANDROECIUM

FLOWER



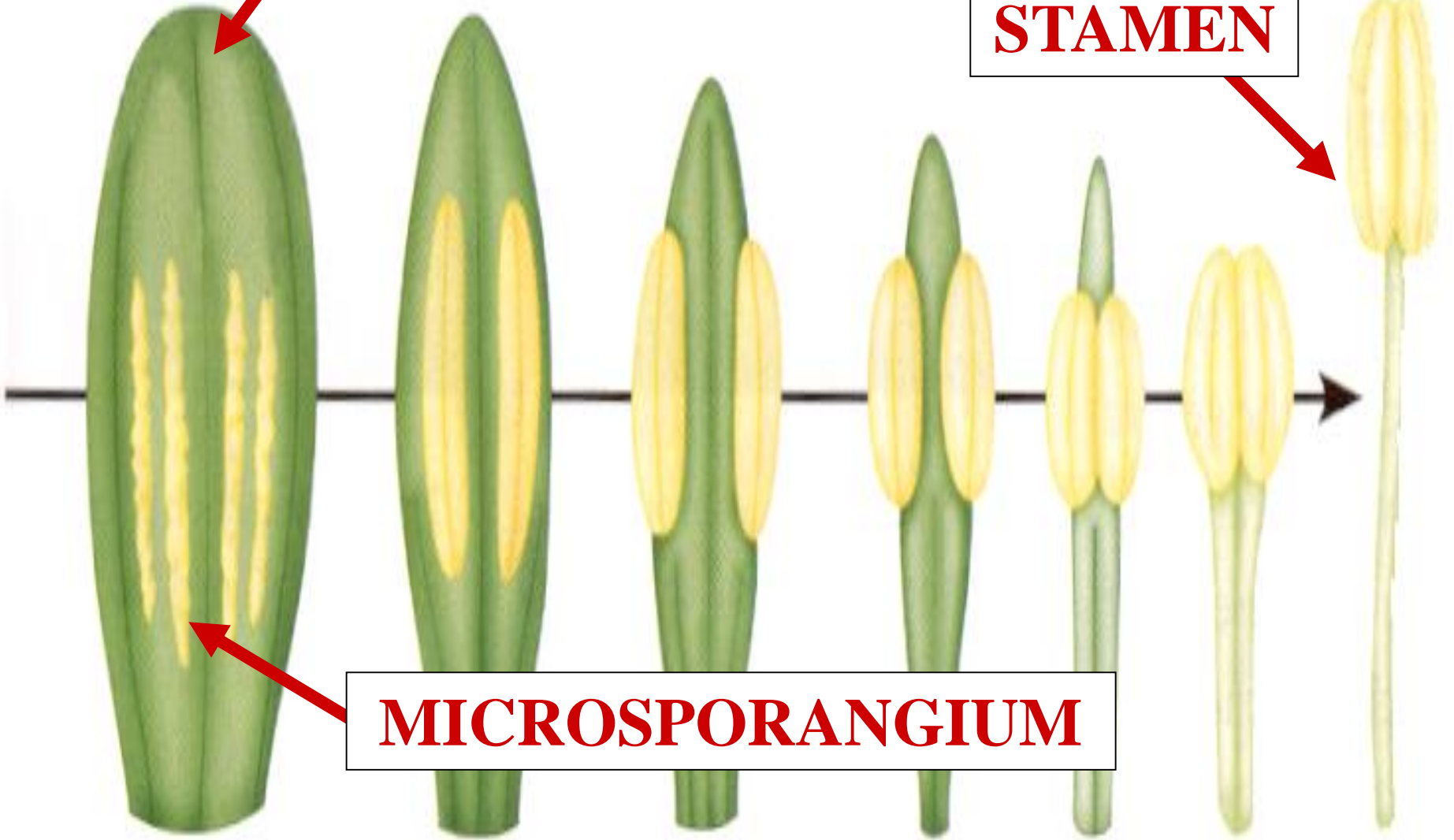
STAMEN

FLOWER

LEAF

STAMEN

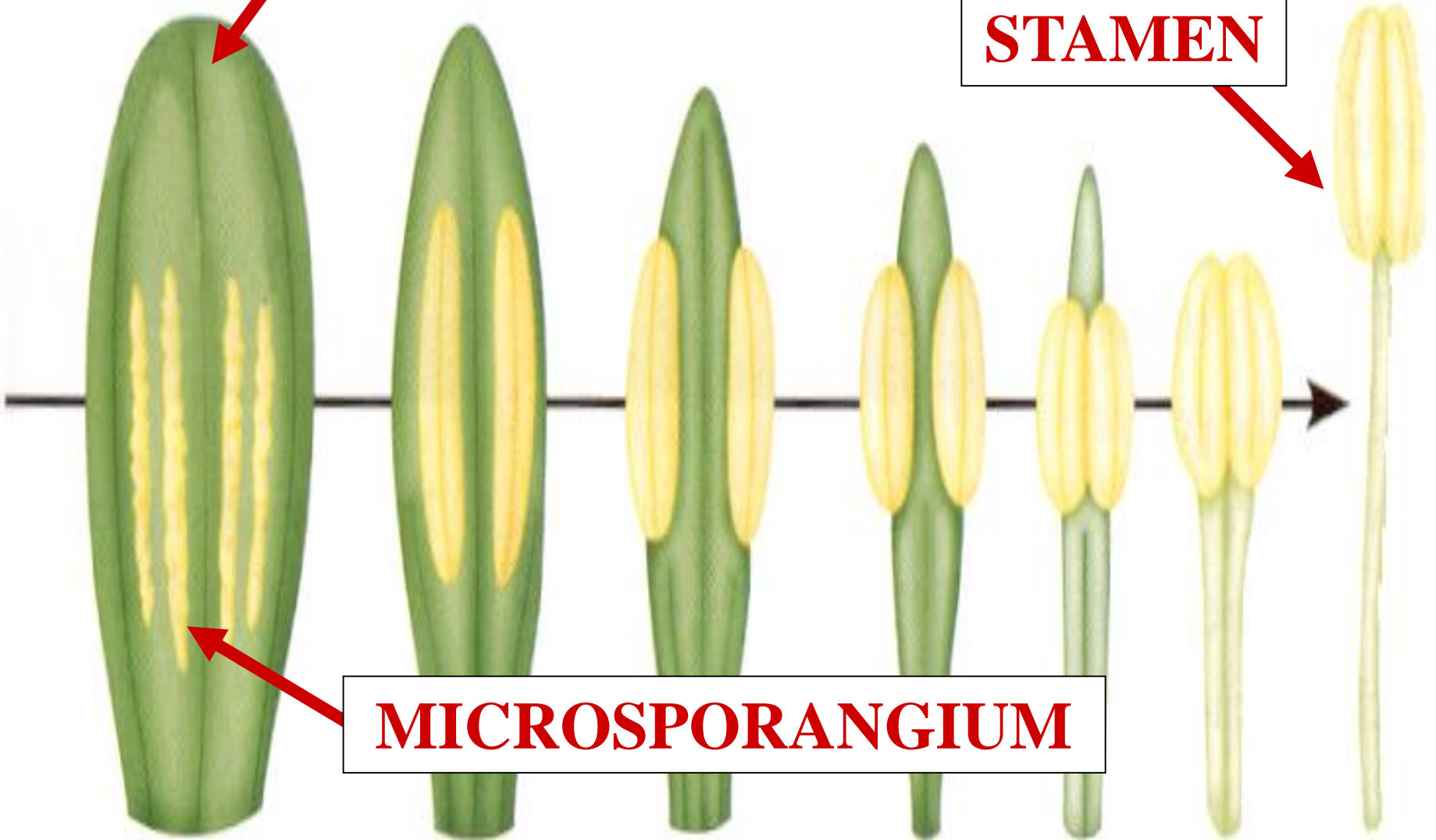
MICROSPORANGIUM

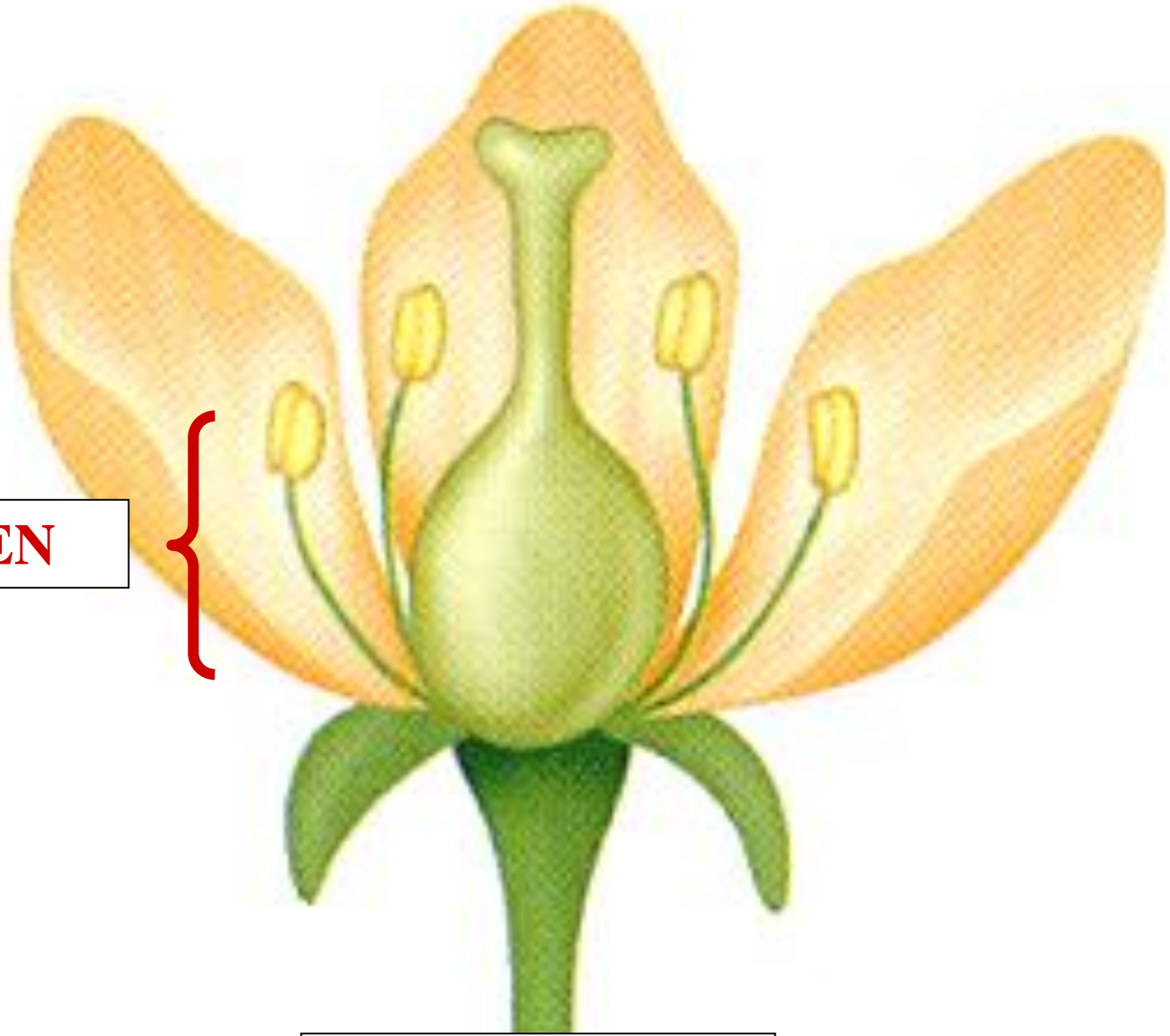


MICROSPOROPHYLL

STAMEN

MICROSPORANGIUM



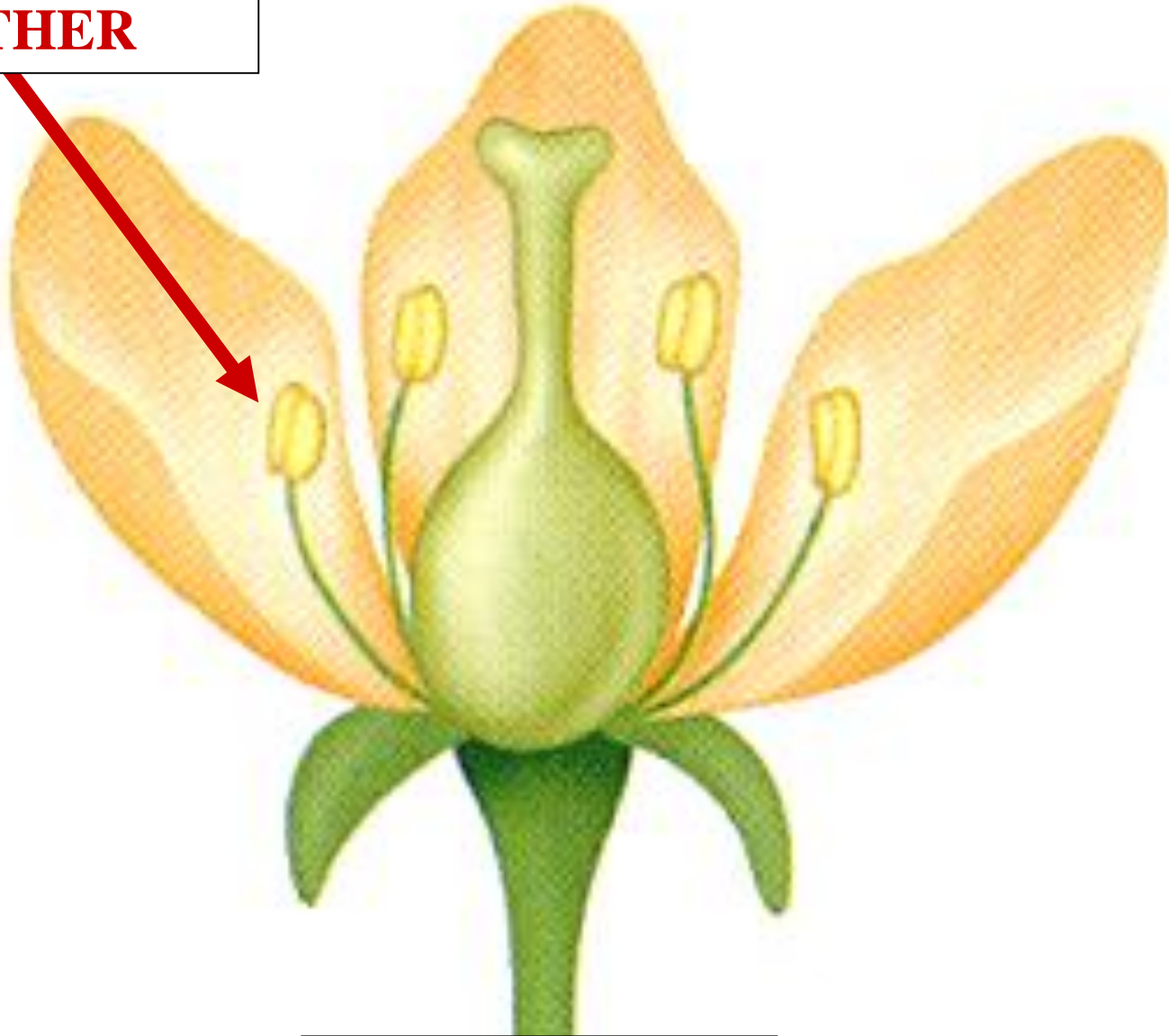


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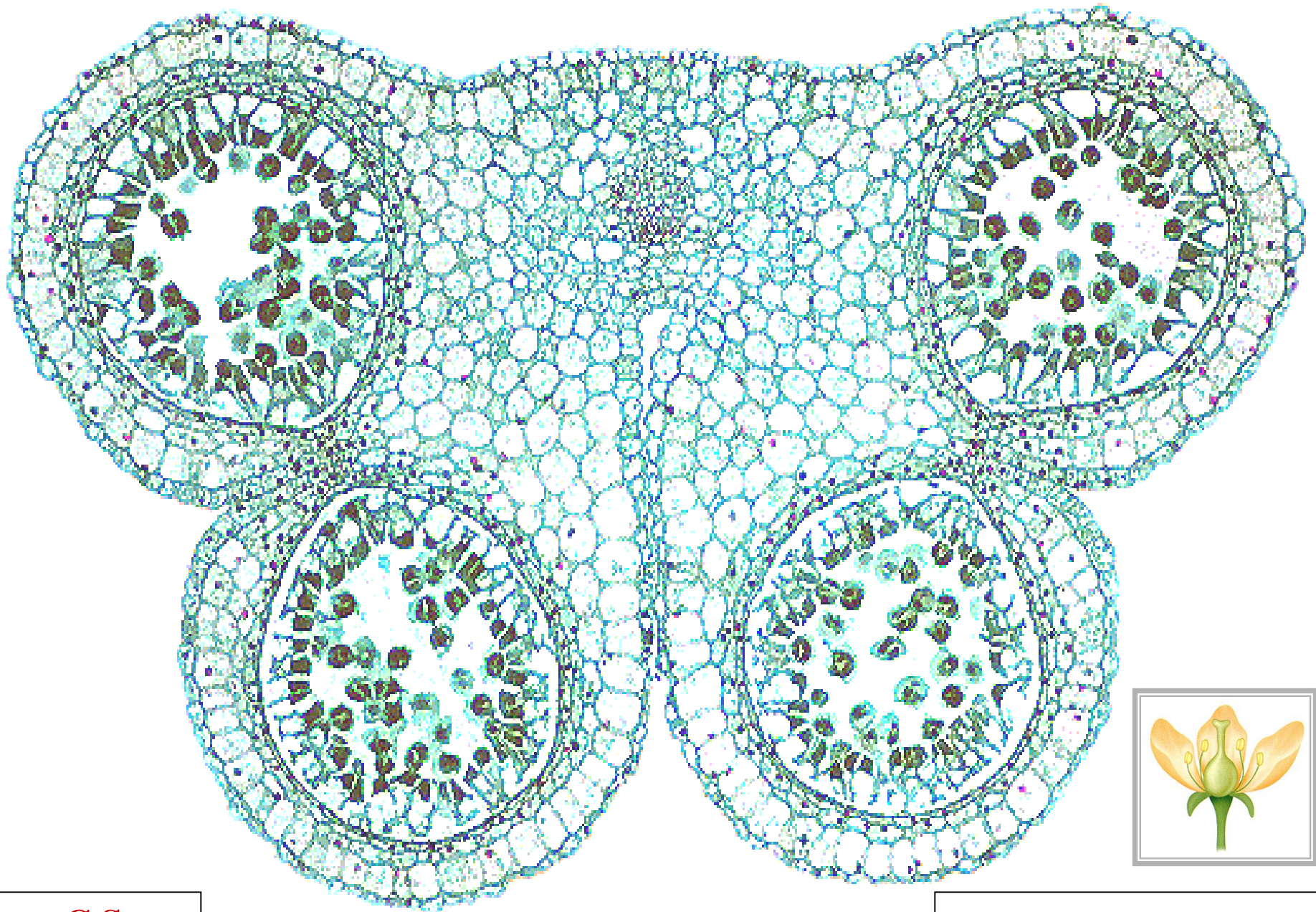
FLOWER



ANTHER

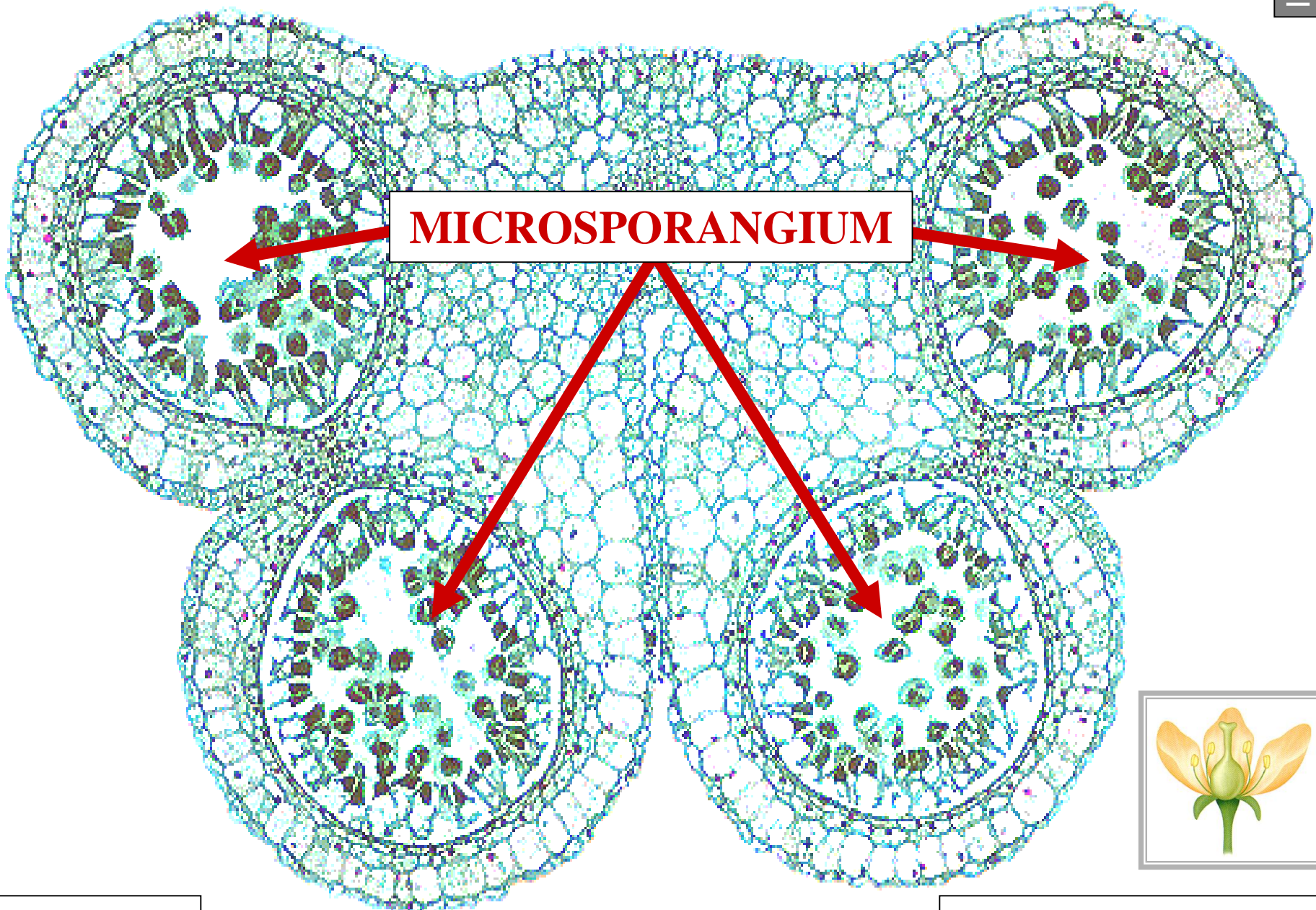


FLOWER



C.S.

ANTHER

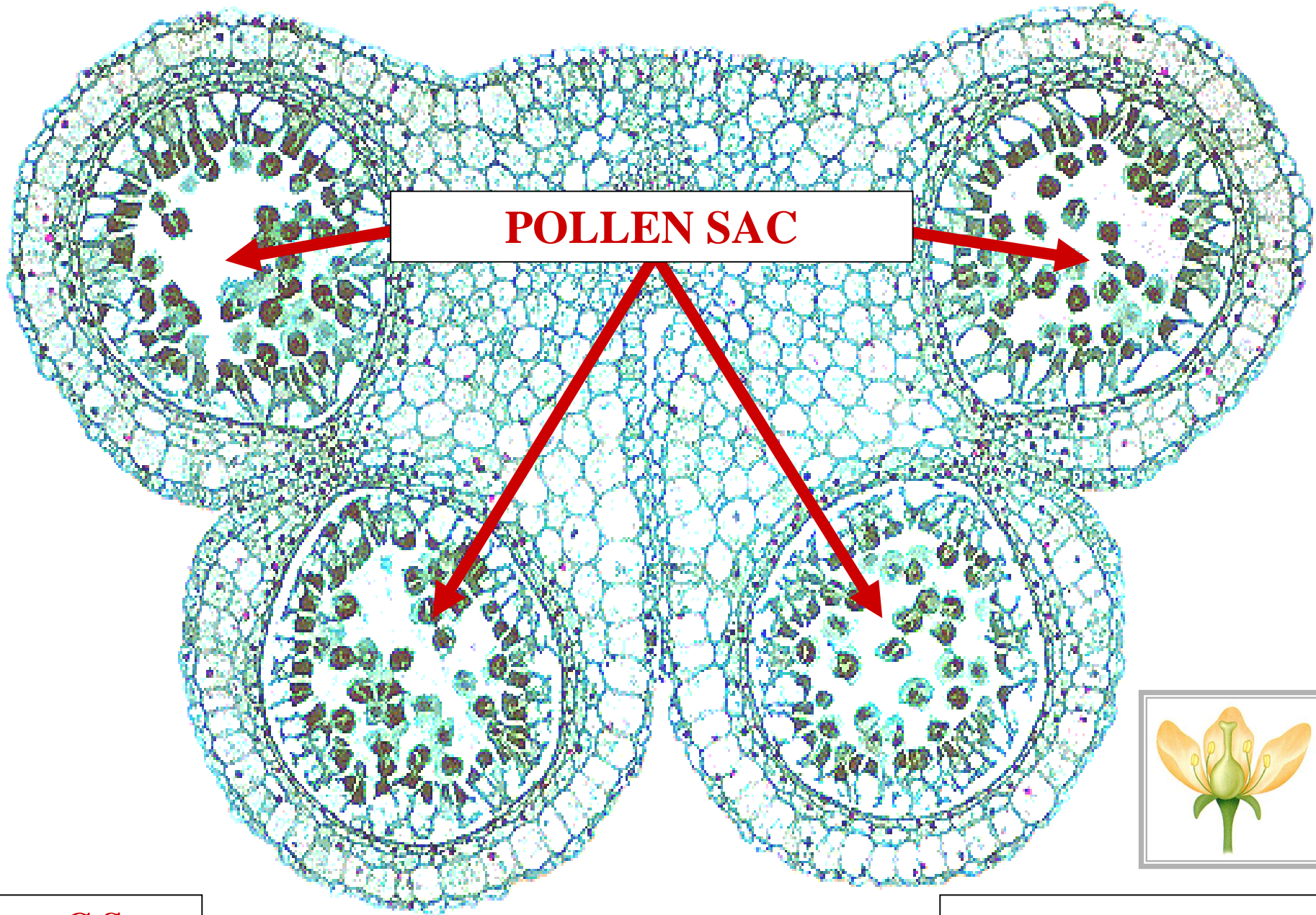


MICROSPORANGIUM

C.S.

ANTHER





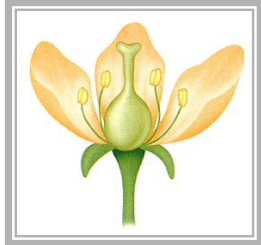
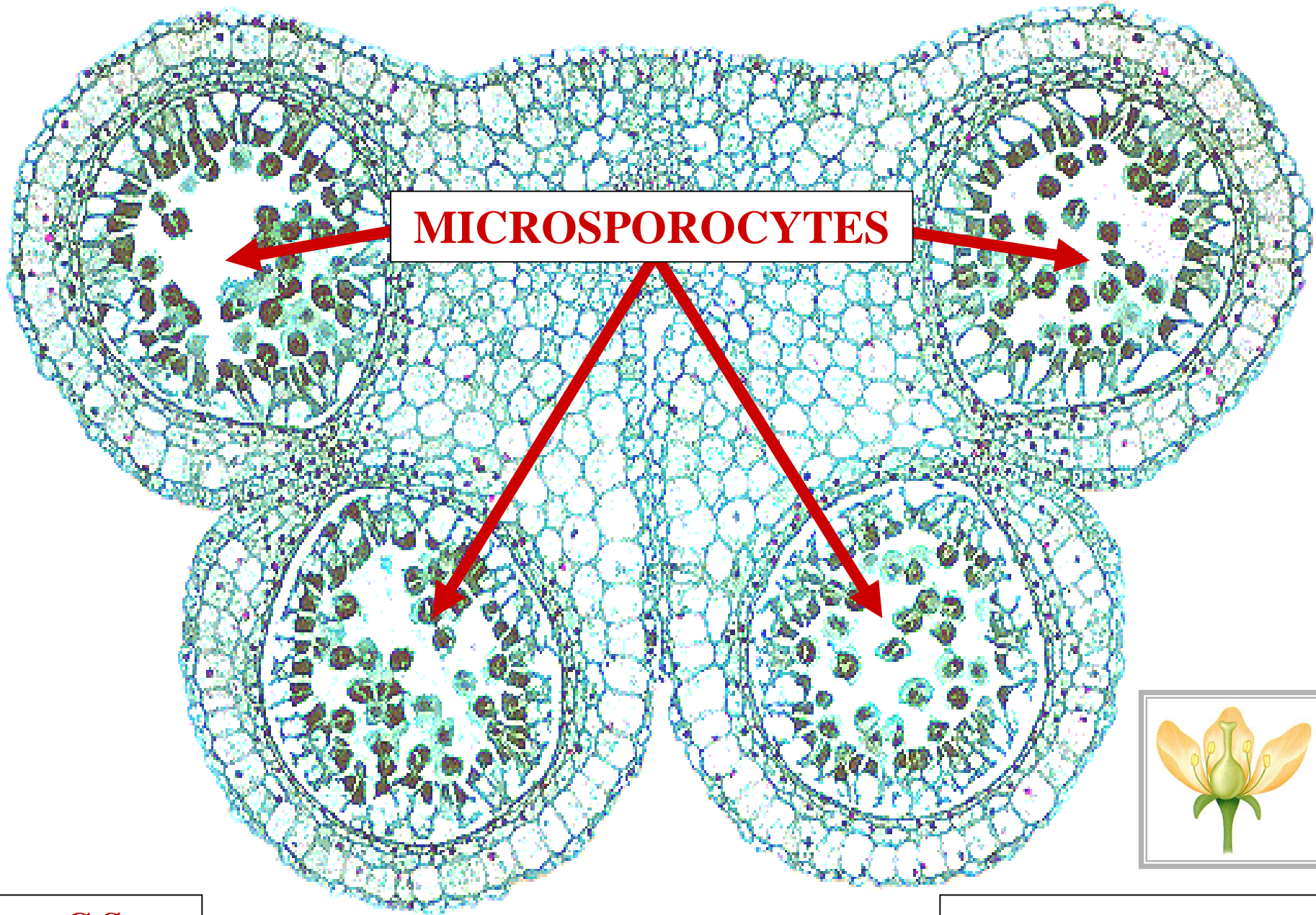
POLLEN SAC

C.S.

ANTHER

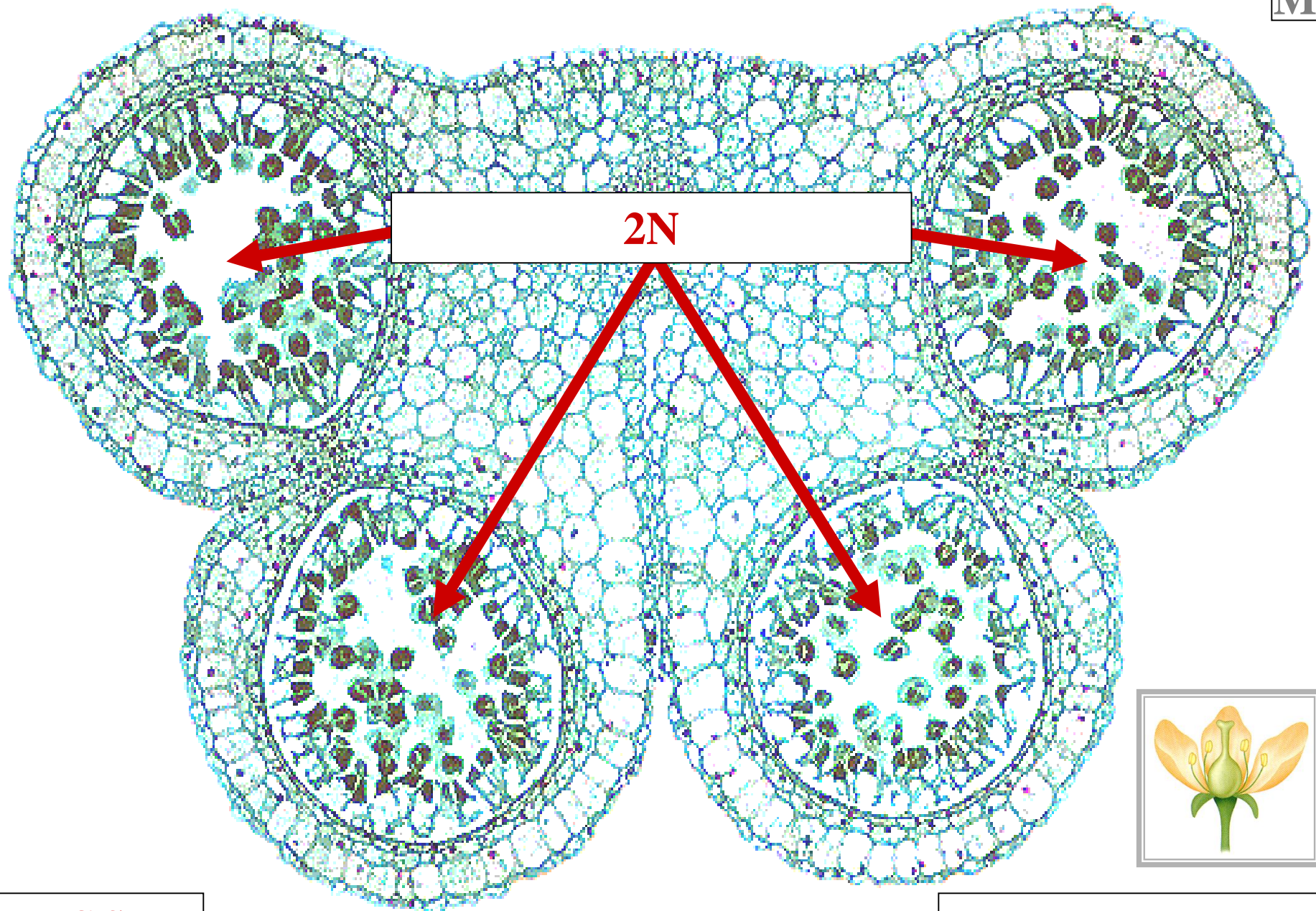


MICROSPOROCYTES



C.S.

ANTHER

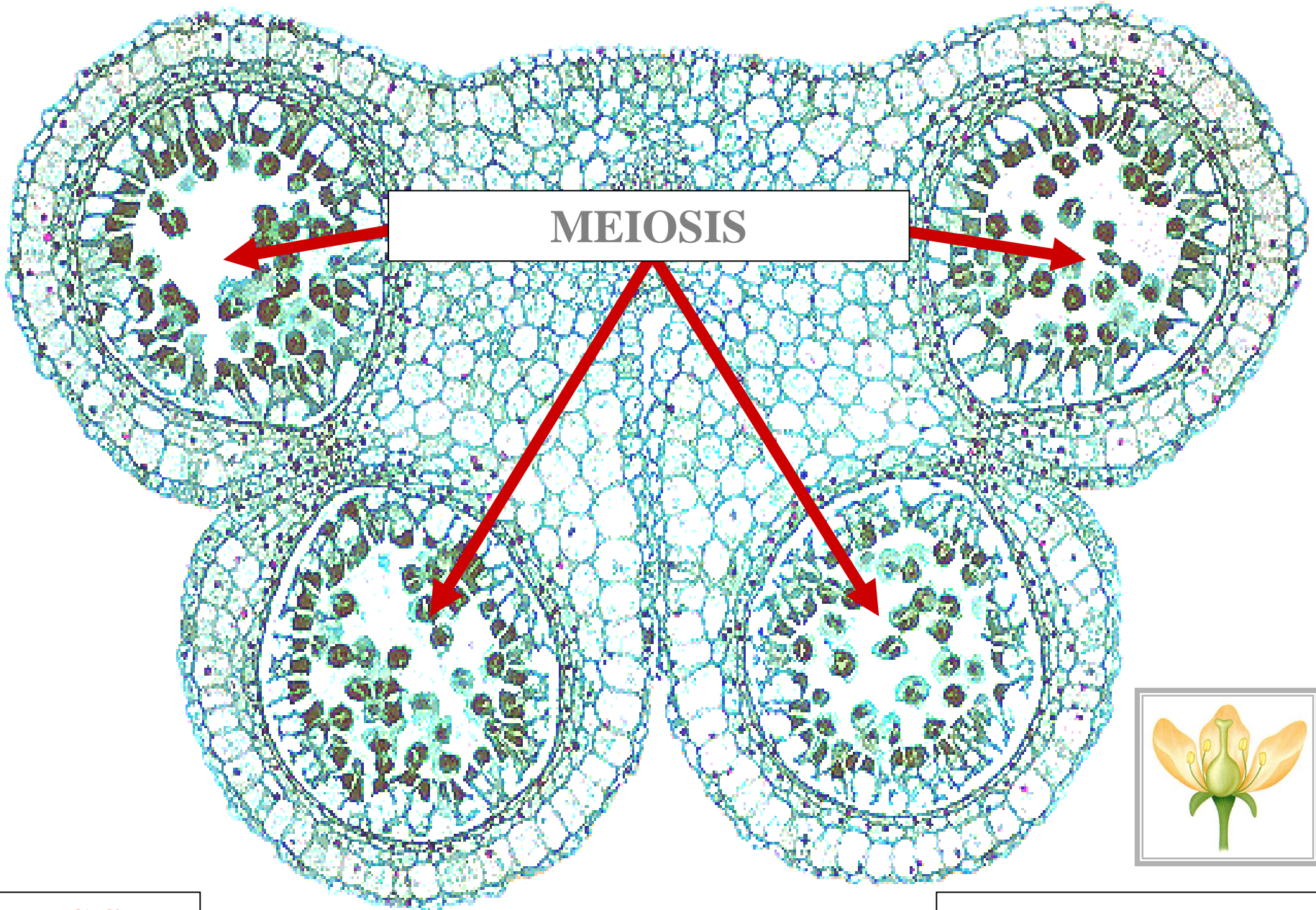


2N

C.S.

ANTHER

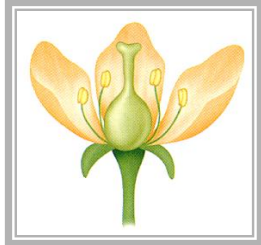


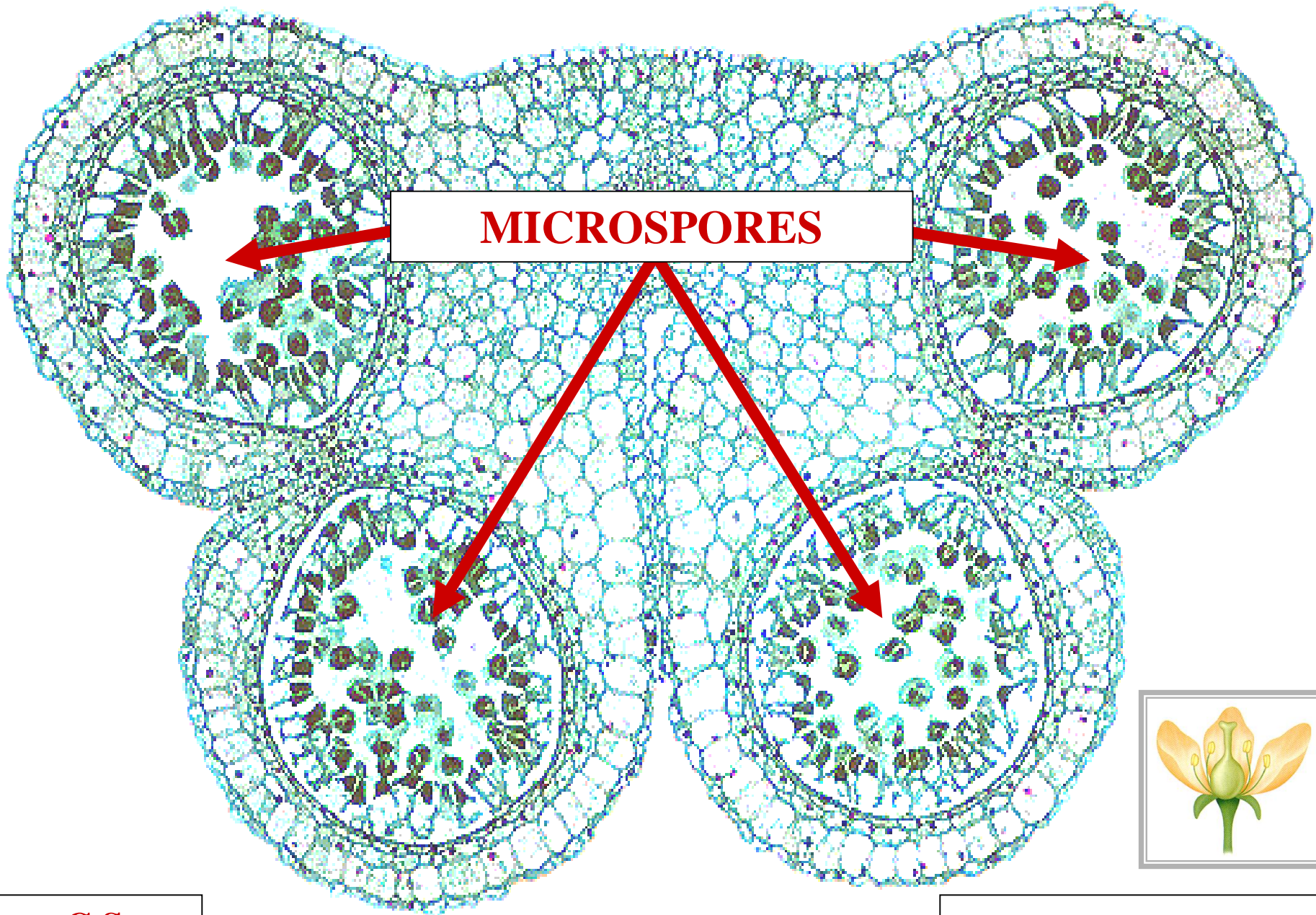


MEIOSIS

C.S.

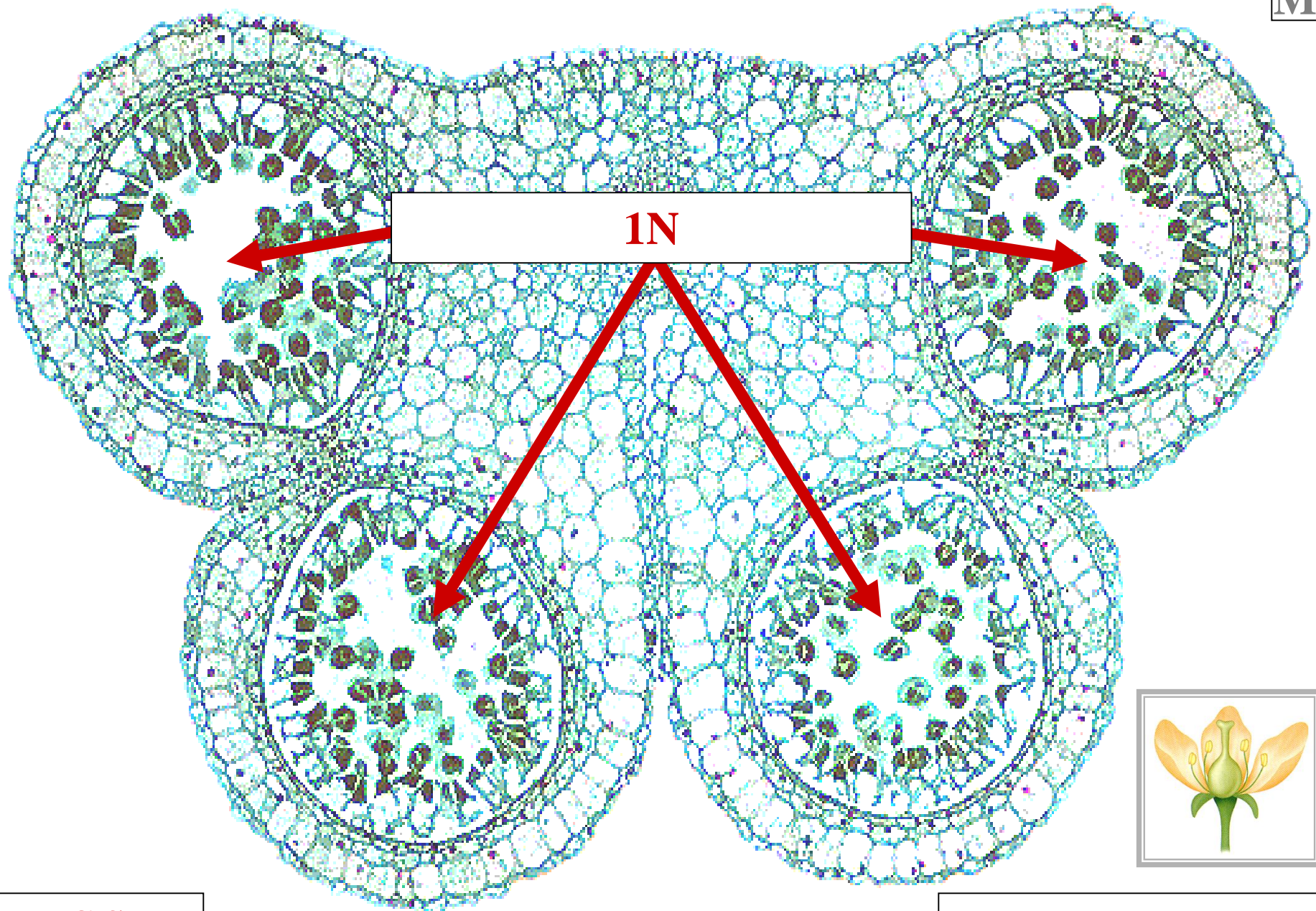
ANTHER





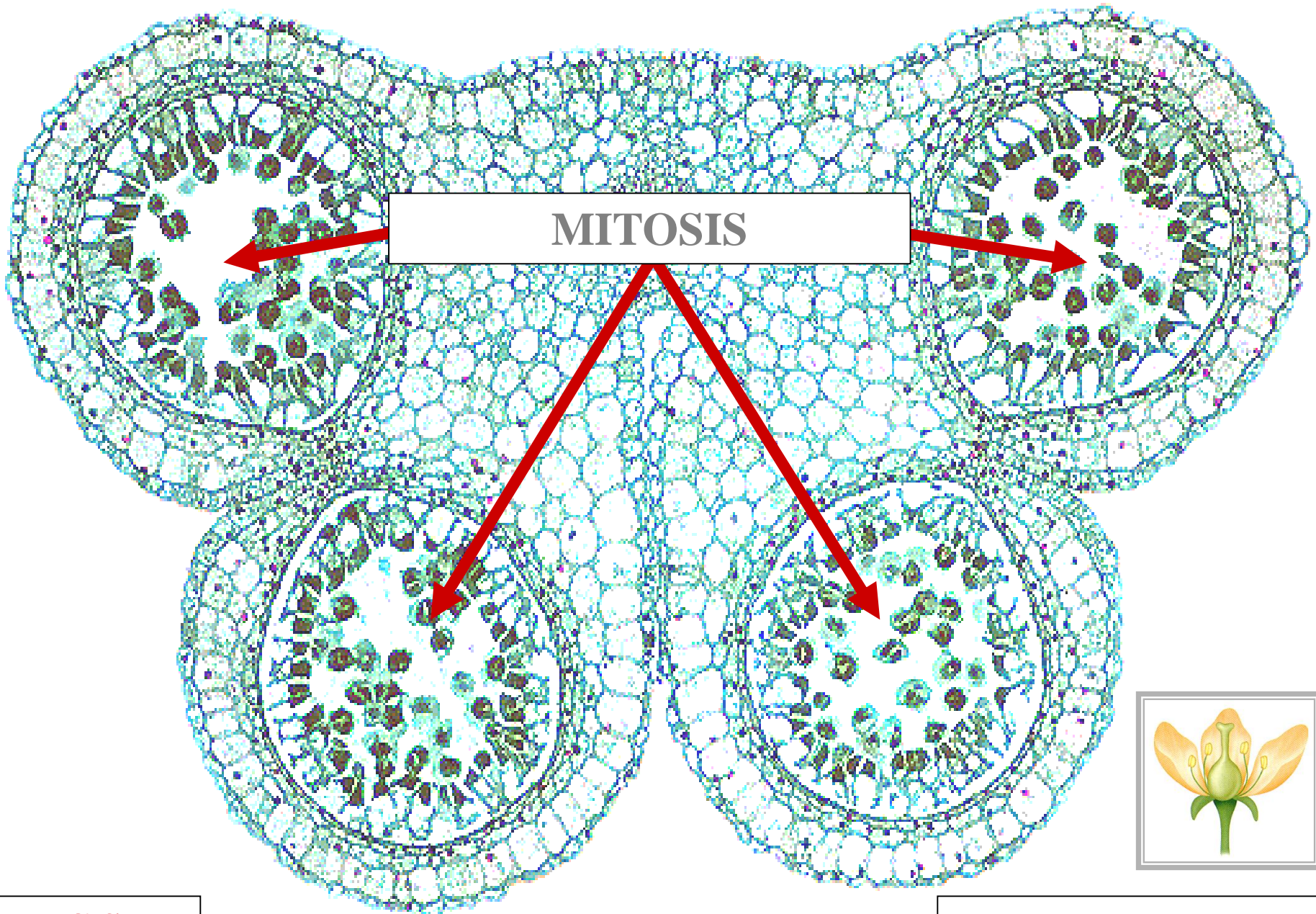
C.S.

ANTHER



C.S.

ANTHER

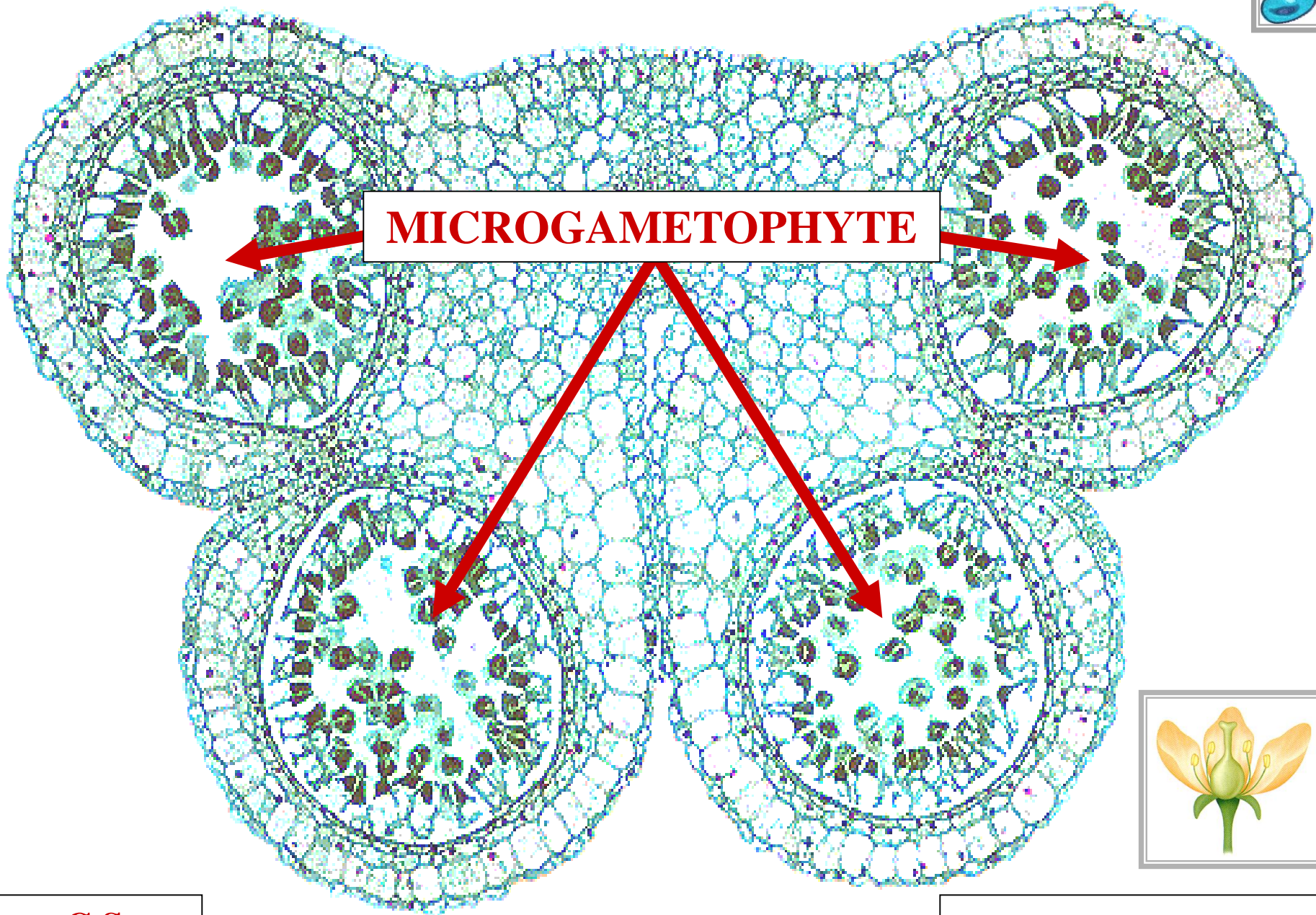


C.S.

ANTHER



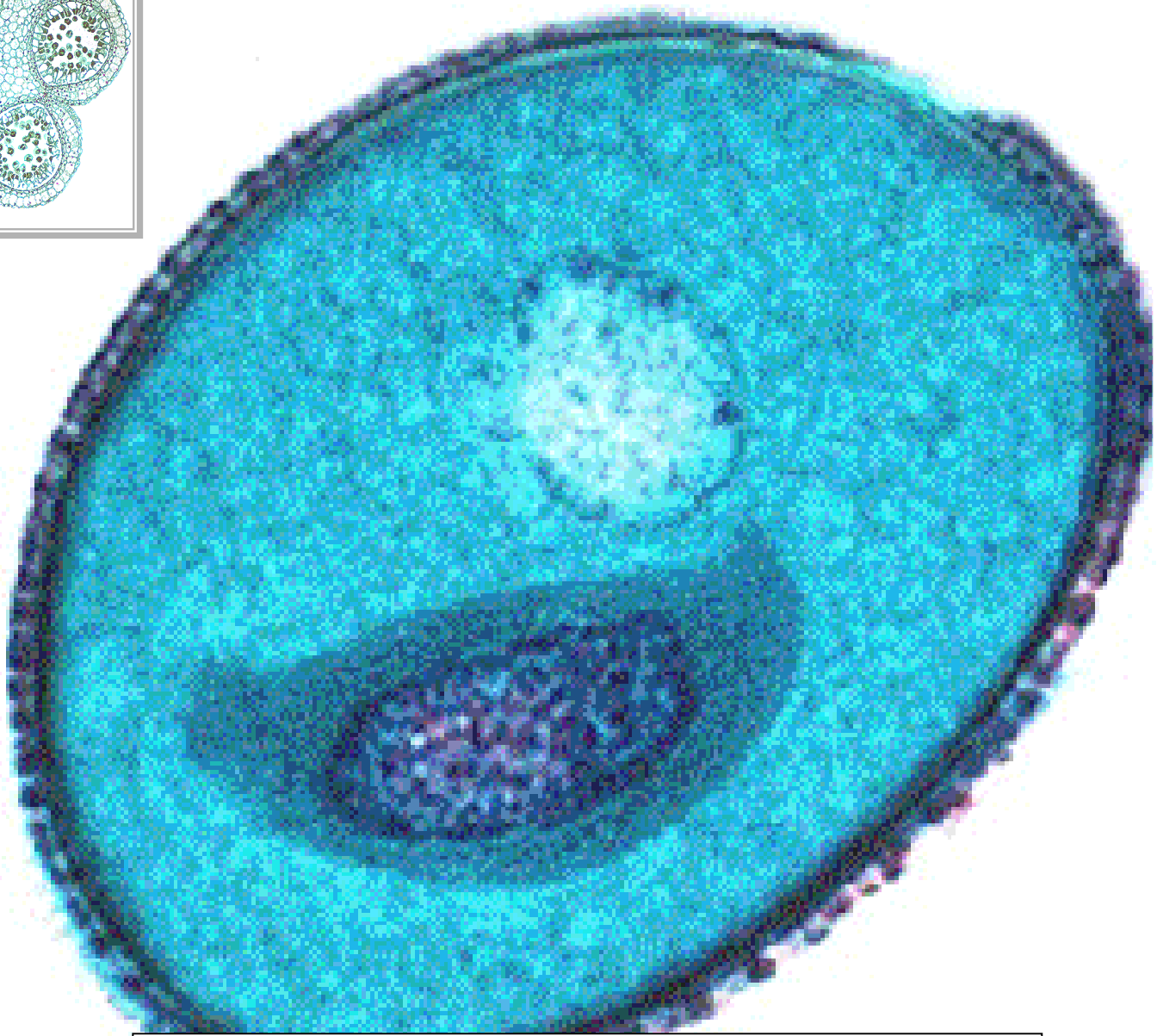
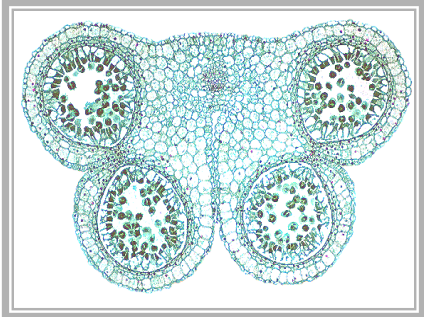
MICROGAMETOPHYTE



C.S.

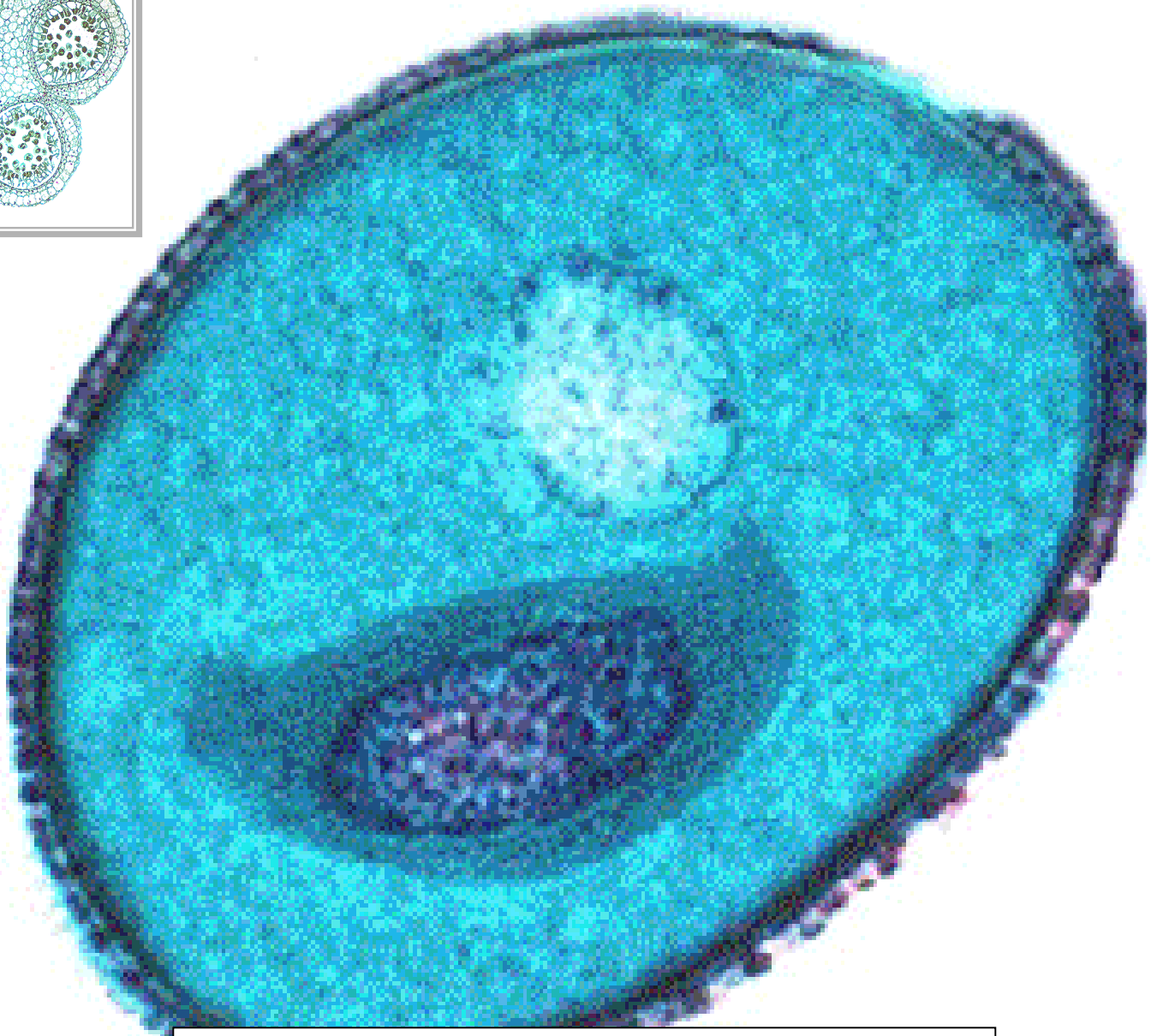
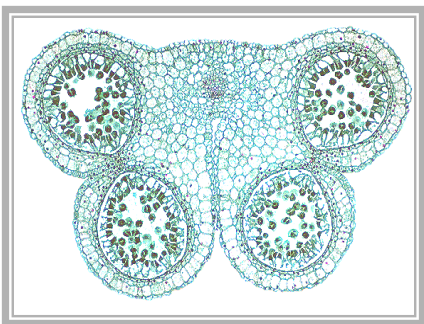
ANTHER





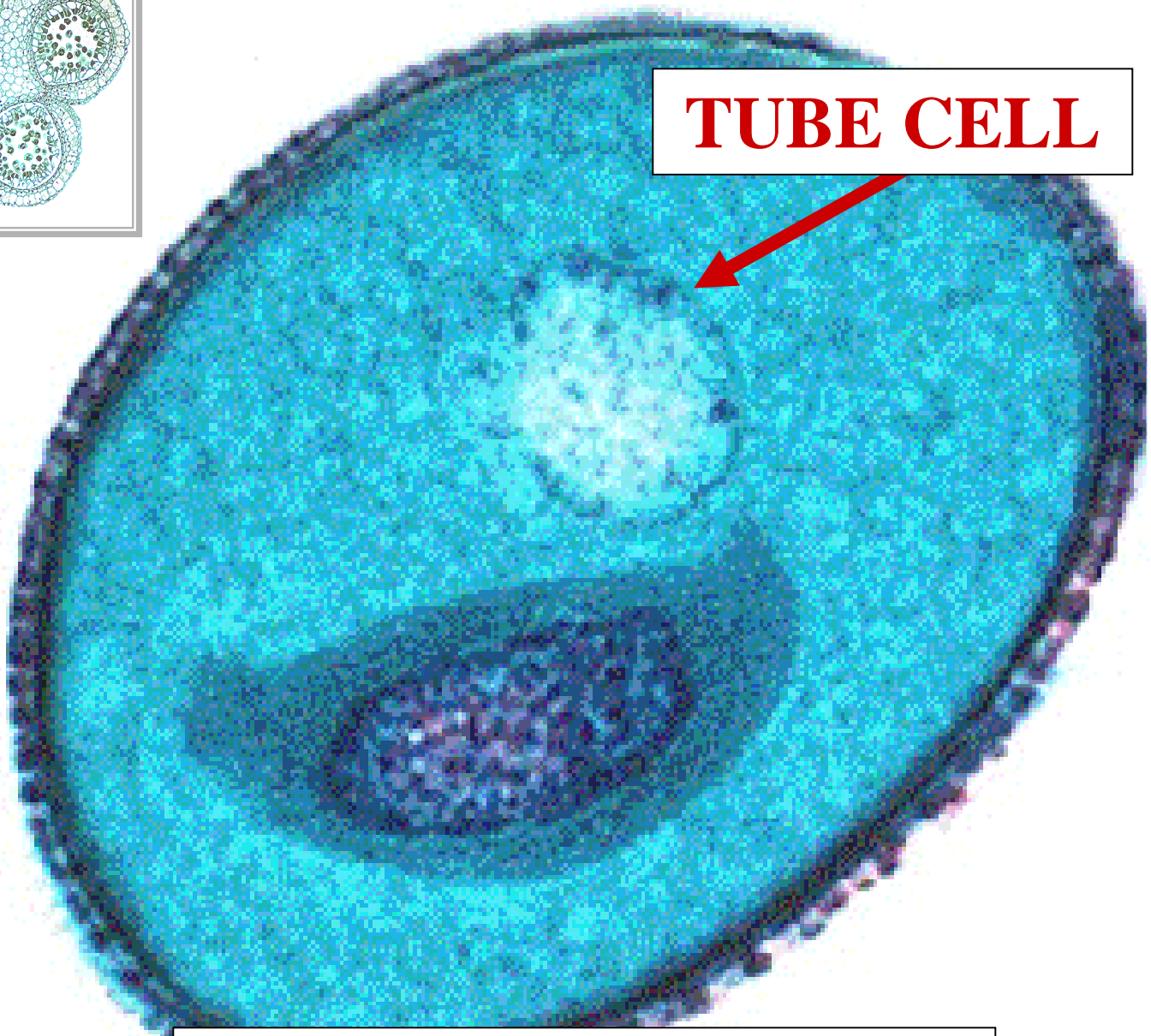
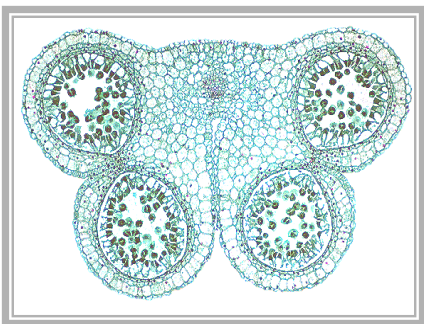
L.S.

MICROGAMETOPHYTE



L.S.

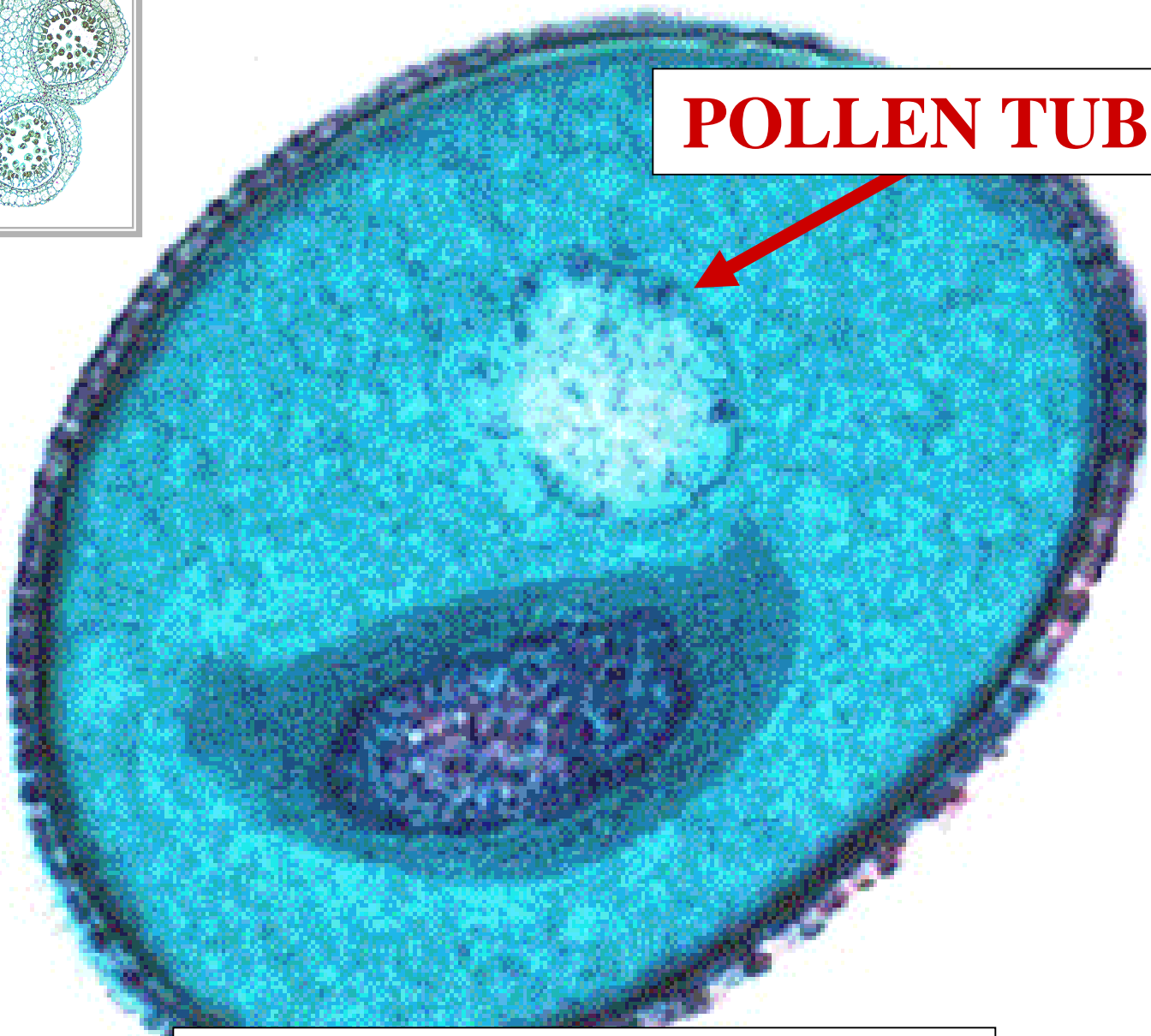
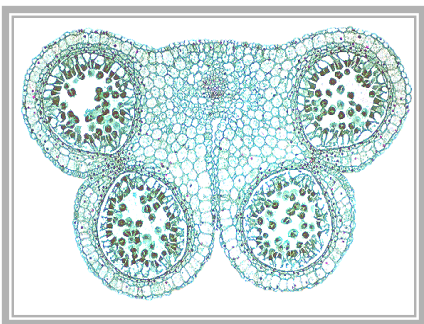
POLLEN GRAIN



TUBE CELL

L.S.

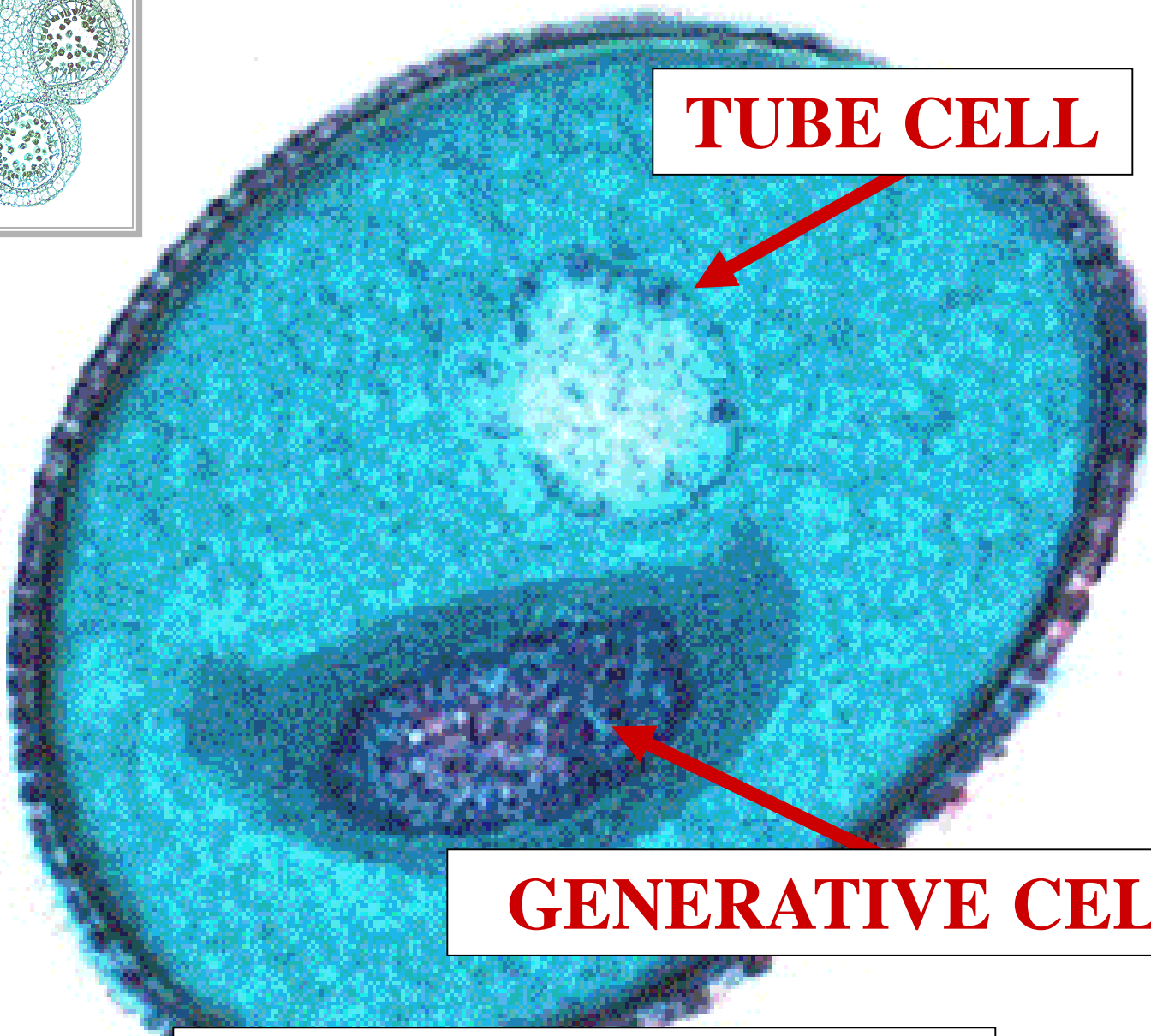
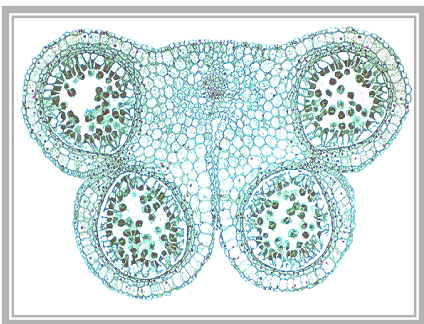
POLLEN GRAIN



POLLEN TUBE

L.S.

POLLEN GRAIN

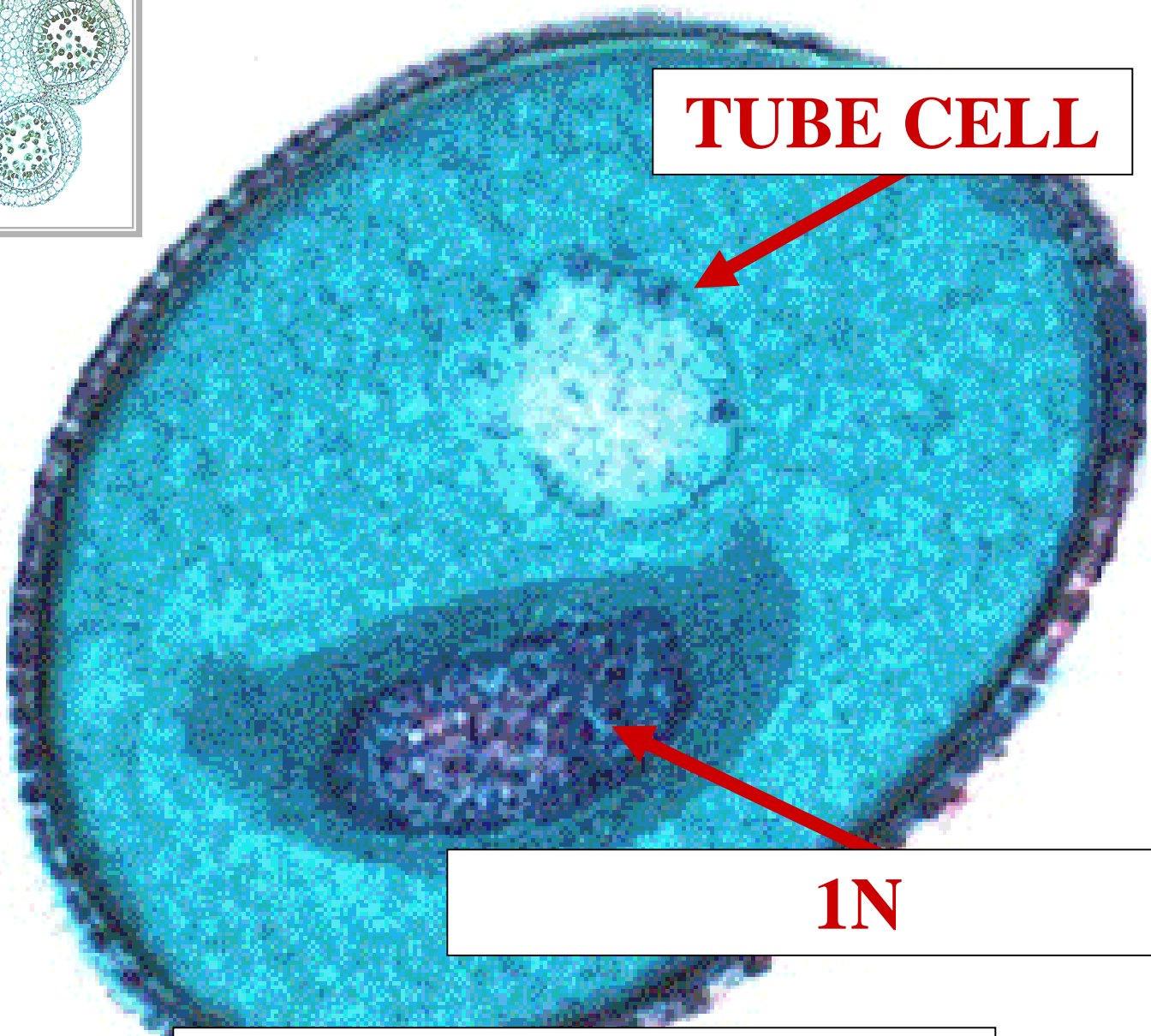
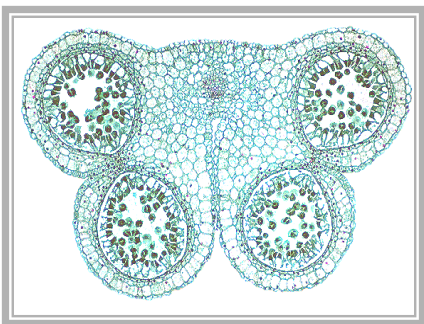


TUBE CELL

GENERATIVE CELL

L.S.

POLLEN GRAIN

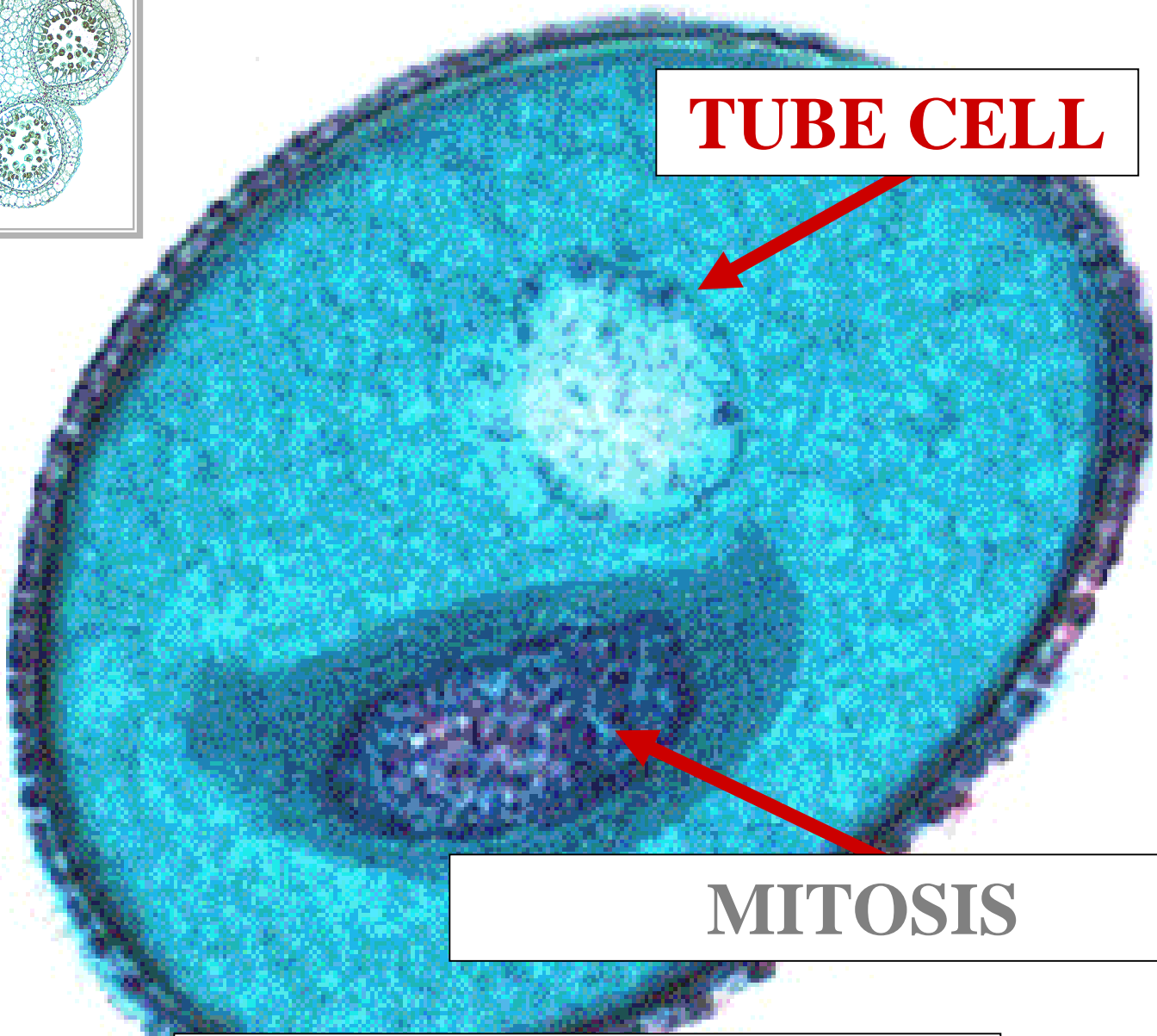
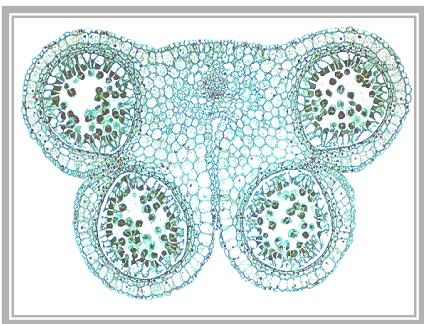


TUBE CELL

1N

L.S.

POLLEN GRAIN

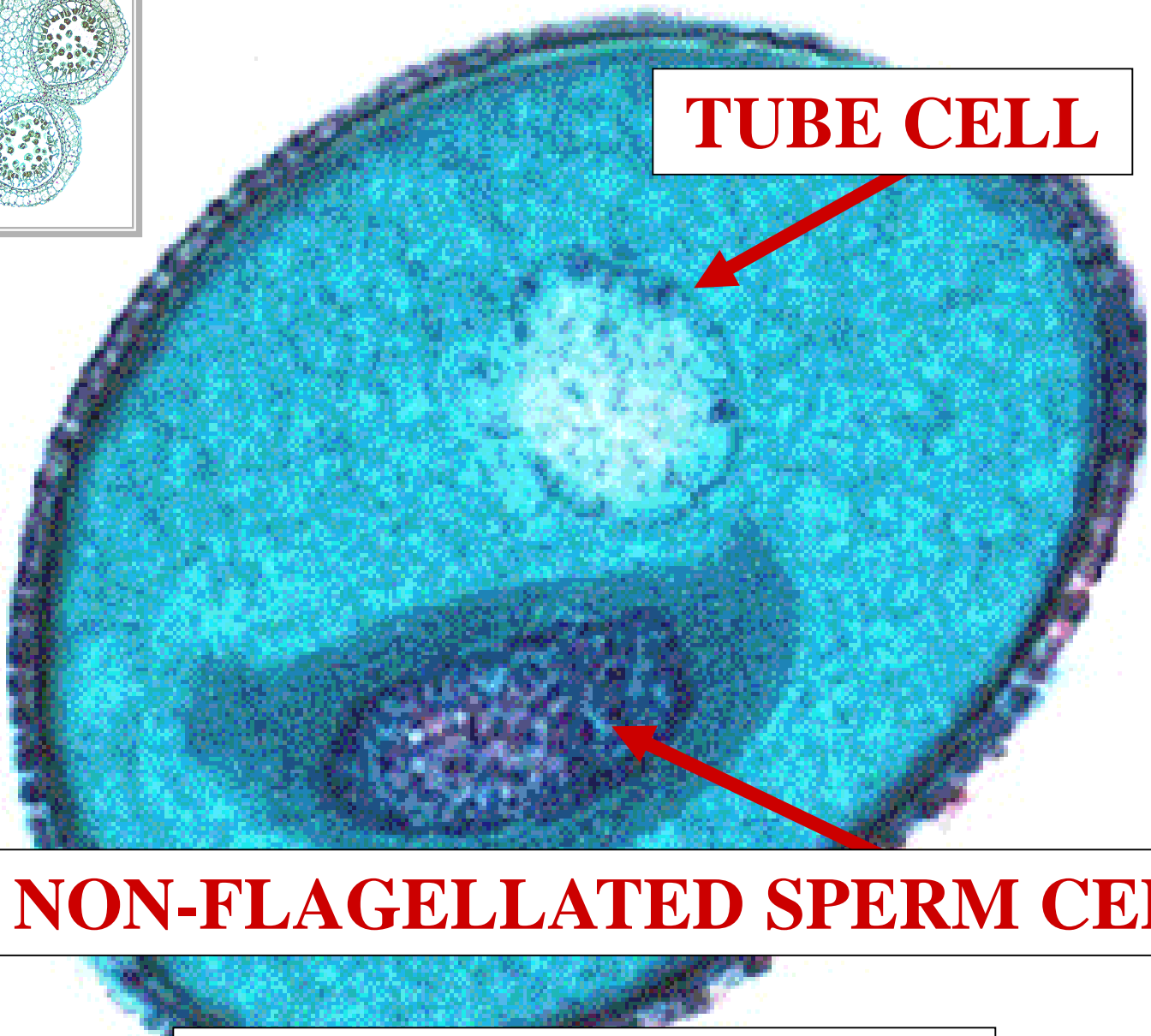
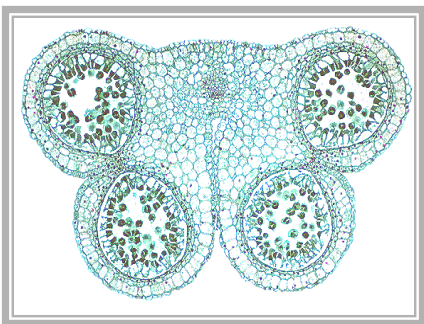


TUBE CELL

MITOSIS

L.S.

POLLEN GRAIN

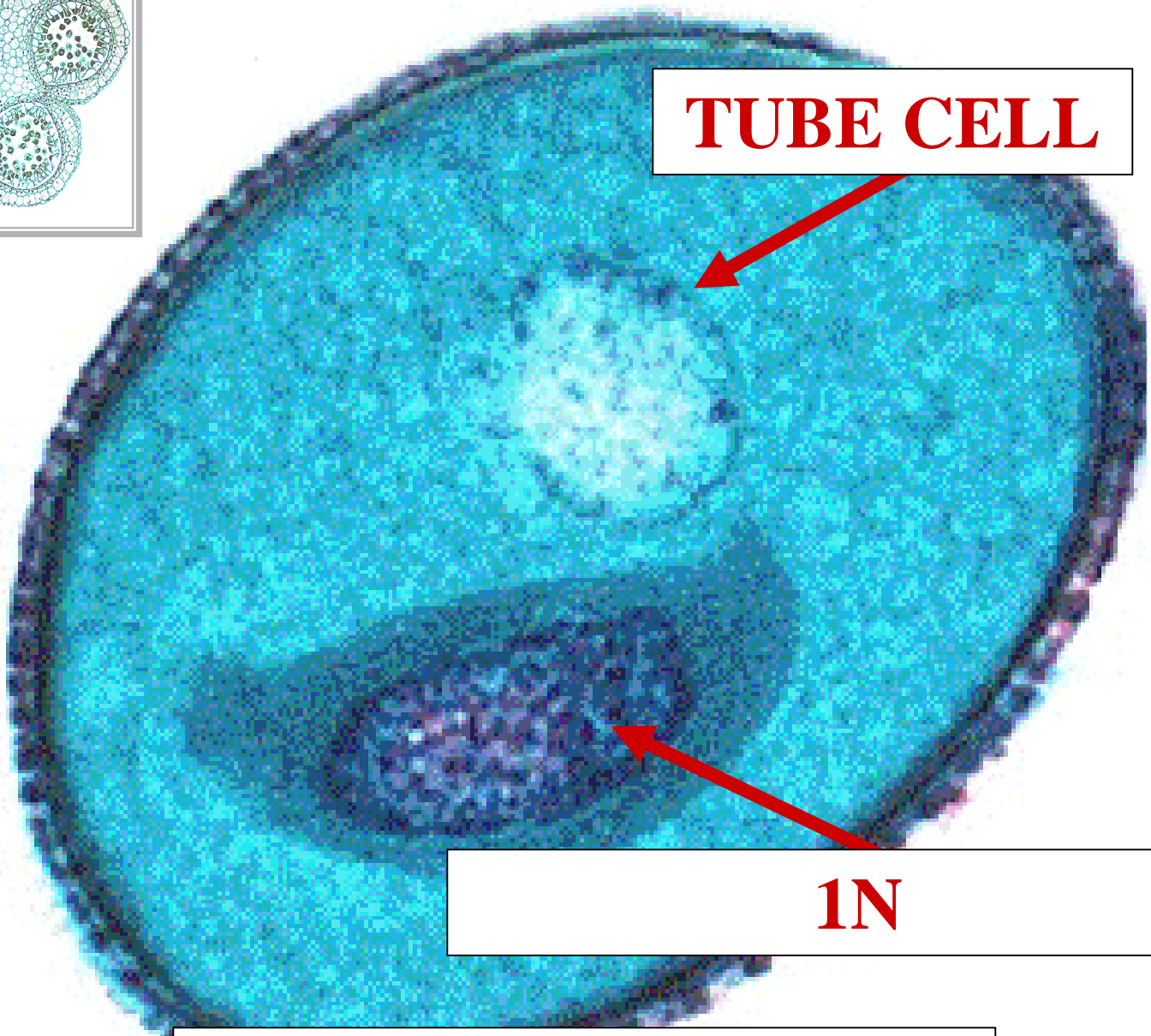
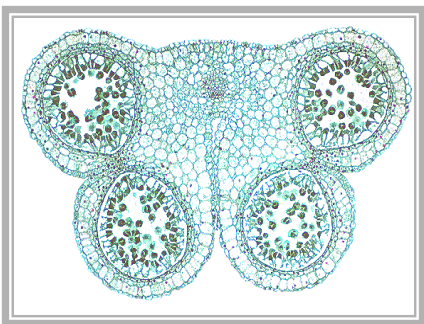


TUBE CELL

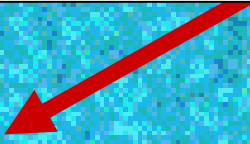
2 NON-FLAGELLATED SPERM CELLS

L.S.

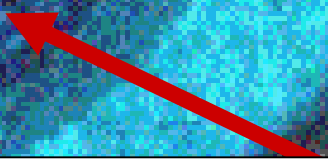
POLLEN GRAIN



TUBE CELL



1N

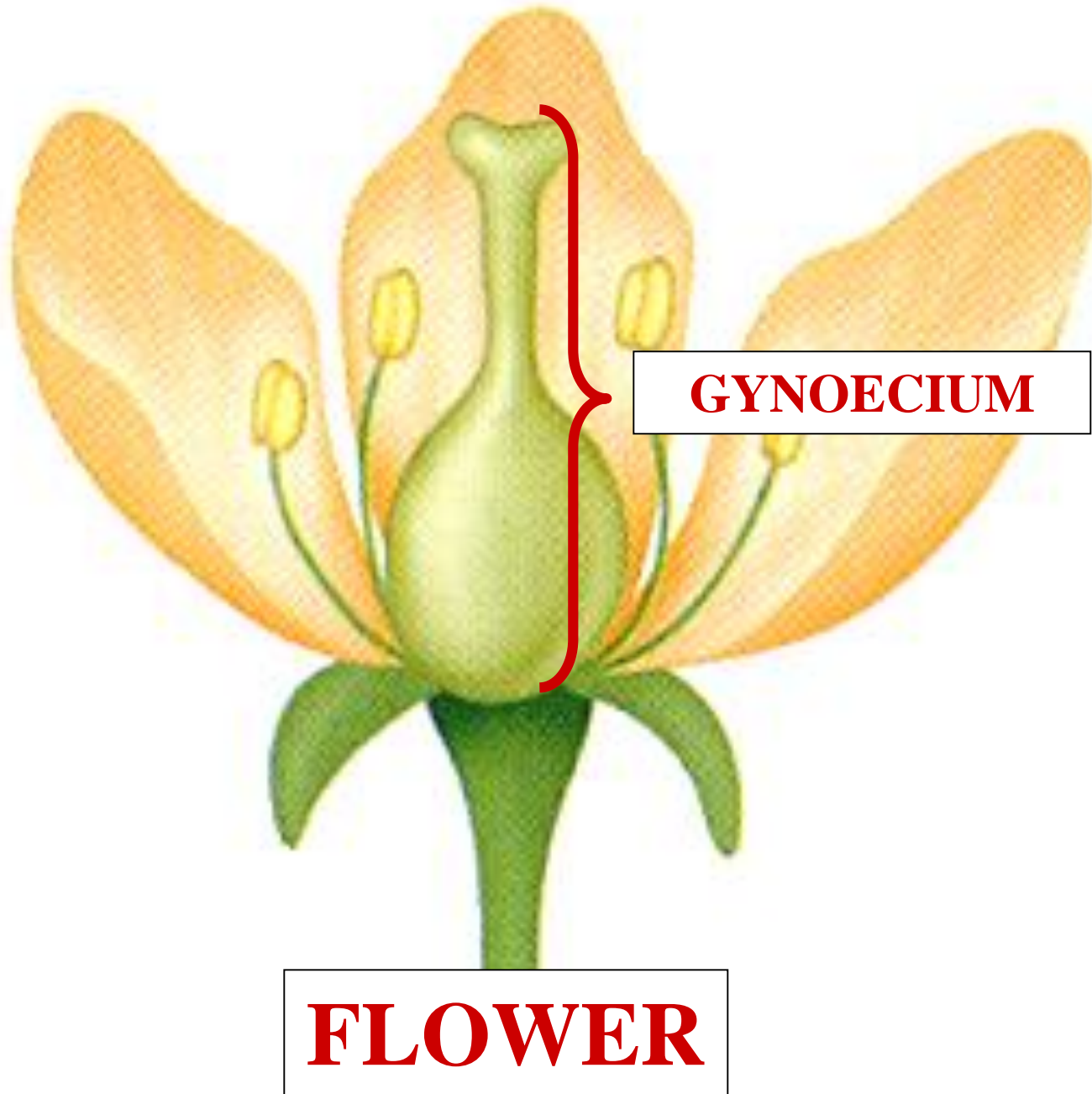


L.S.

POLLEN GRAIN

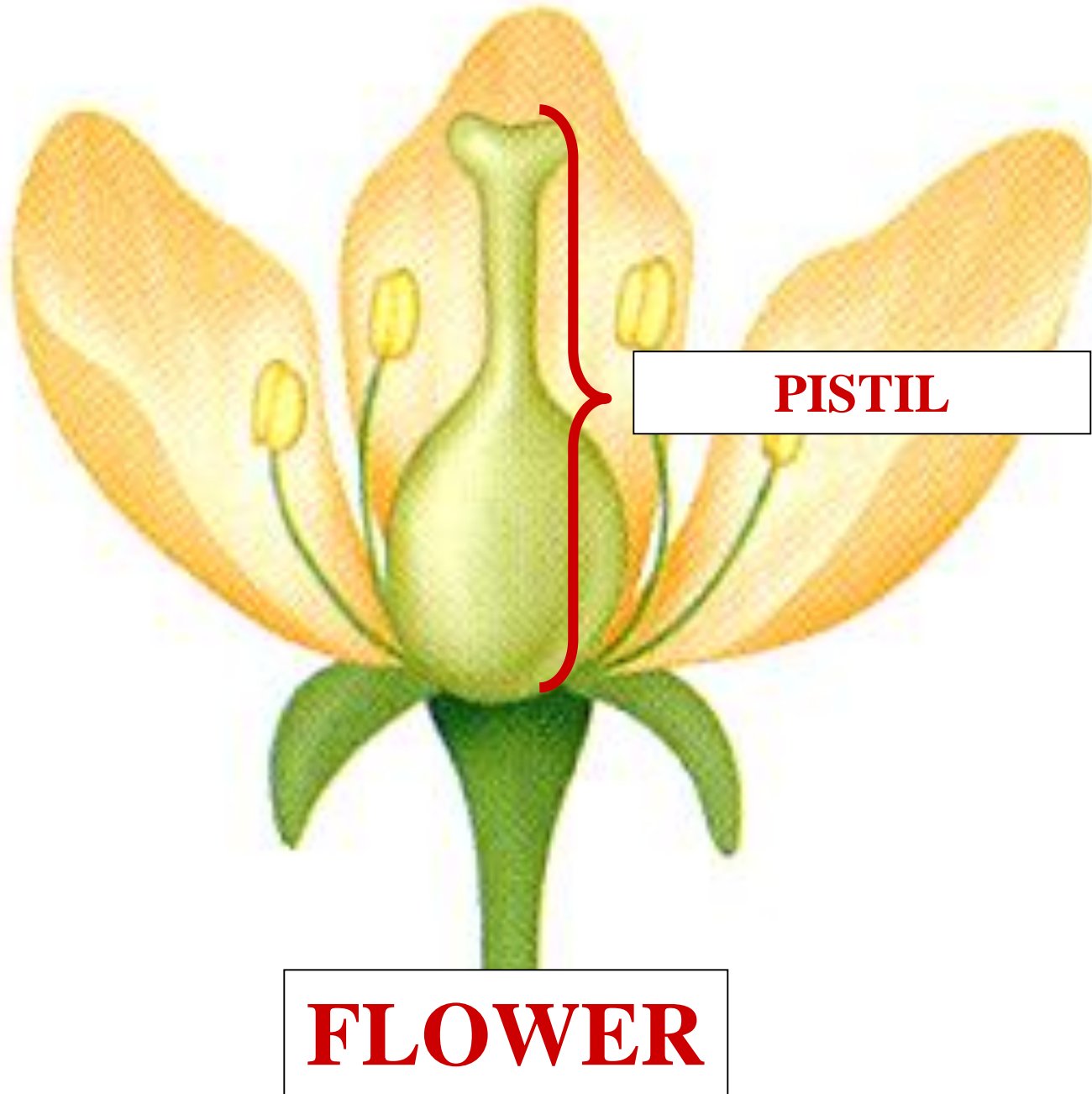


FLOWER



GYNOECIUM

FLOWER



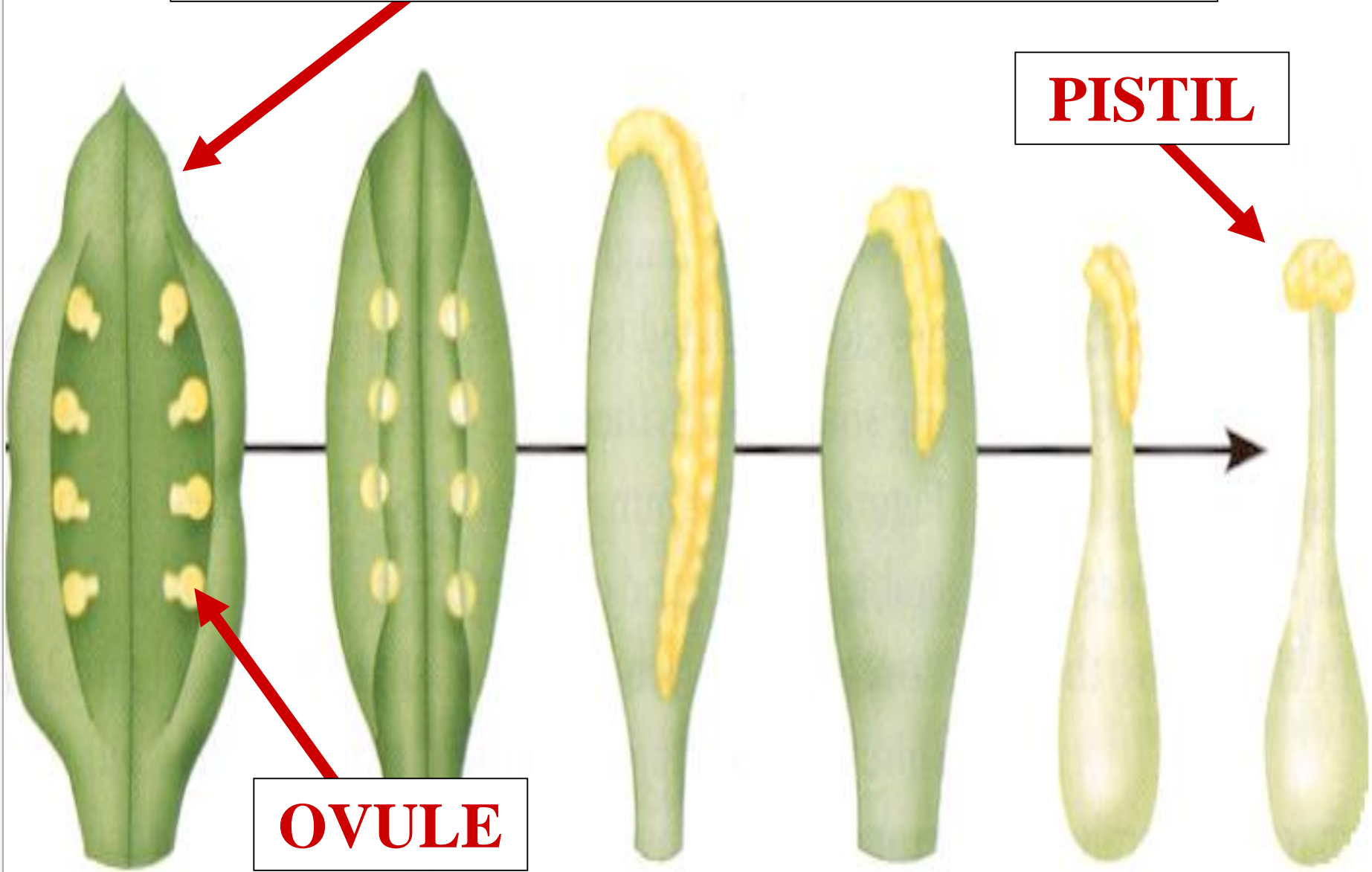
PISTIL

FLOWER

LEAF

PISTIL

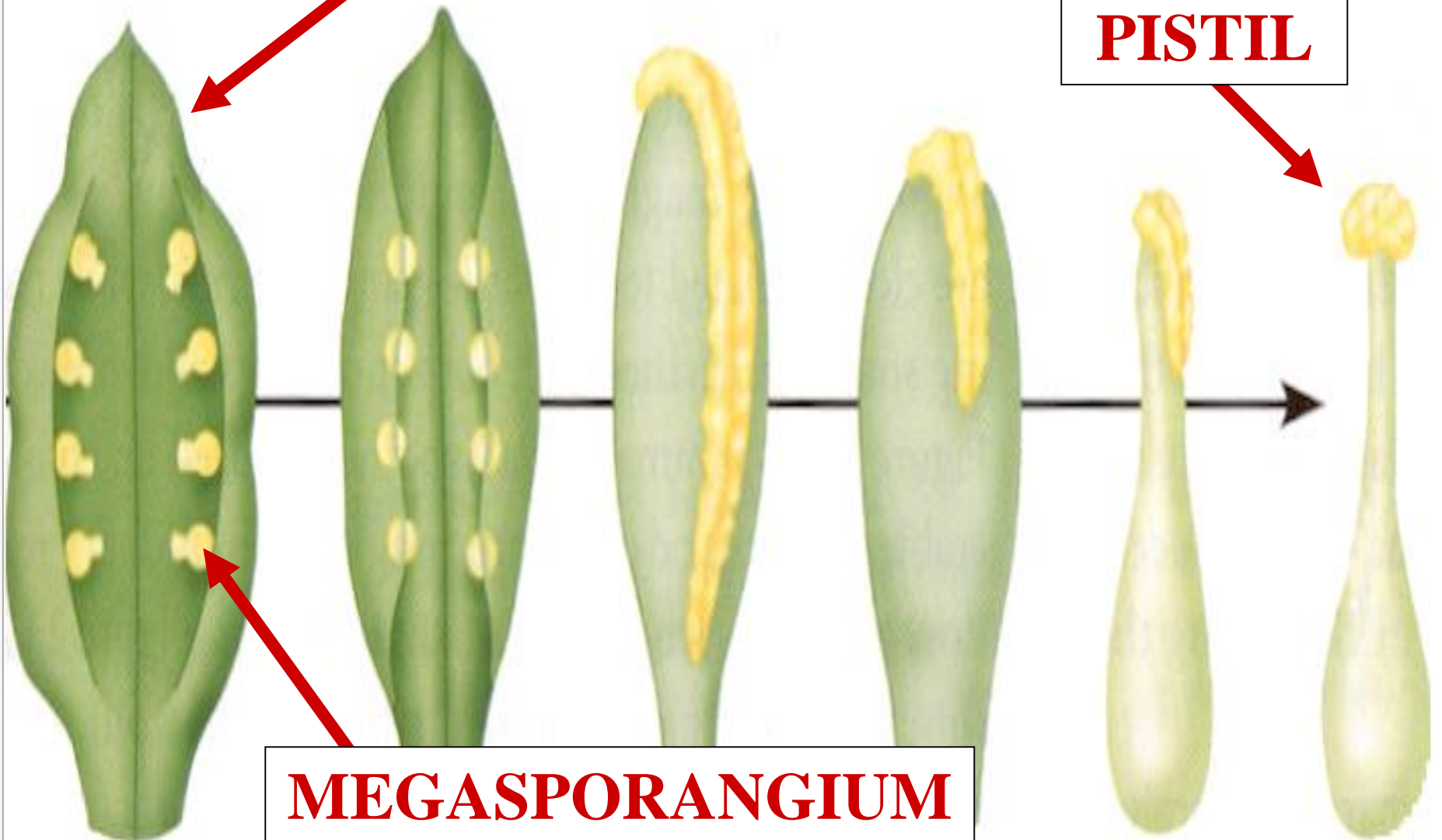
OVULE



LEAF

PISTIL

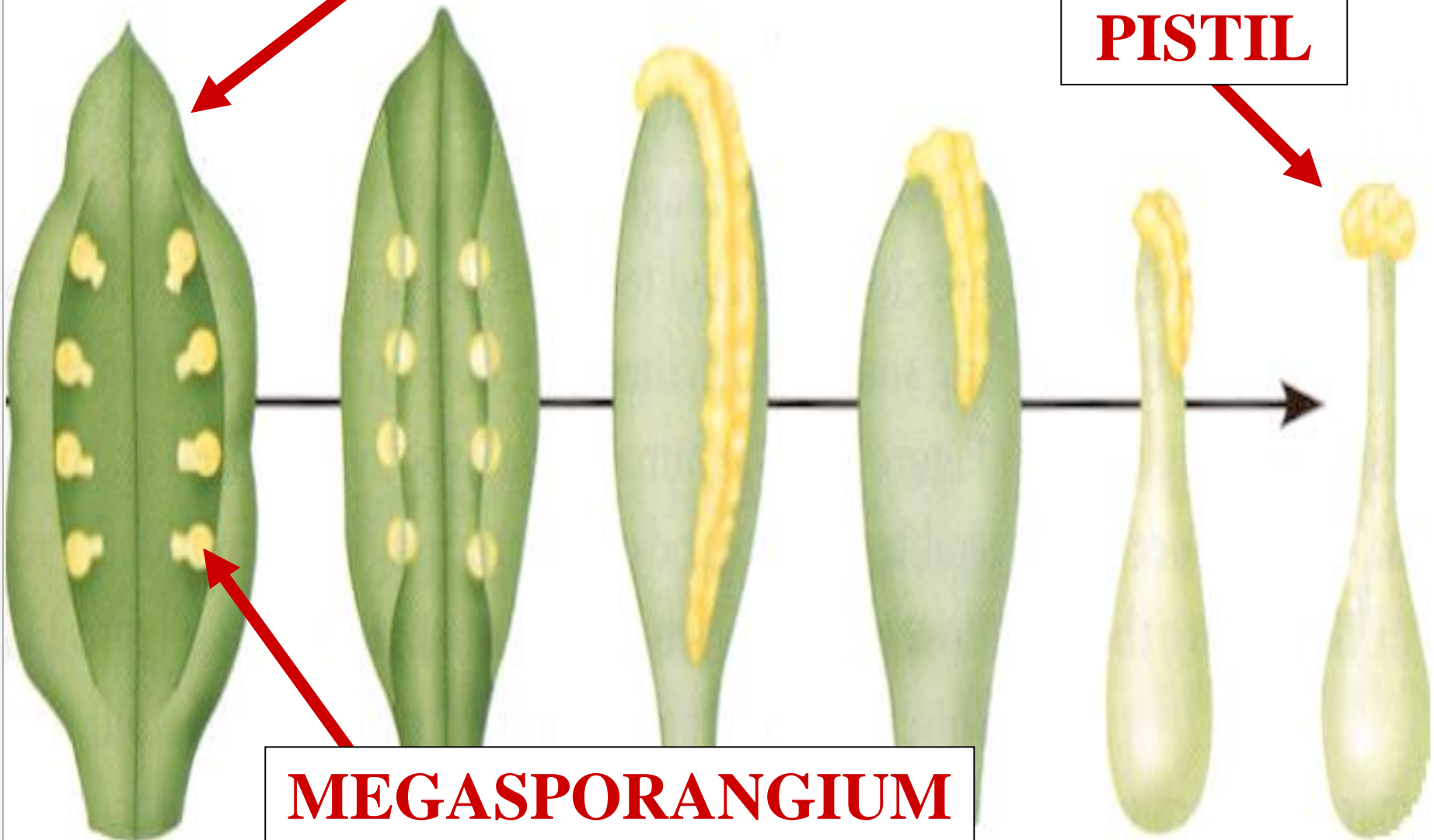
MEGASPORANGIUM



MEGASPOROPHYLL

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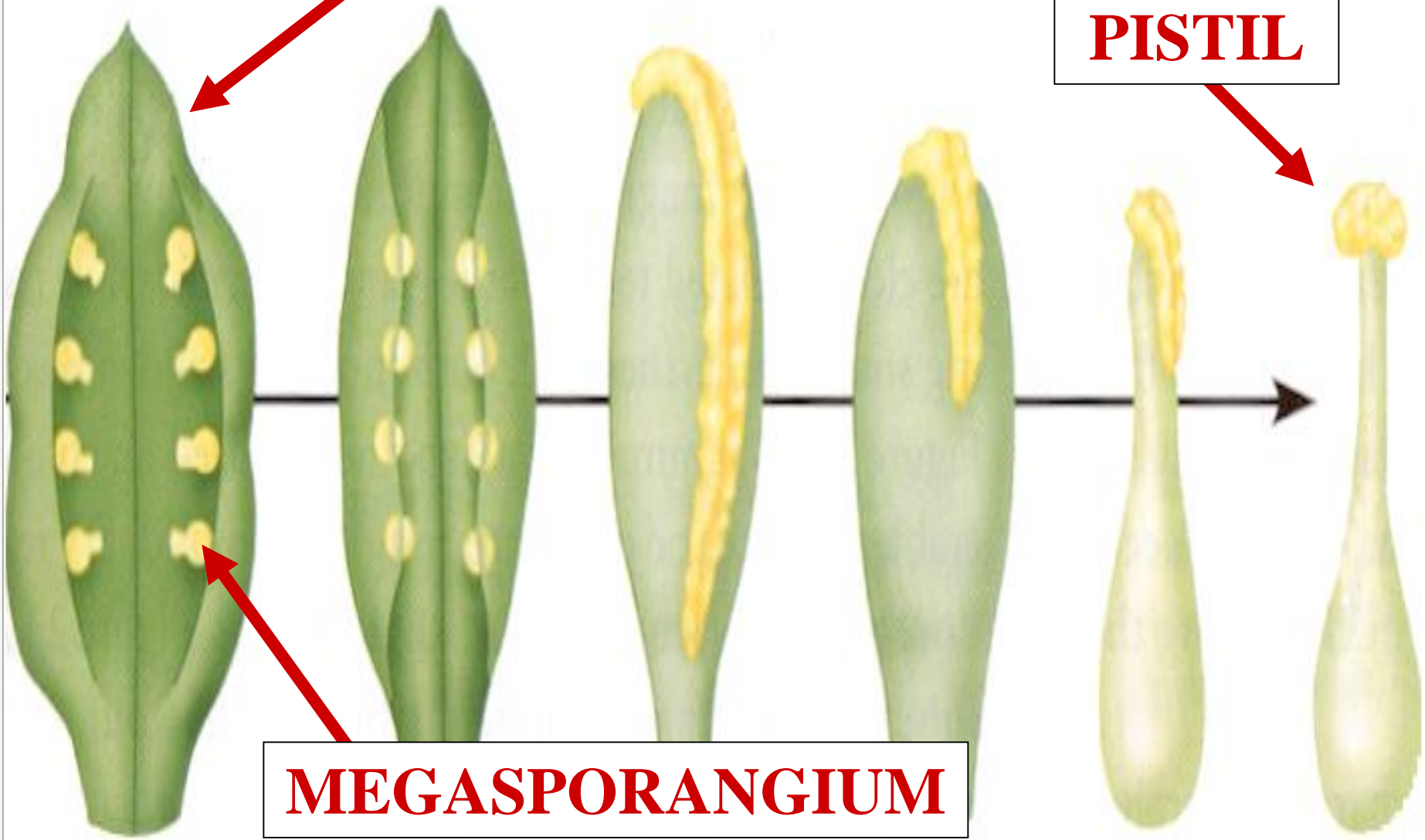
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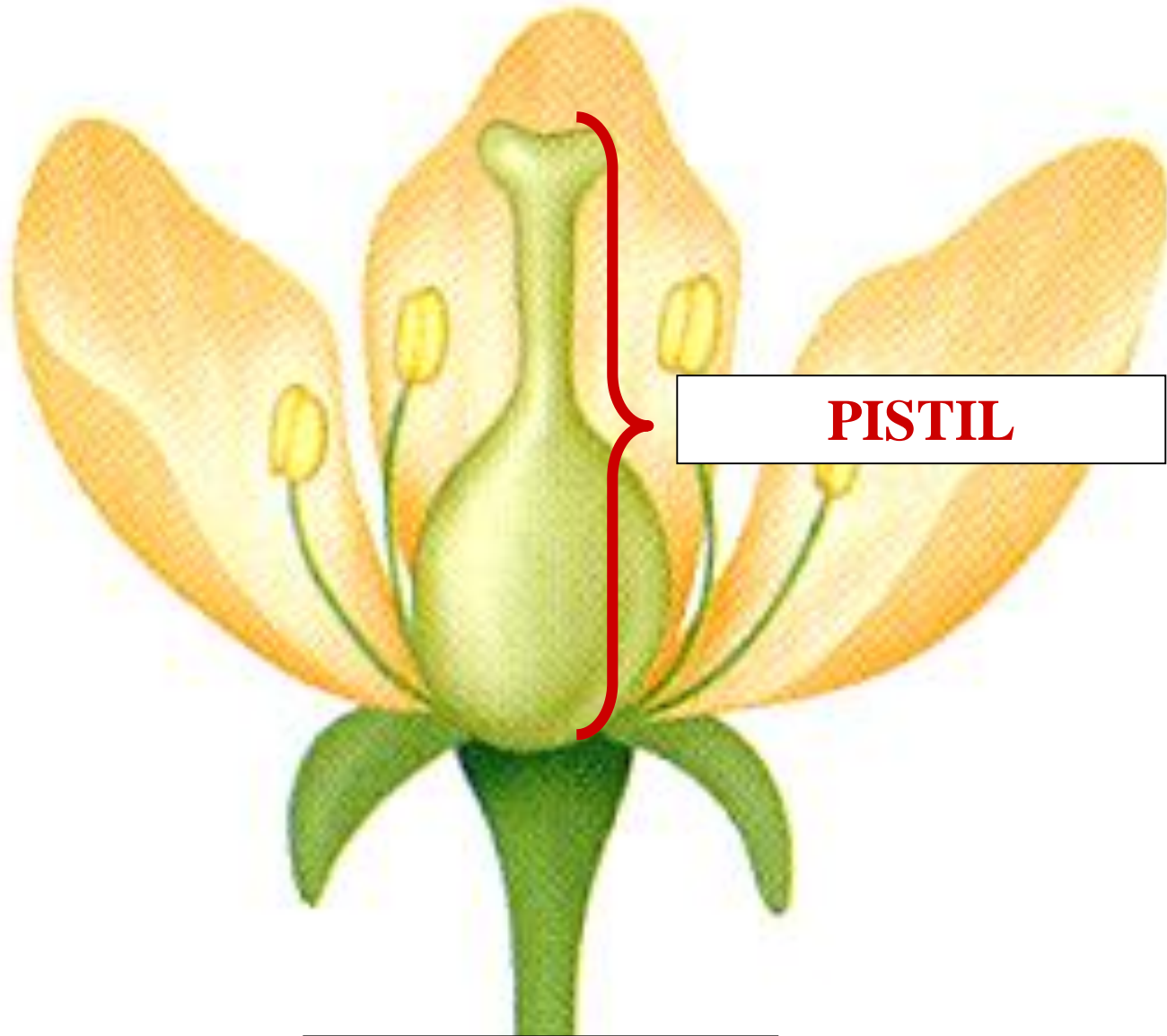
CARPEL



PISTIL



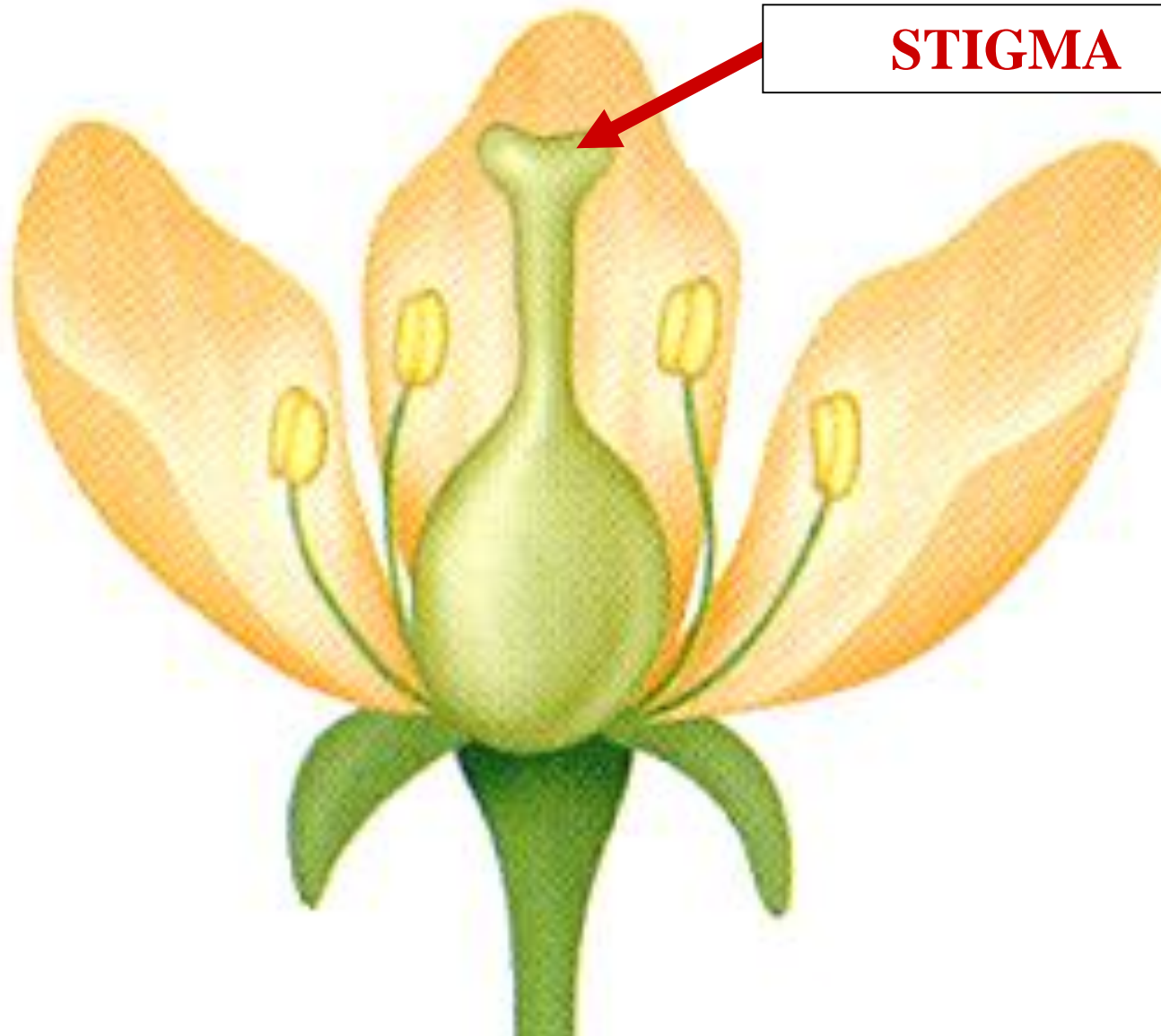
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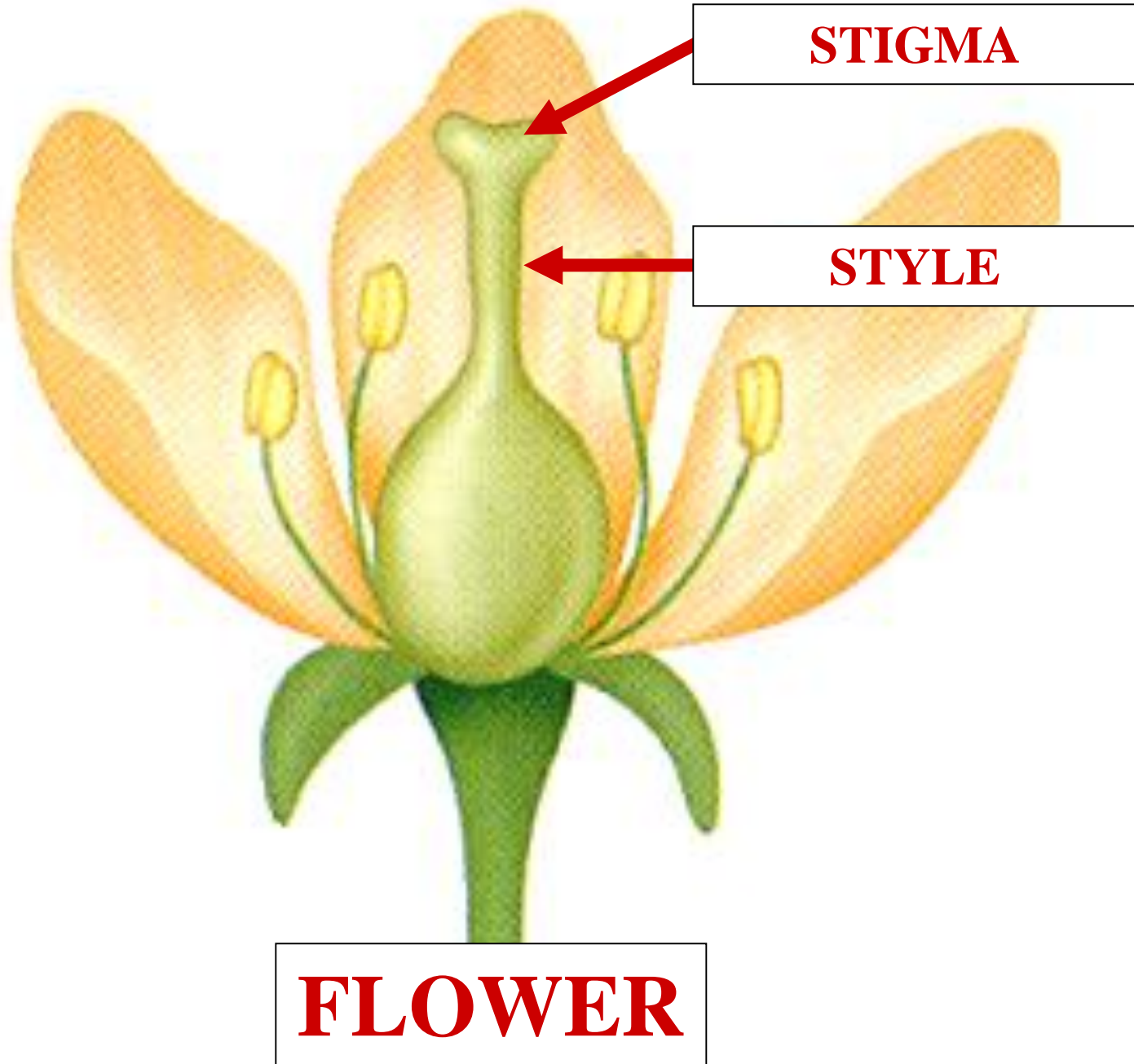
FLOWER

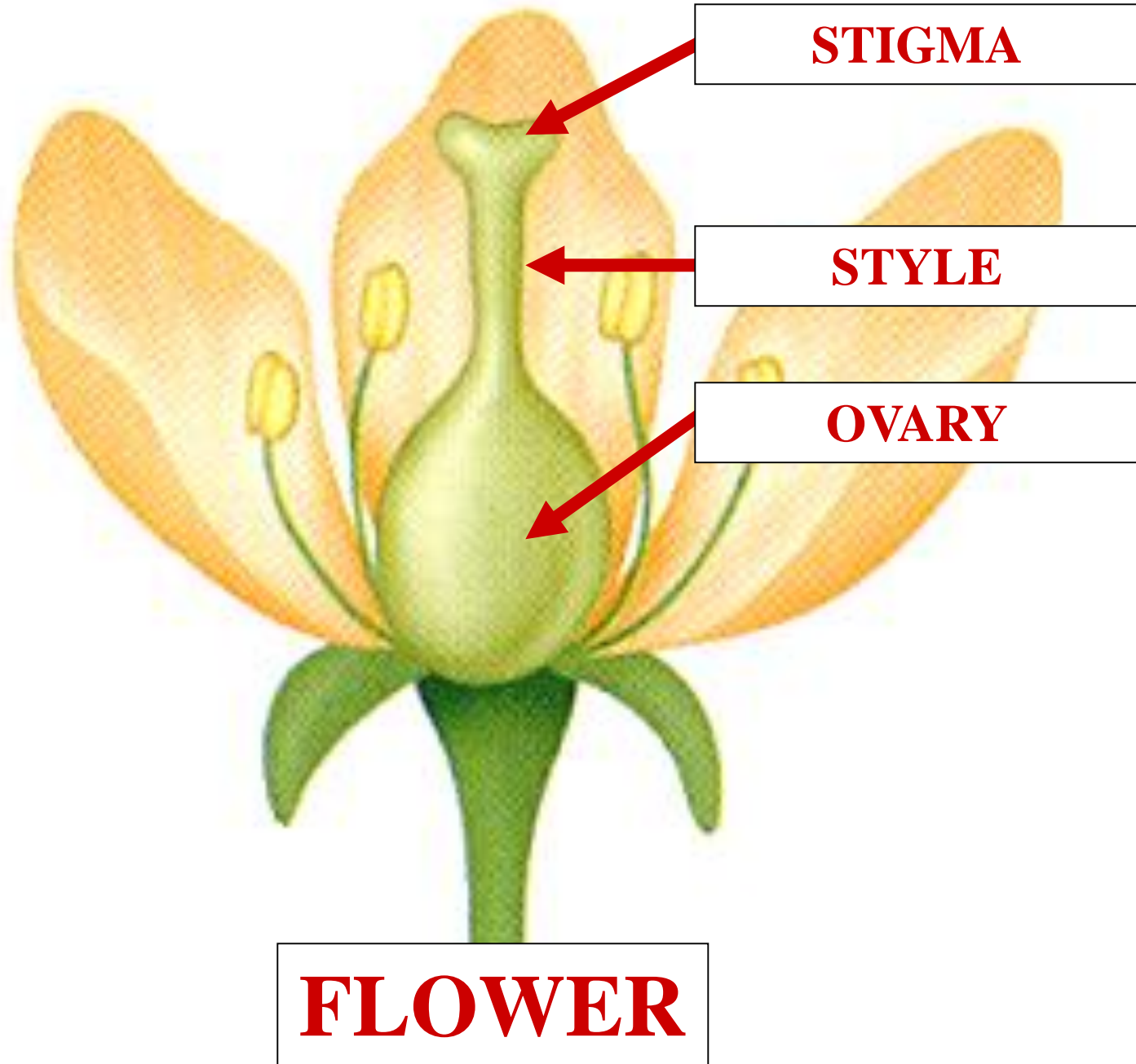
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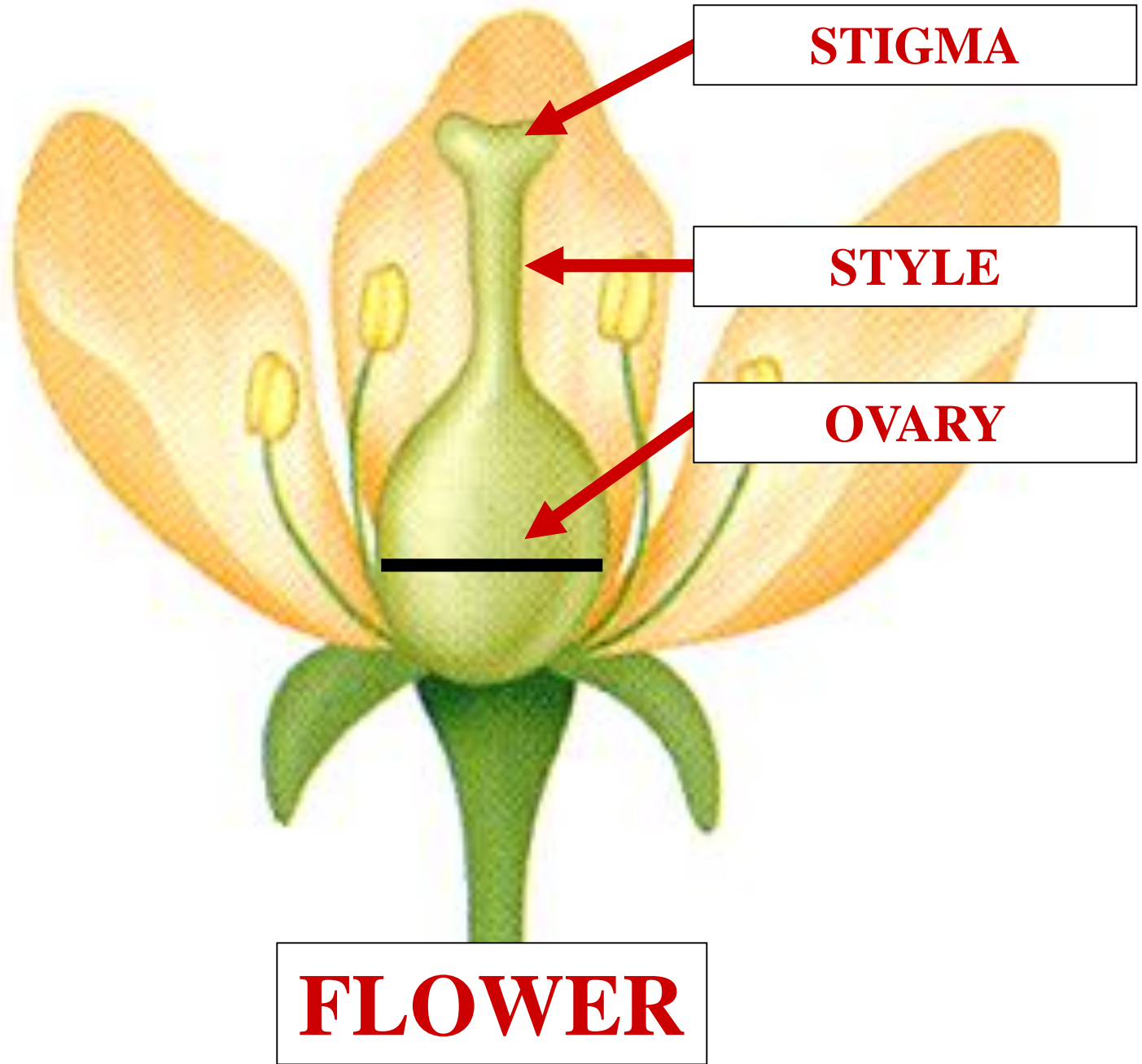


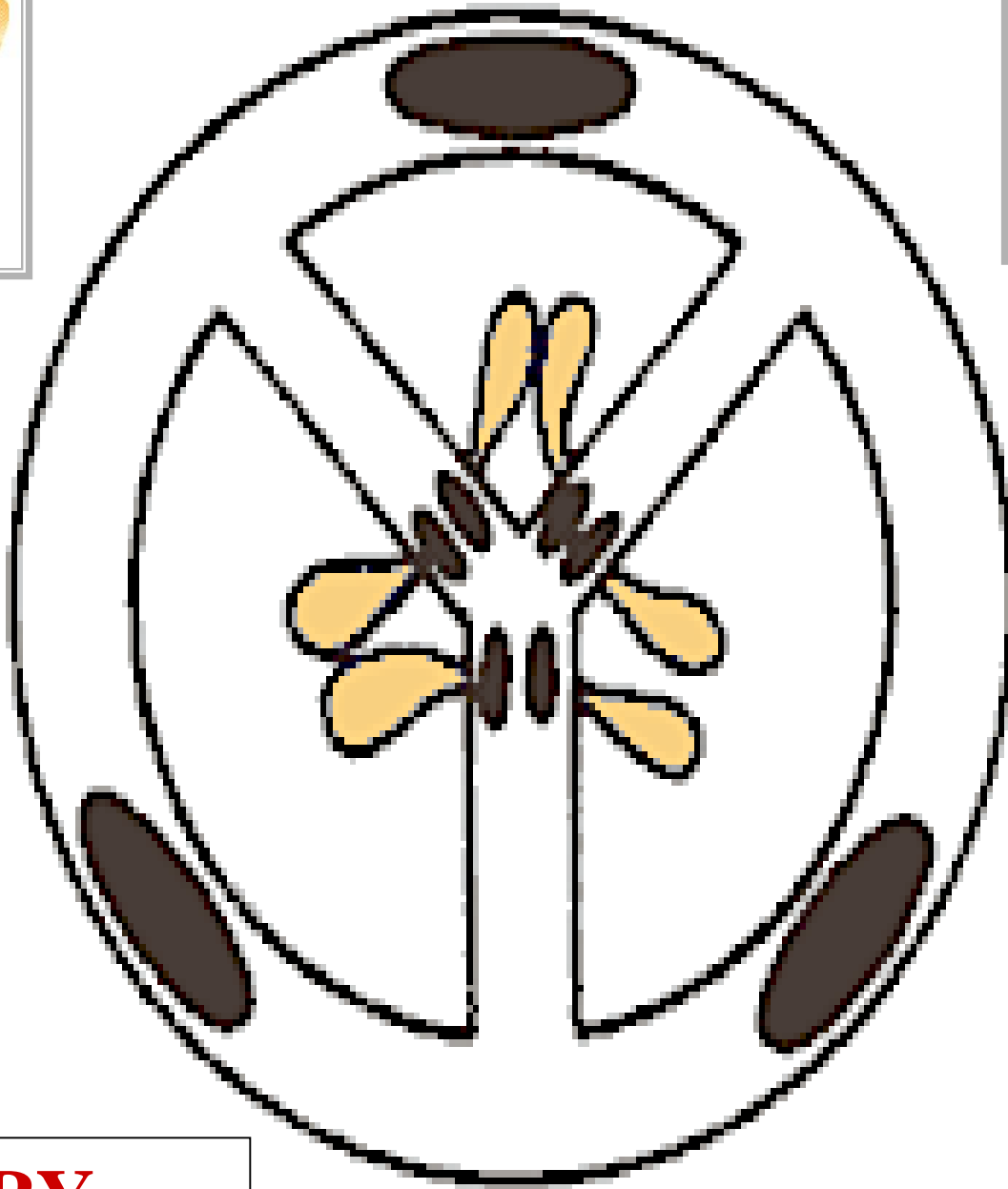
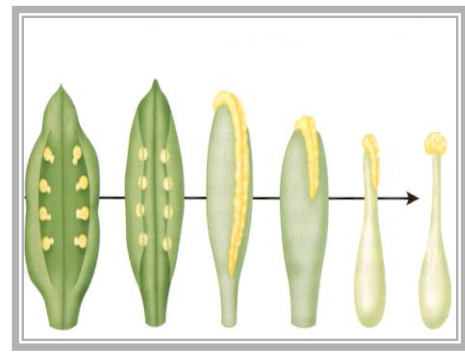
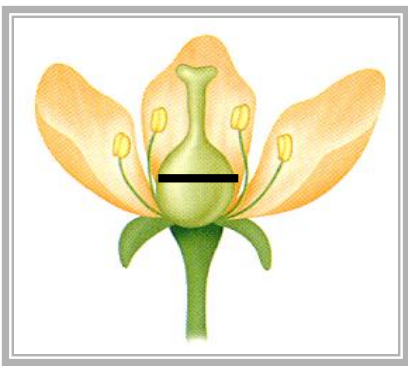
STIGMA

FLOWER





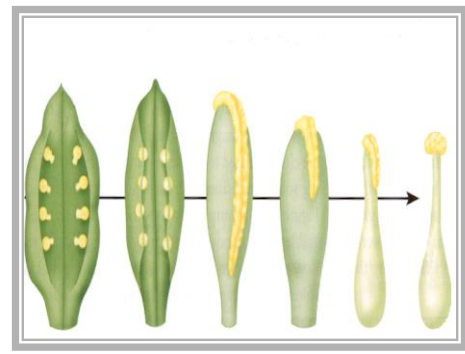
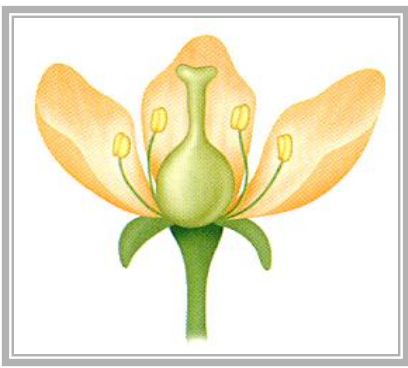




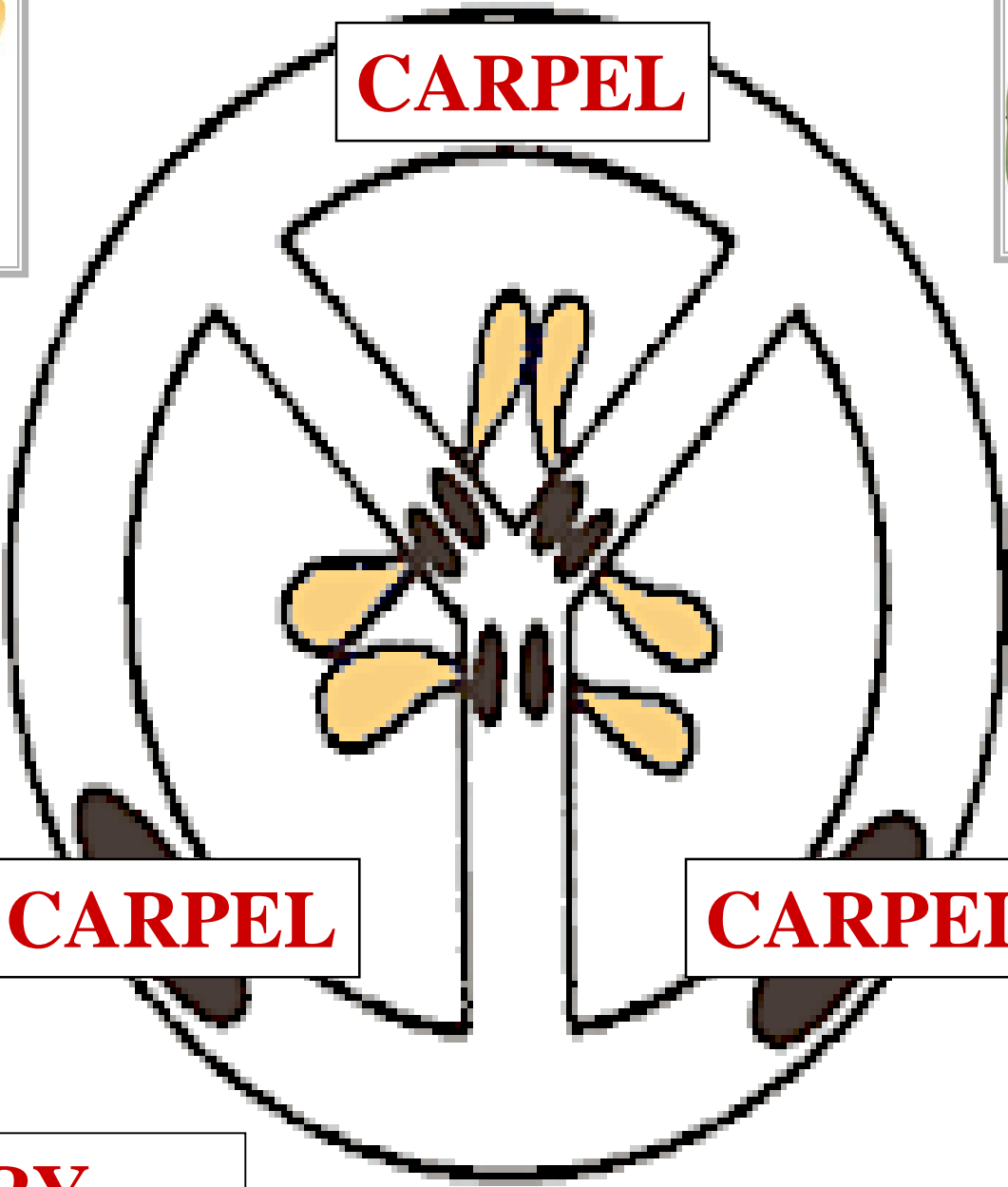
3C

OVARY

C.S.



L



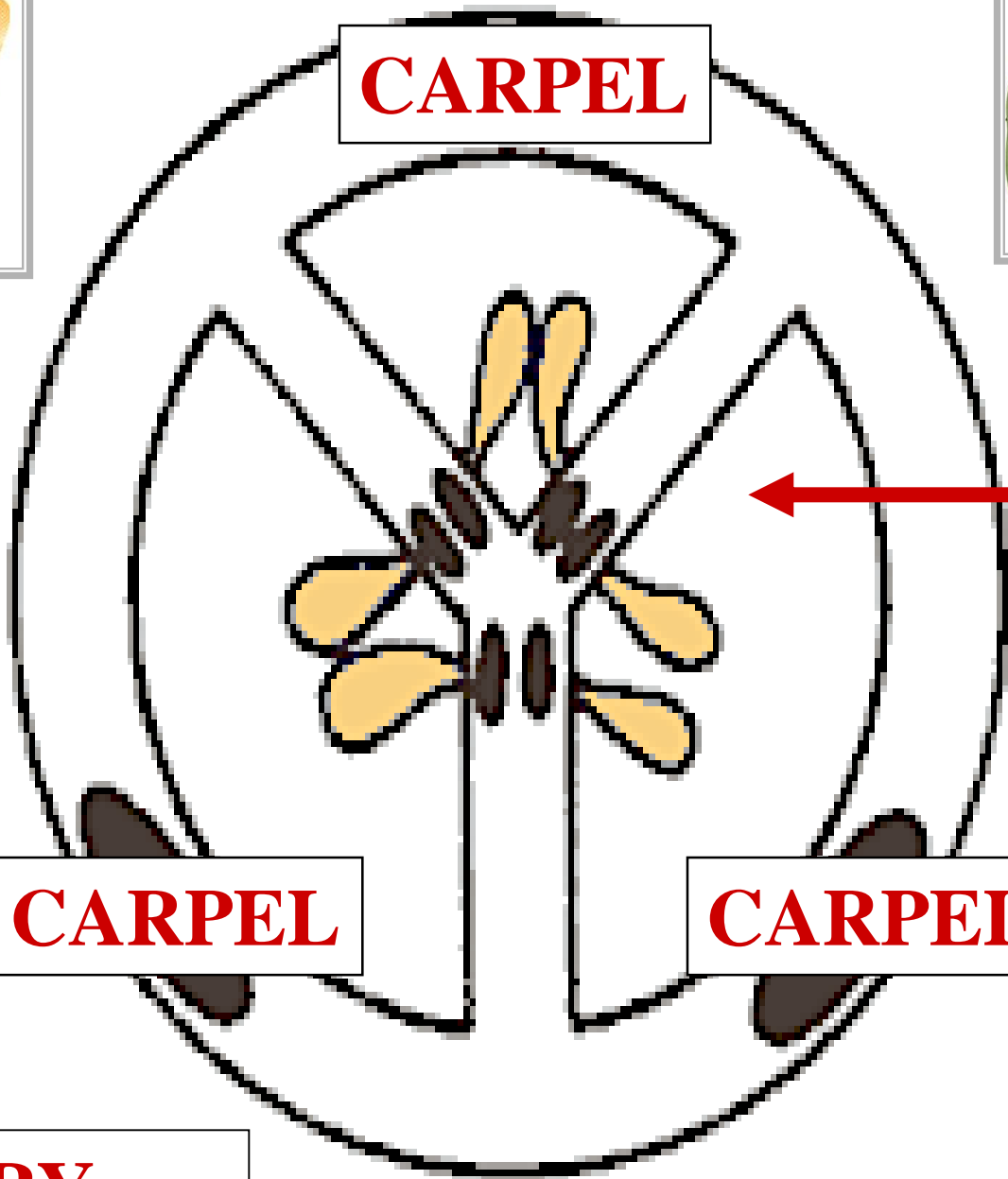
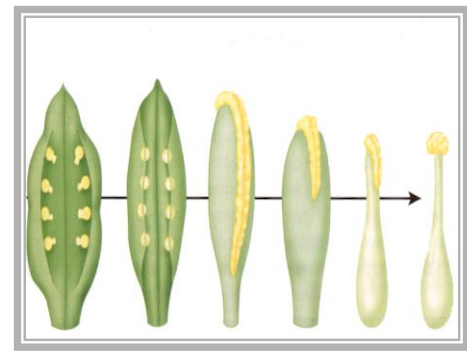
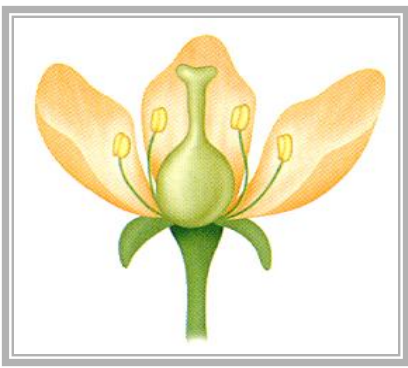
CARPEL

CARPEL

CARPEL

OVARY

C.S.



CARPEL

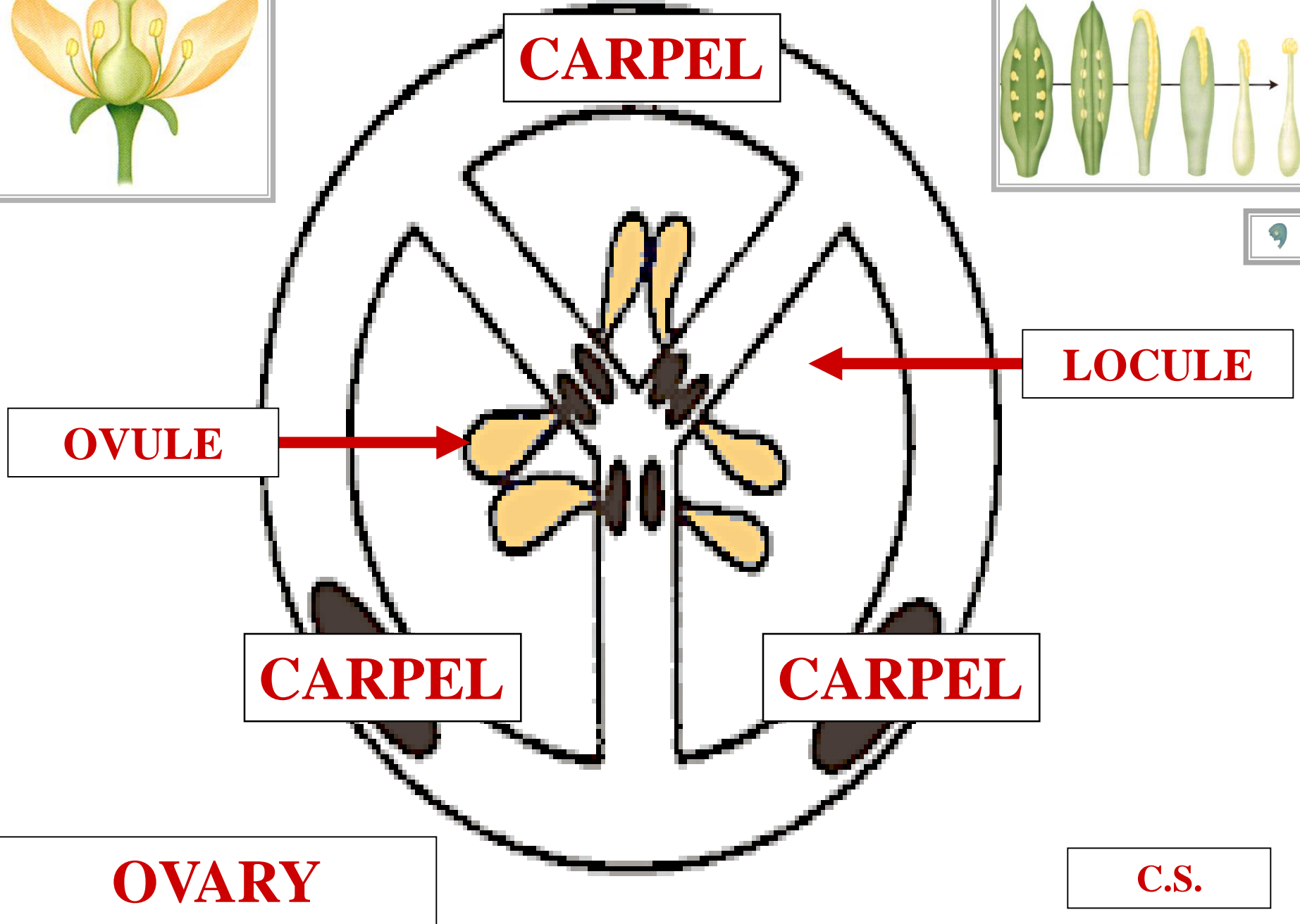
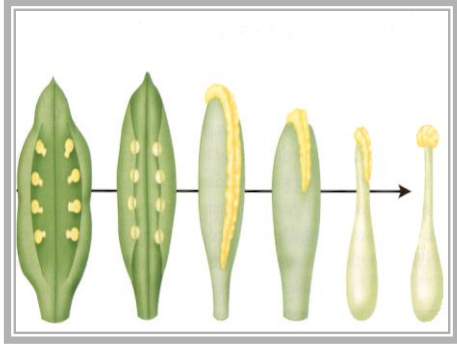
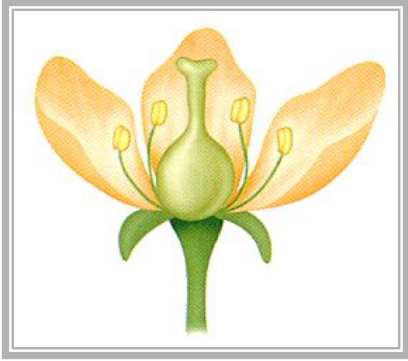
LOCULE

CARPEL

CARPEL

OVARY

C.S.



CARPEL

LOCULE

OVULE

CARPEL

CARPEL

OVARY

C.S.



OVULE



L.S.



OVULE

L.S.

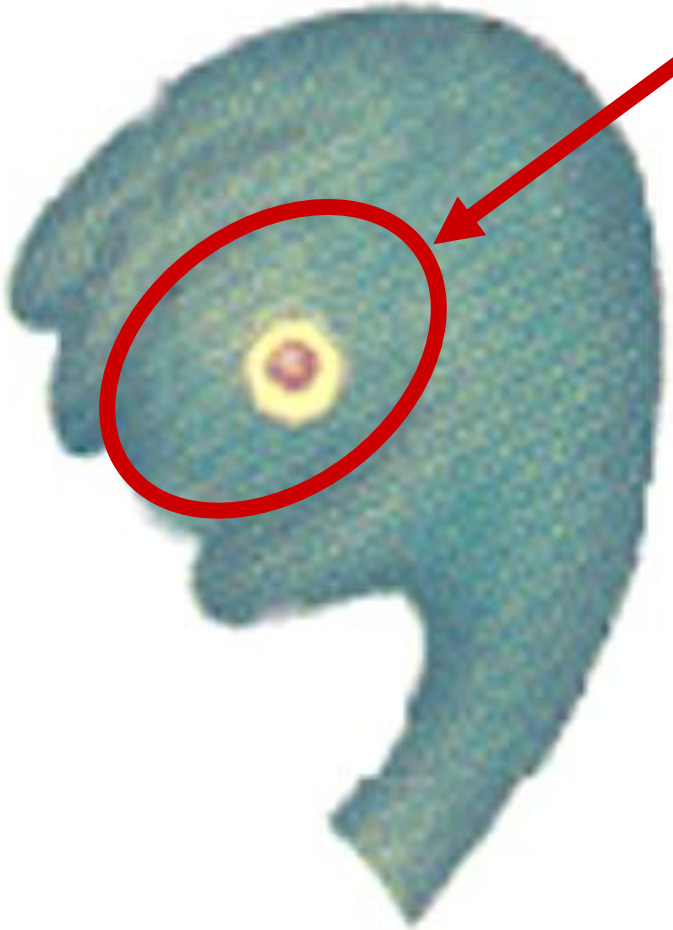
INTEGUMENT





MEGASPORANGIUM

OVULE



L.S.



OVULE

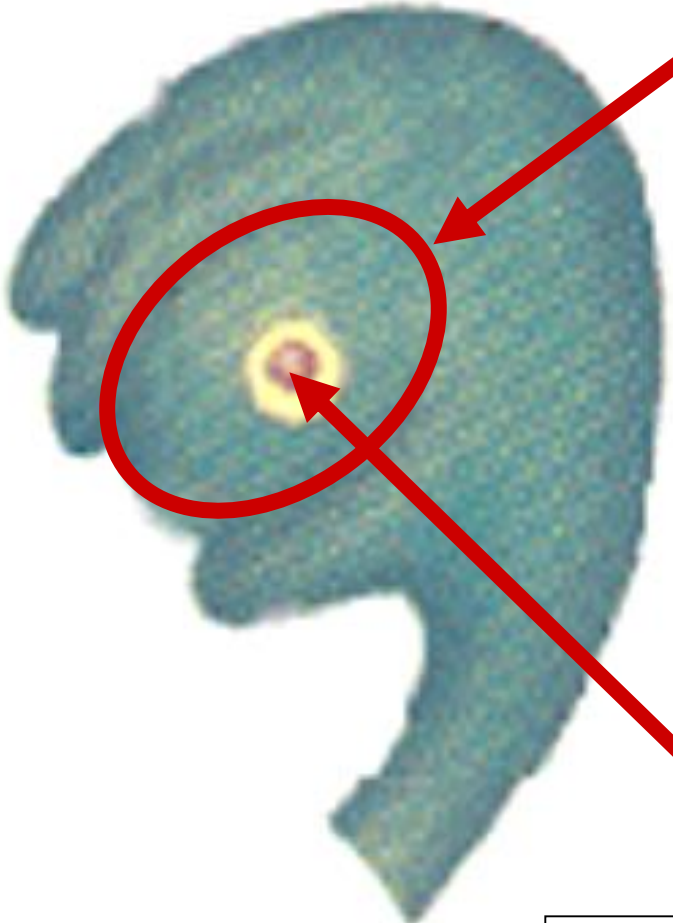


NUCELLUS

L.S.



OVULE



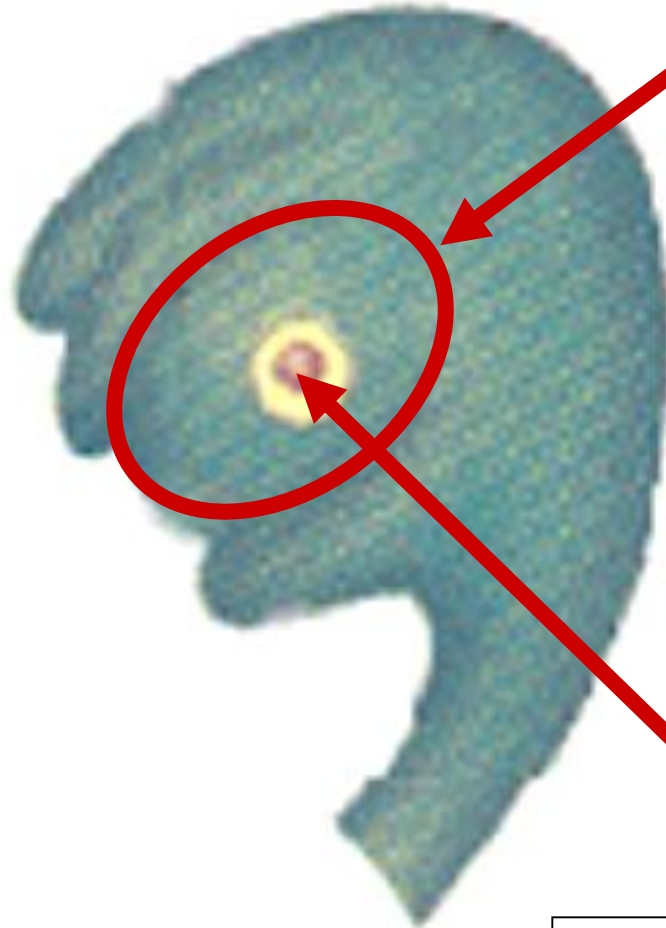
MEGASPORANGIUM

MEGASPOROCYTE

L.S.



OVULE



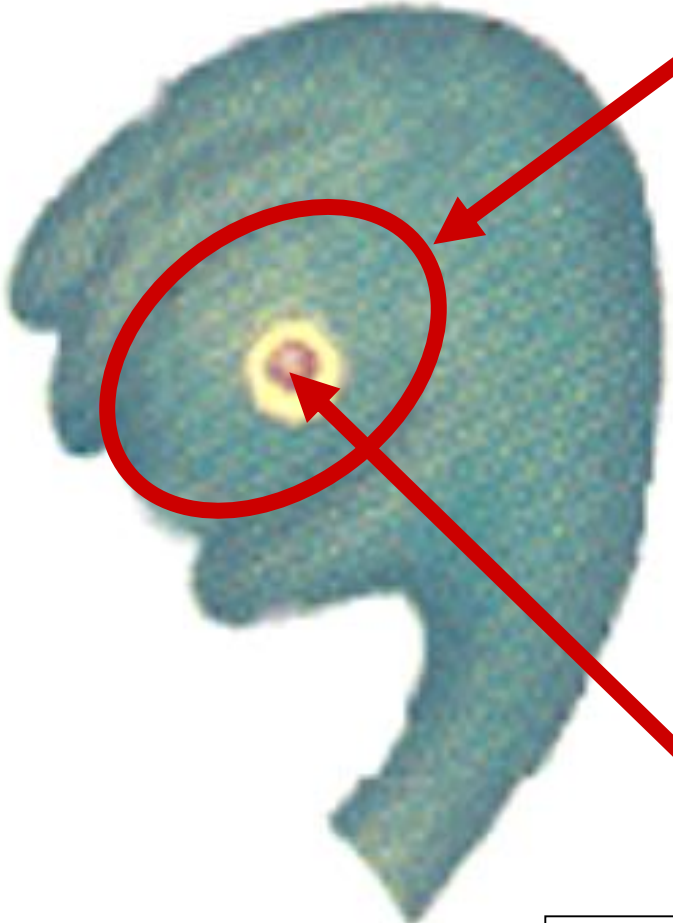
MEGASPORANGIUM

2N

L.S.



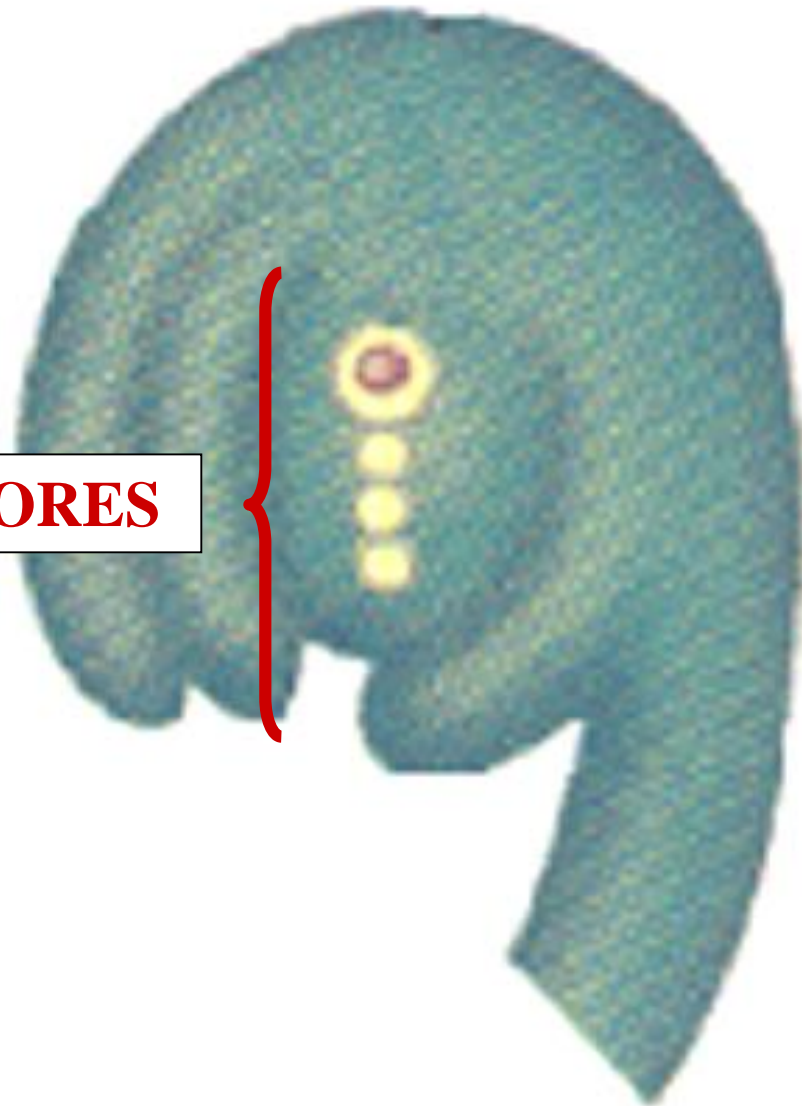
OVULE



MEGASPORANGIUM

MEIOSIS

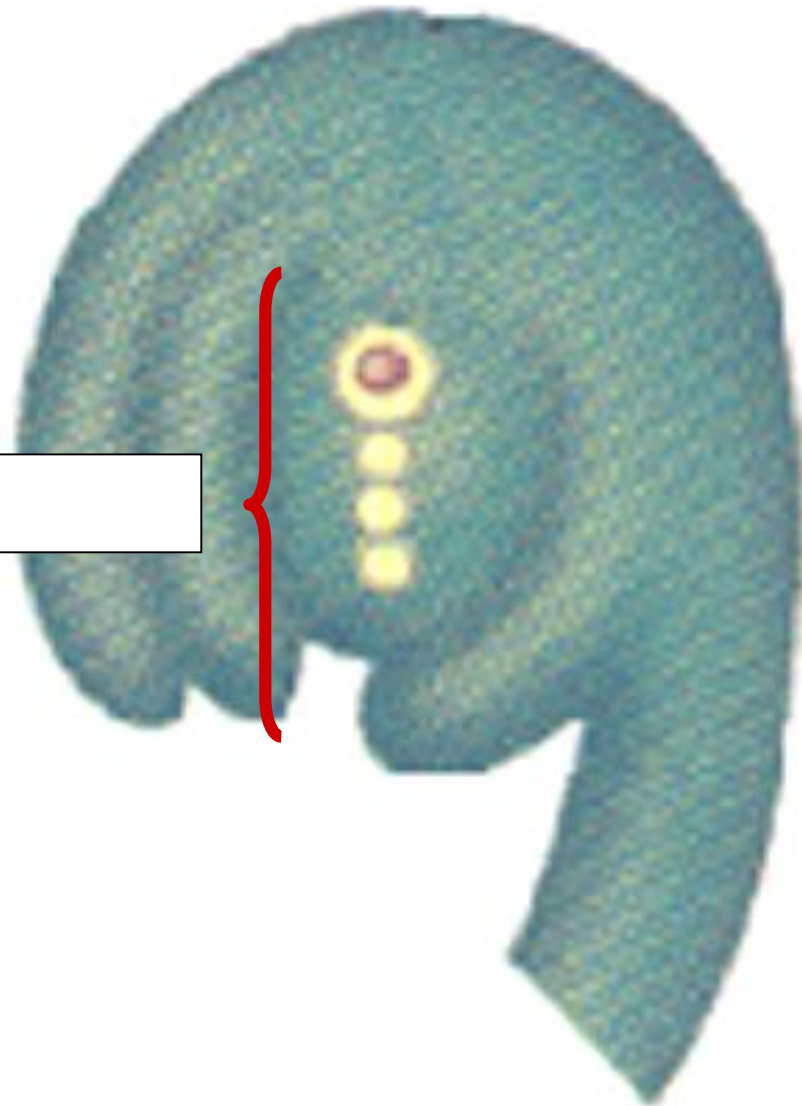
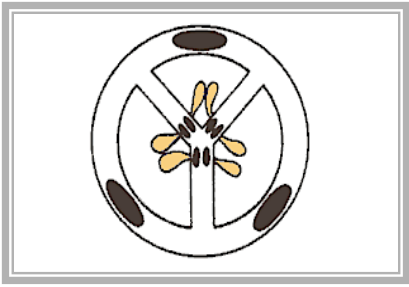
L.S.



MEGASPORES

L.S.

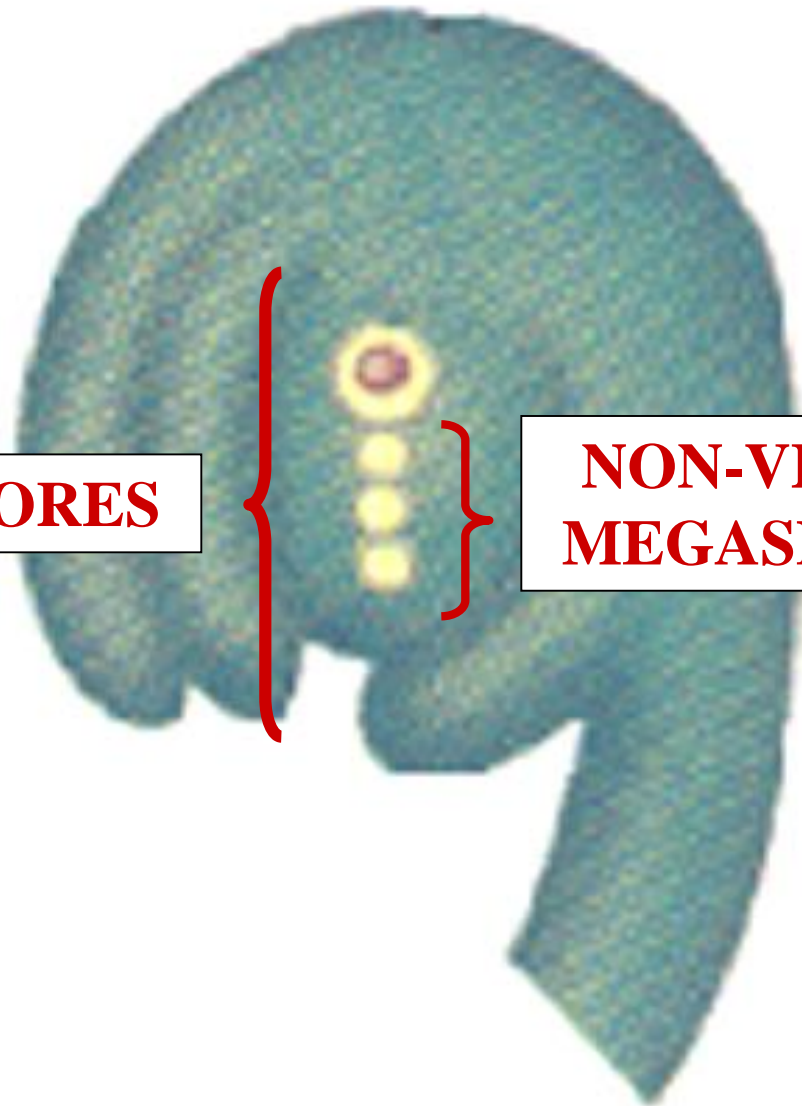
OVULE



1N

L.S.

OVULE



MEGASPORES

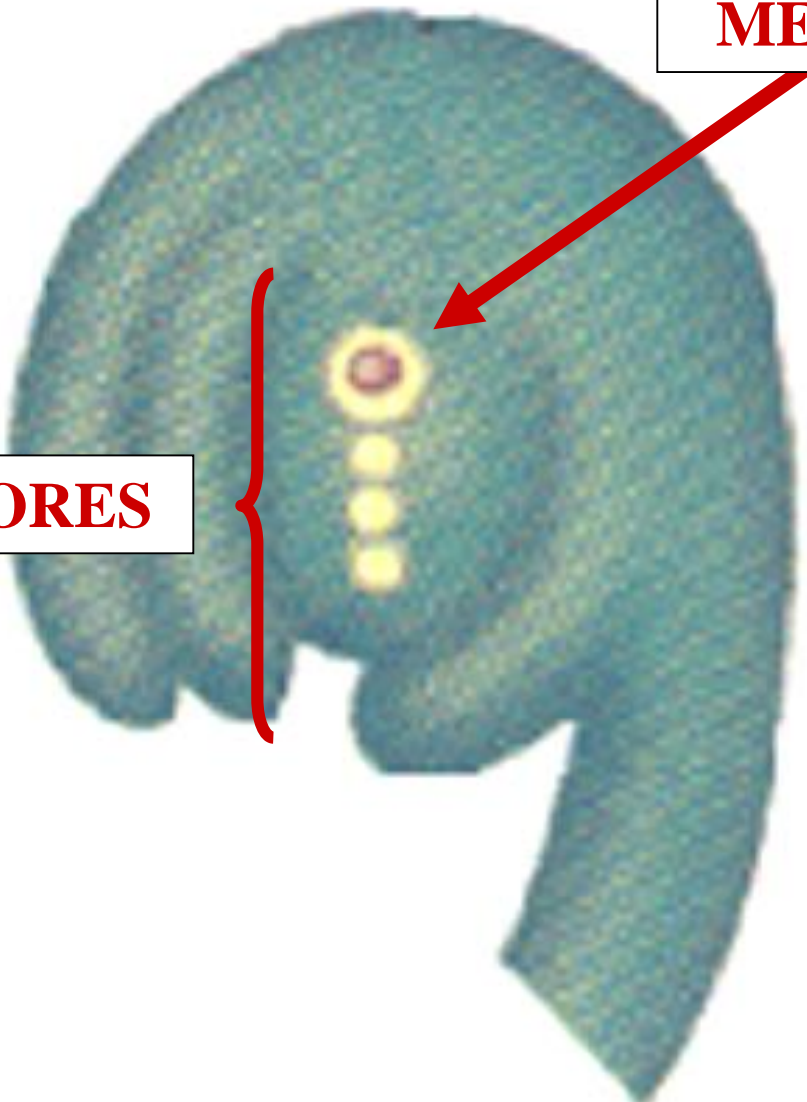
**NON-VIABLE
MEGASPORES**

L.S.

OVULE



**VIABLE
MEGASPORE**



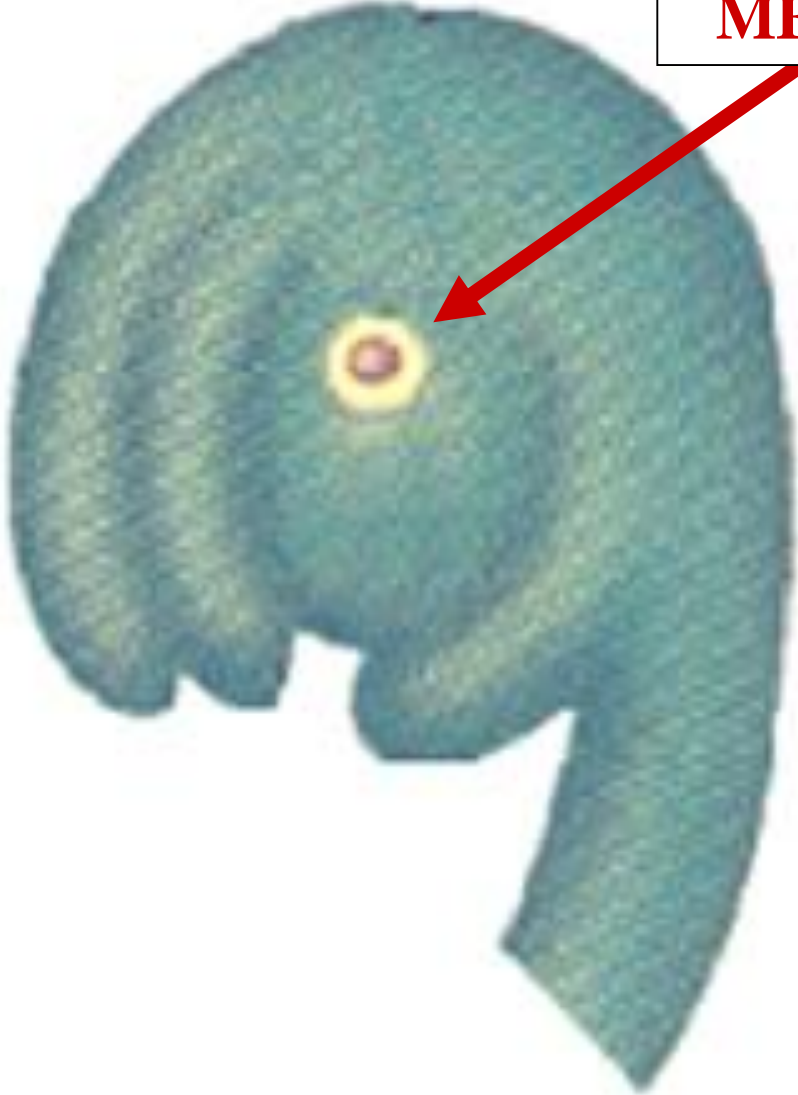
MEGASPORES

L.S.

OVULE



**VIABLE
MEGASPORE**

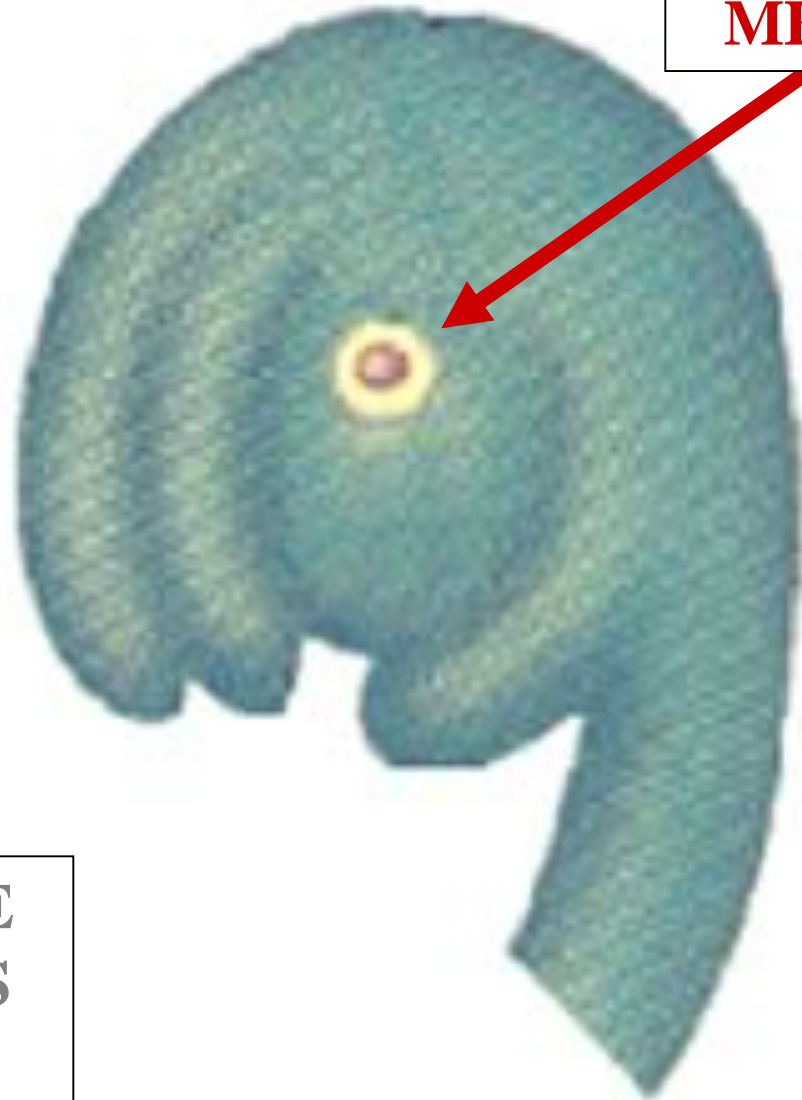


L.S.

OVULE



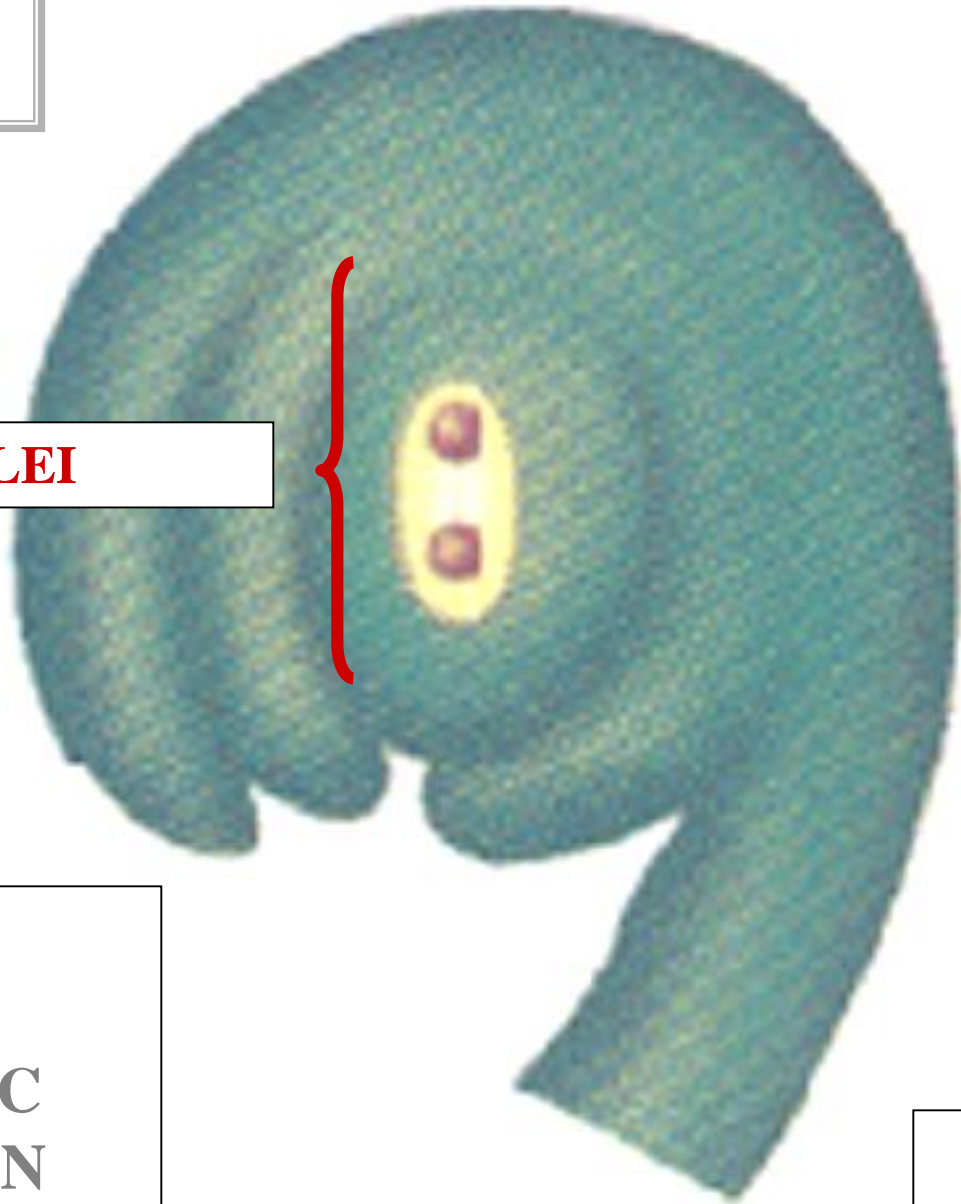
**VIABLE
MEGASPORE**



**MEGASPORE
UNDERGOES
3 MITOTIC
DIVISIONS**

L.S.

OVULE



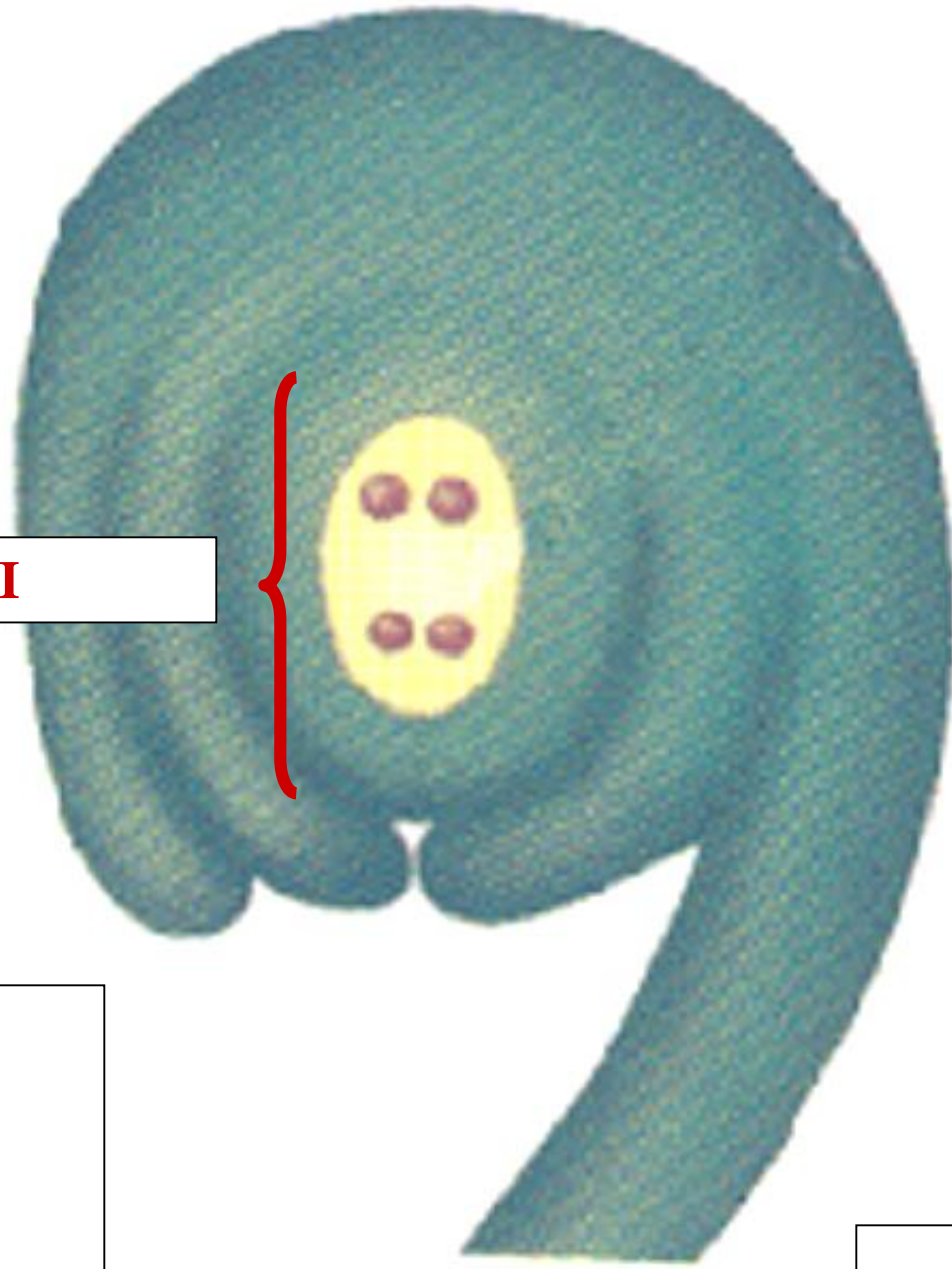
2 NUCLEI



**POST
1ST
MITOTIC
DIVISION**

L.S.

OVULE

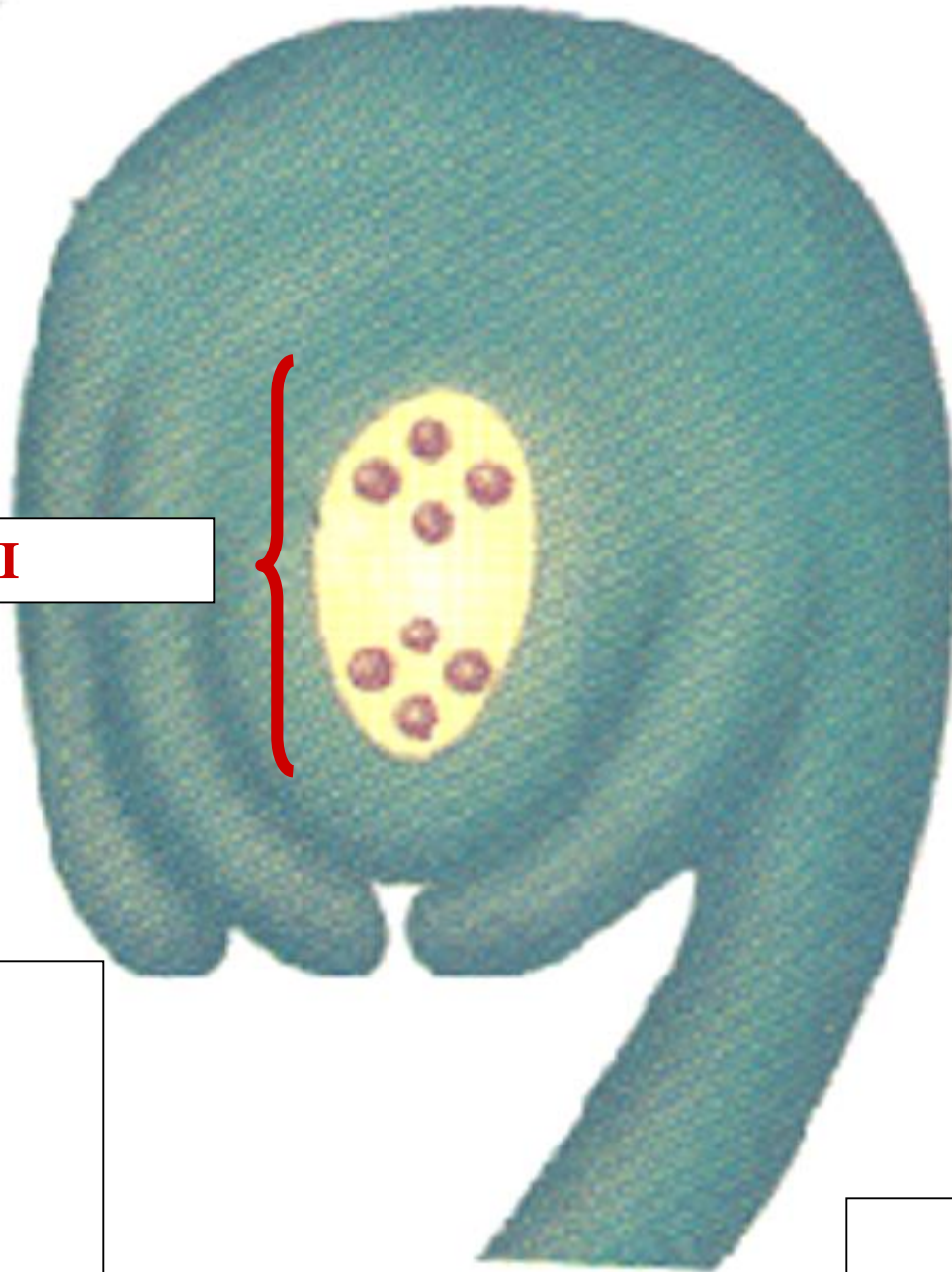
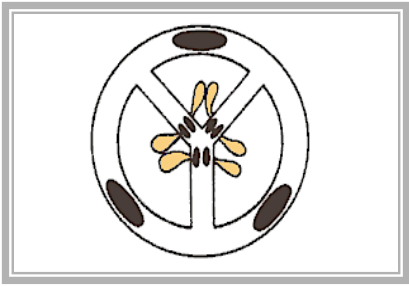


4 NUCLEI

**POST
2ND
MITOTIC
DIVISION**

L.S.

OVULE



8 NUCLEI

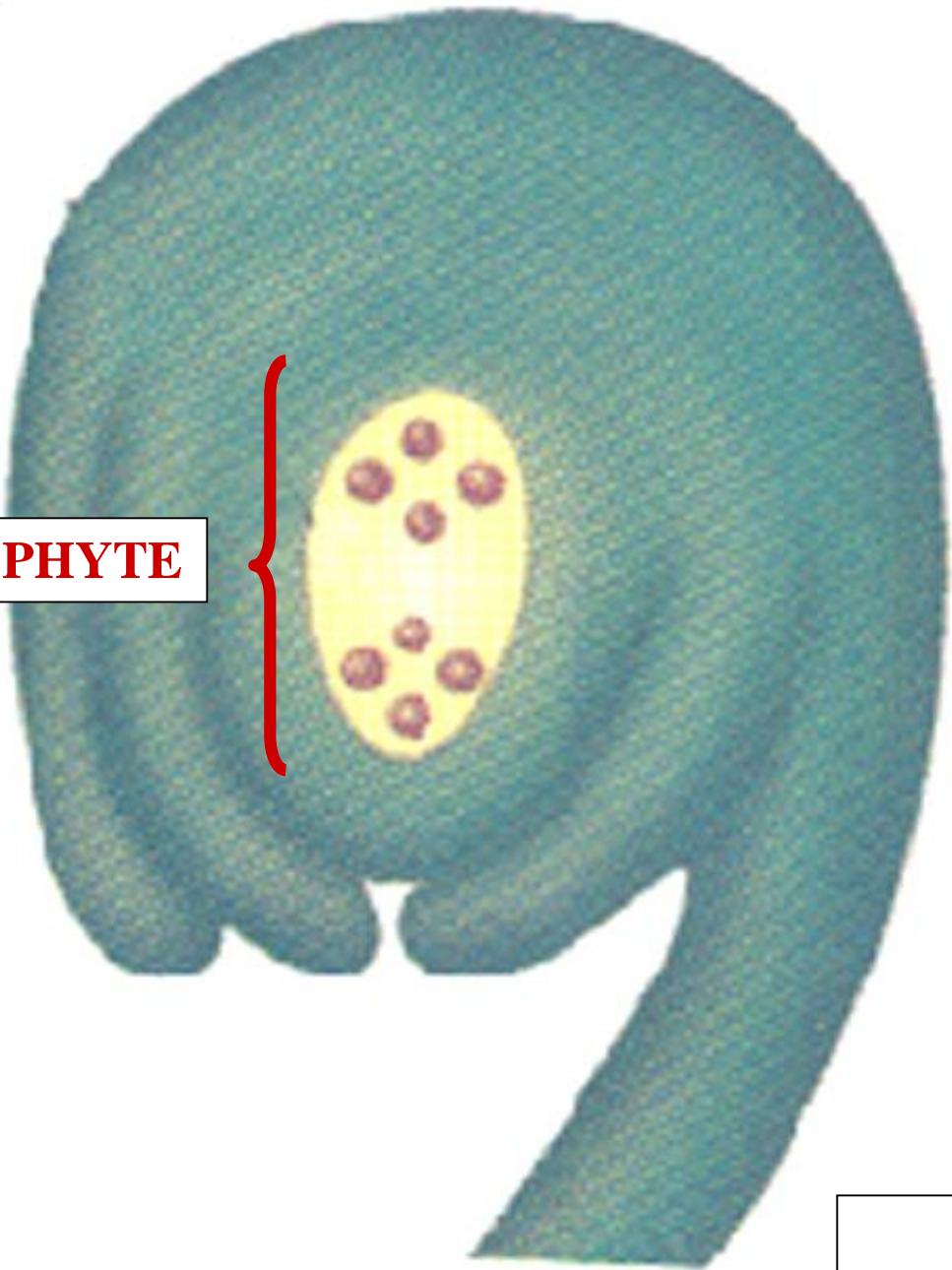
**POST
3RD
MITOTIC
DIVISION**

L.S.

OVULE

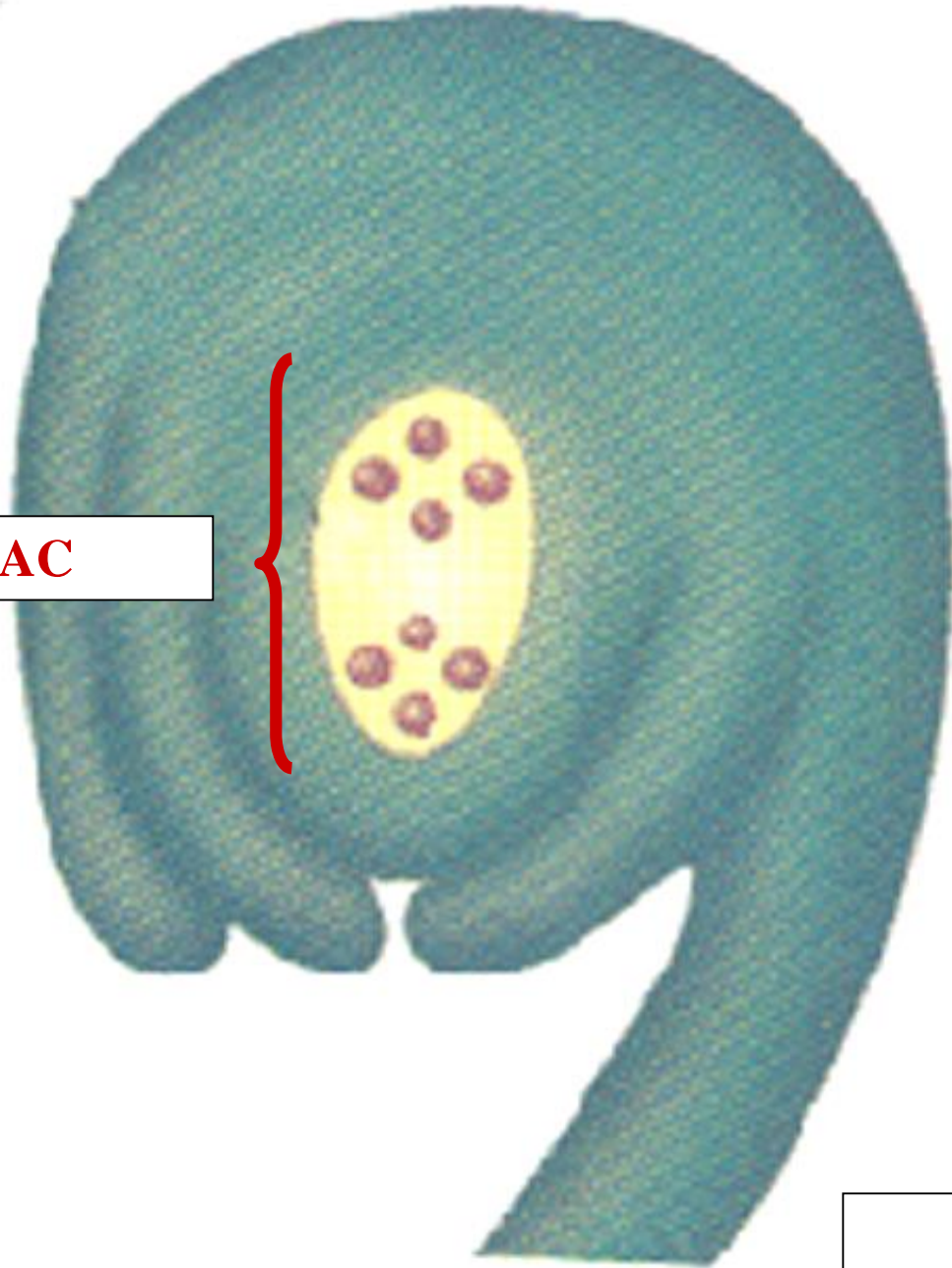
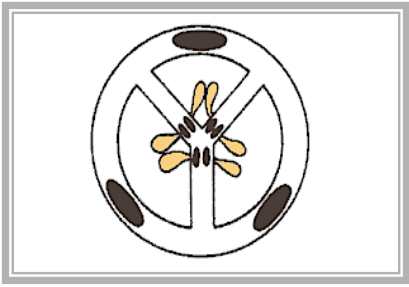


MEGAGAMETOPHYTE



L.S.

OVULE



EMBRYO SAC

L.S.

OVULE

ANGIOSPERM OVULE

EMBRYO SAC
7 CELLS
8 NUCLEI



OVULE

L.S.



ANGIOSPERM OVULE

ARCHEGONIA ABSENT

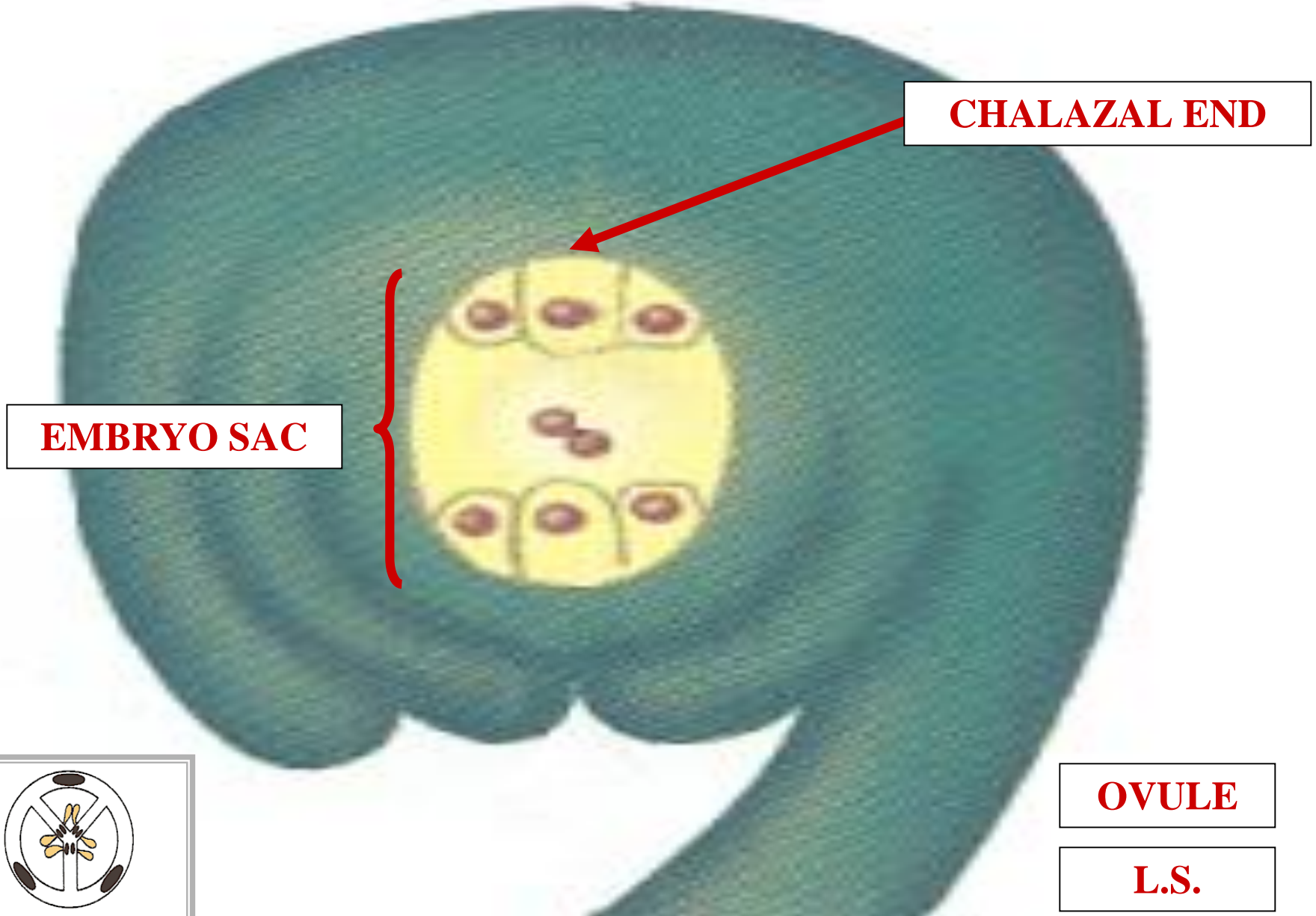
**EMBRYO SAC
7 CELLS
8 NUCLEI**



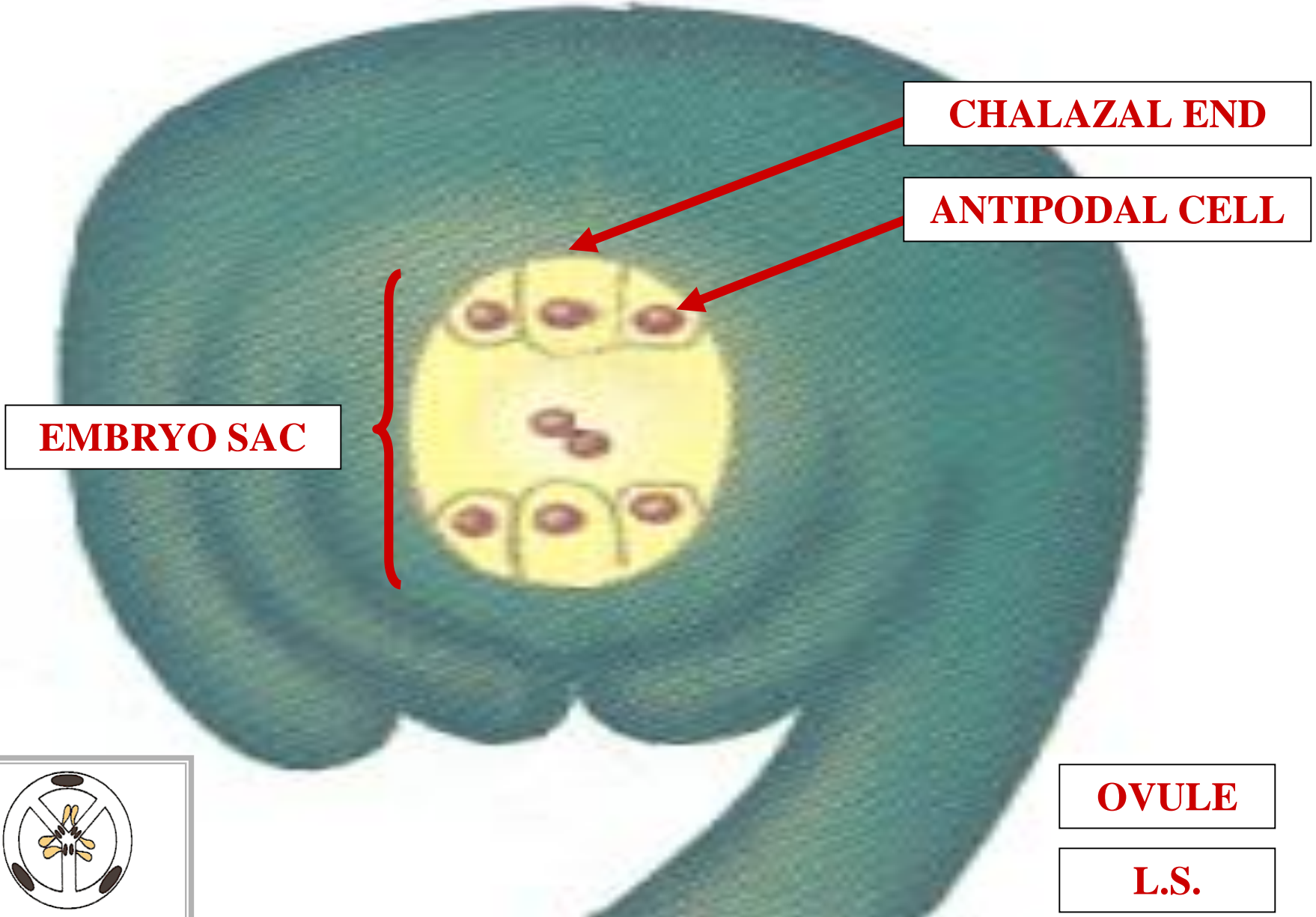
OVULE

L.S.

ANGIOSPERM OVULE



ANGIOSPERM OVULE



CHALAZAL END

ANTIPODAL CELL

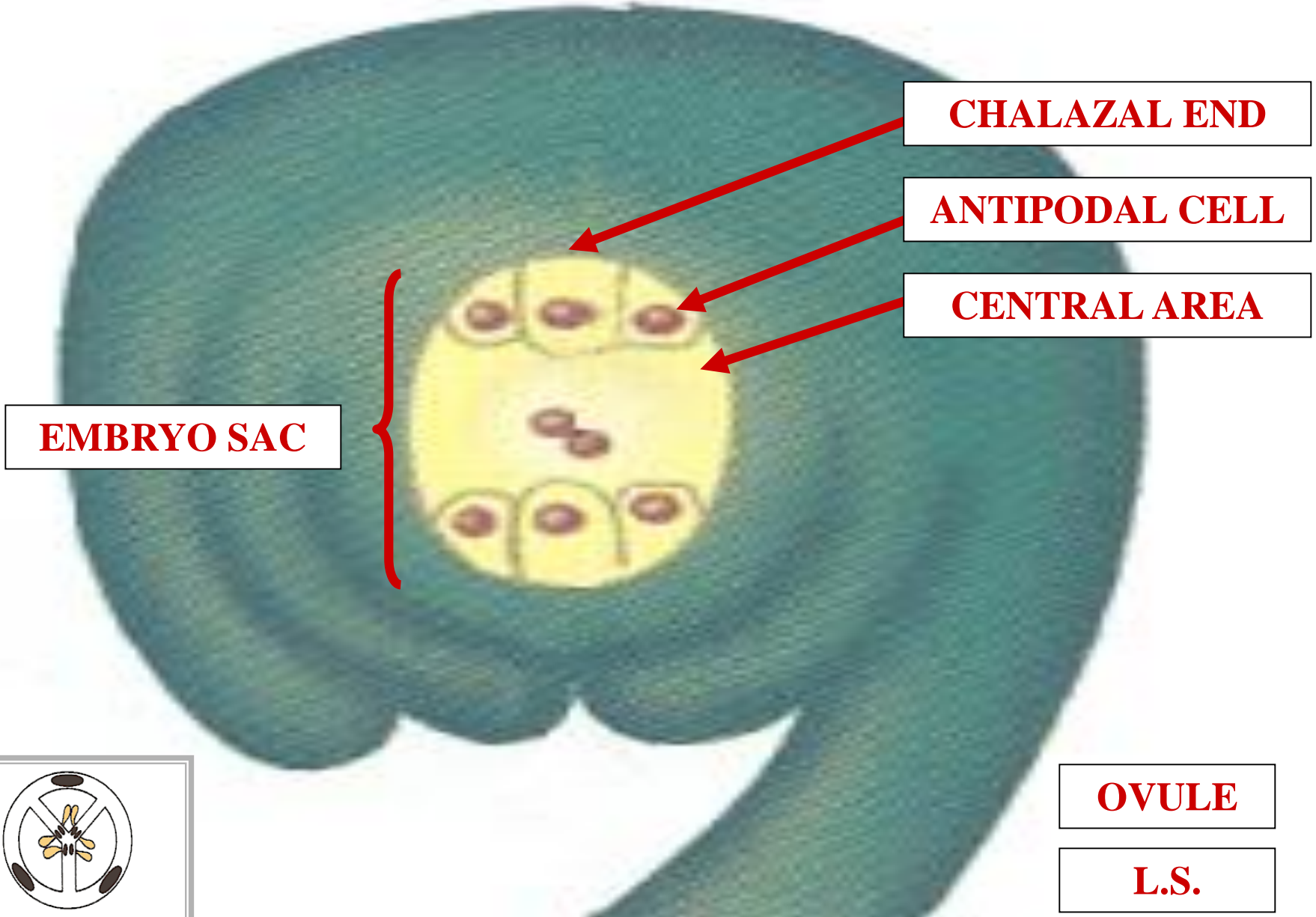
EMBRYO SAC

OVULE

L.S.



ANGIOSPERM OVULE



CHALAZAL END

ANTIPODAL CELL

CENTRAL AREA

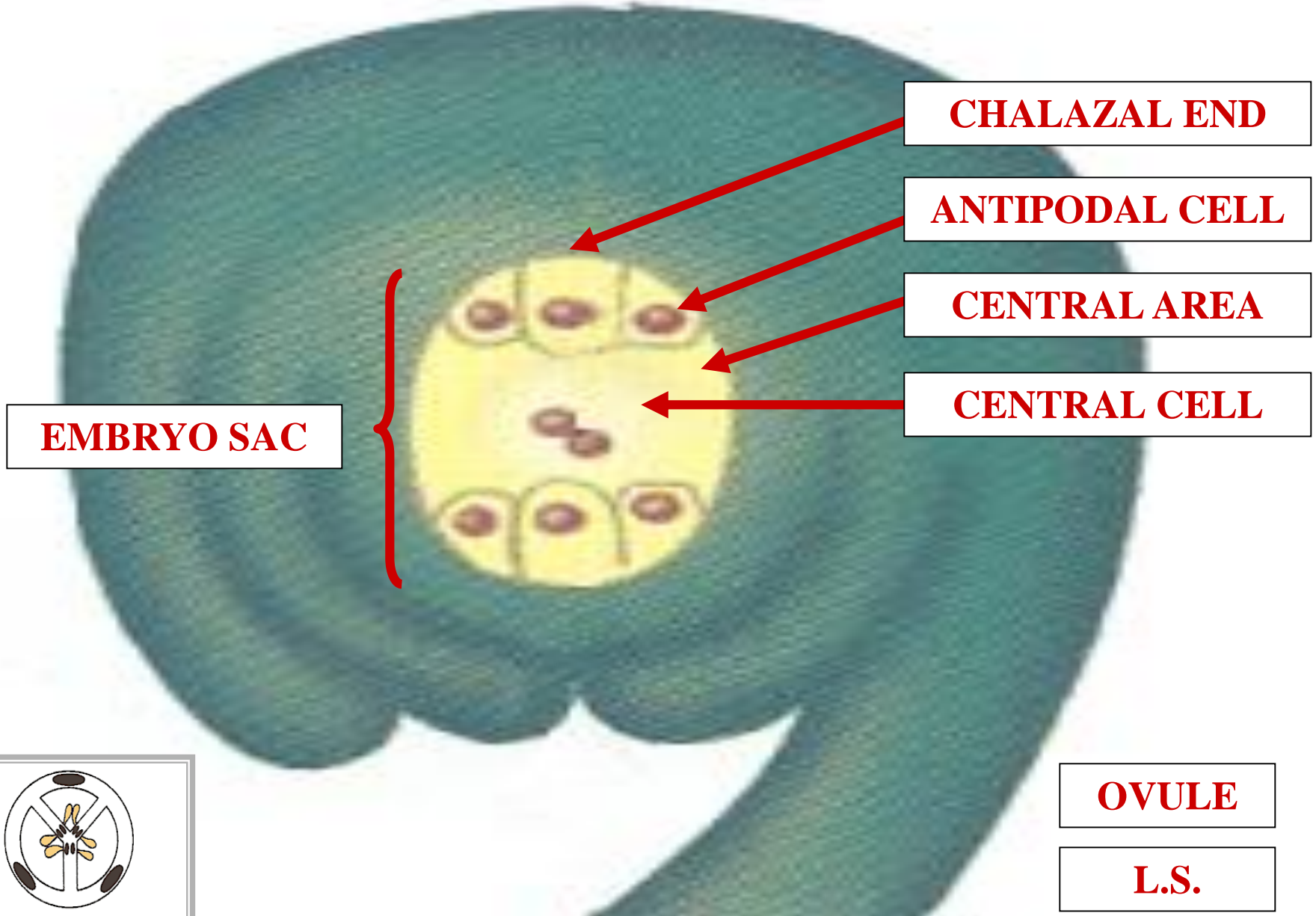
EMBRYO SAC

OVULE

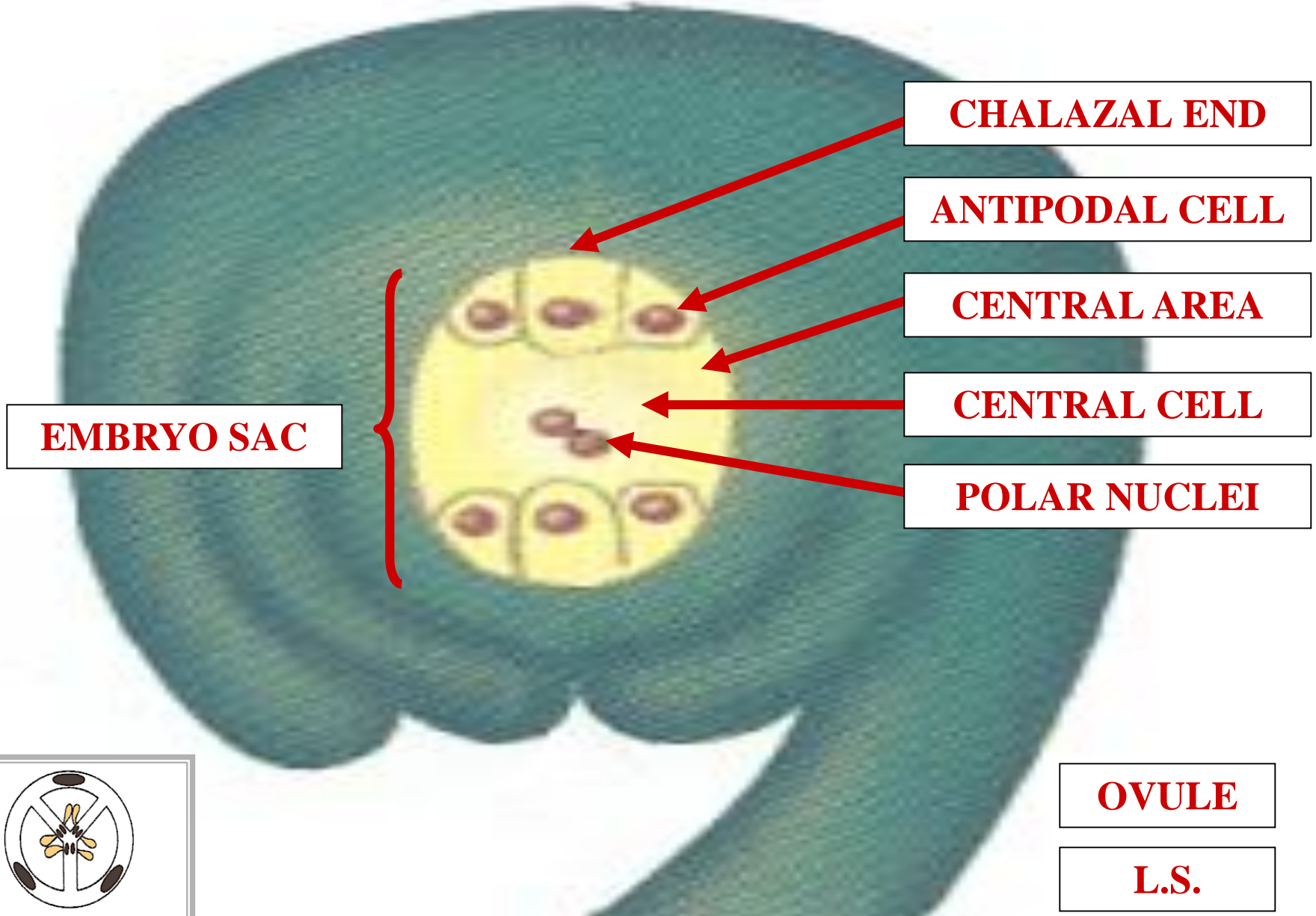
L.S.



ANGIOSPERM OVULE



ANGIOSPERM OVULE



CHALAZAL END

ANTIPODAL CELL

CENTRAL AREA

CENTRAL CELL

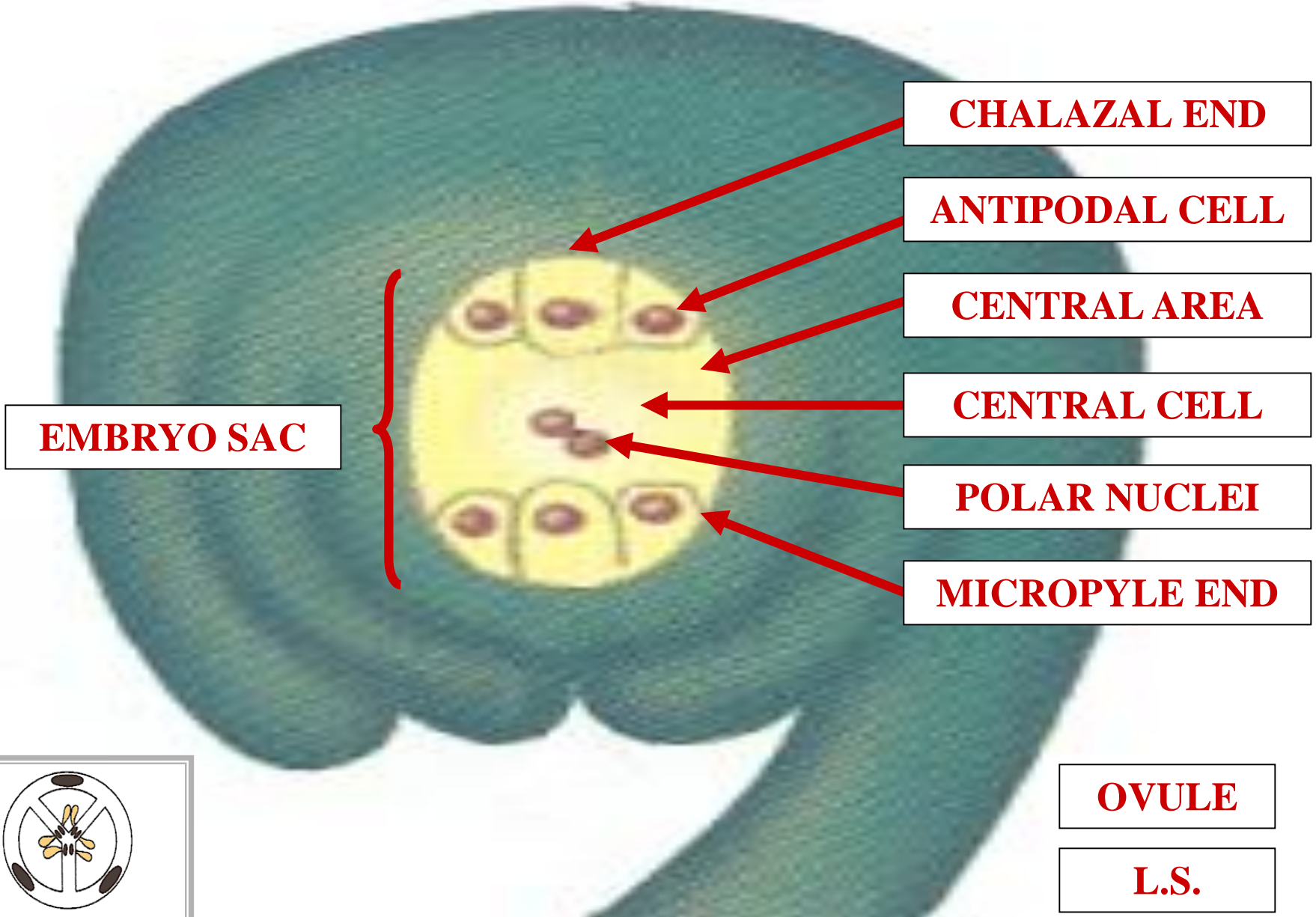
POLAR NUCLEI

EMBRYO SAC

OVULE

L.S.

ANGIOSPERM OVULE



CHALAZAL END

ANTIPODAL CELL

CENTRAL AREA

CENTRAL CELL

POLAR NUCLEI

MICROPYLE END

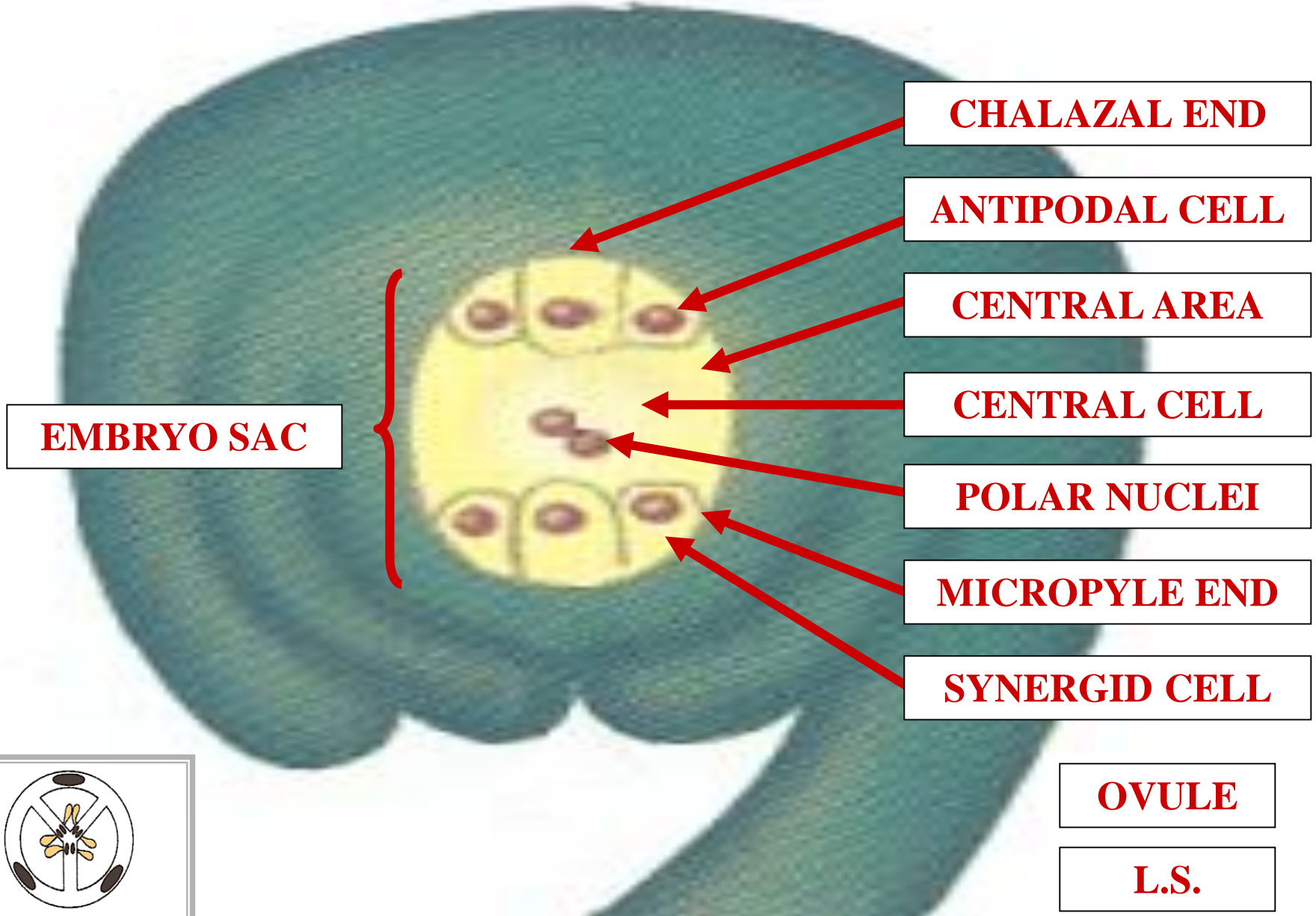
EMBRYO SAC

OVULE

L.S.



ANGIOSPERM OVULE



CHALAZAL END

ANTIPODAL CELL

CENTRAL AREA

CENTRAL CELL

POLAR NUCLEI

MICROPYLE END

SYNERGID CELL

OVULE

L.S.

MATURE EMBRYO SAC

OVULE

CHALAZAL END

ANTIPODAL CELL

CENTRAL AREA

CENTRAL CELL

POLAR NUCLEI

MICROPYLE END

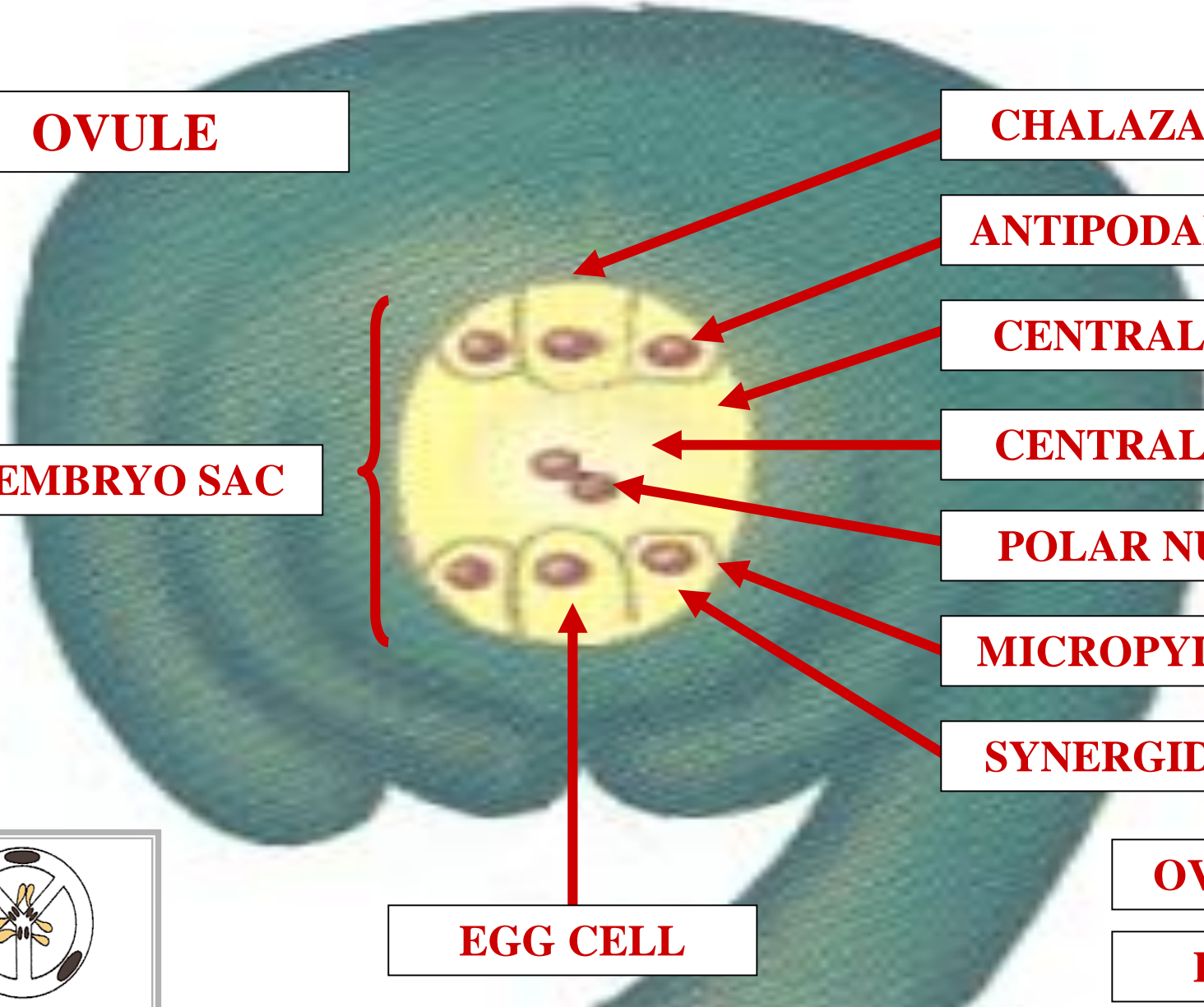
SYNERGID CELL

EMBRYO SAC

OVULE

L.S.

EGG CELL



POLLINATION



POLLINATION



PLANT 1



PLANT 2



= POLLEN GRAIN



PLANT 1



PLANT 2

 = **POLLEN GRAIN**



PLANT 1



PLANT 2

 = **POLLEN GRAIN**

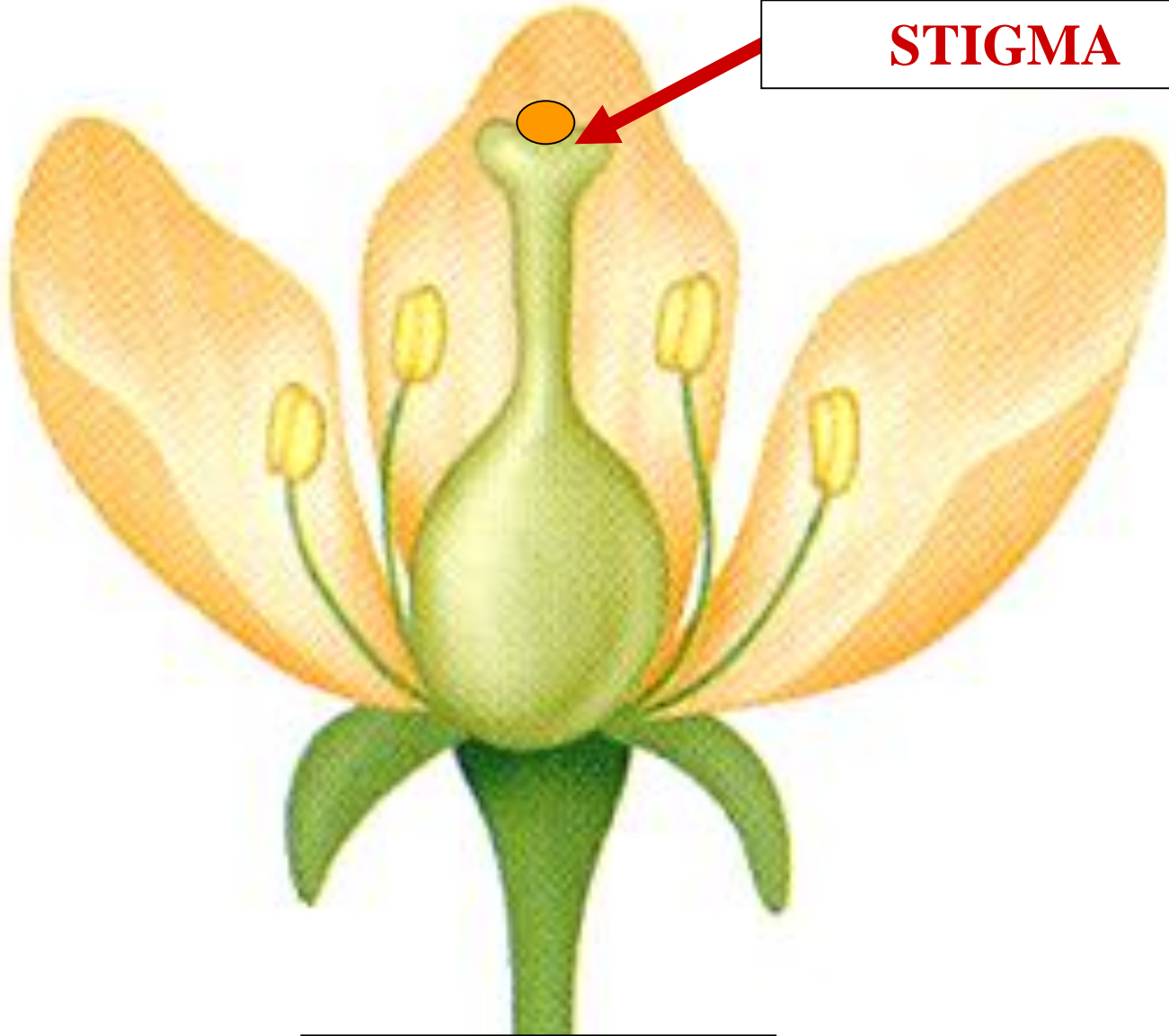


PLANT 1



PLANT 2

 = **POLLEN GRAIN**

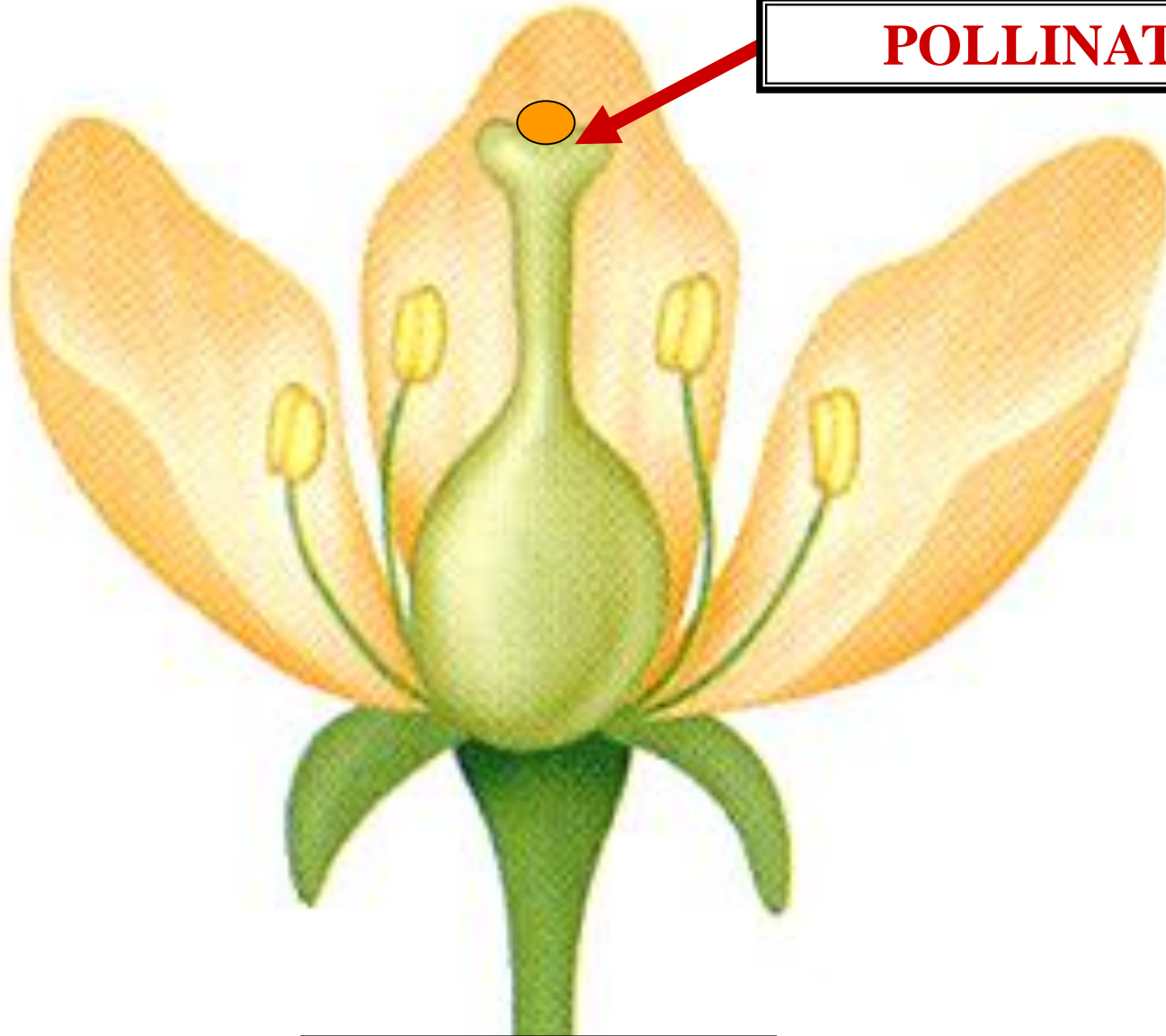


STIGMA

FLOWER

● = POLLEN GRAIN

POLLINATION



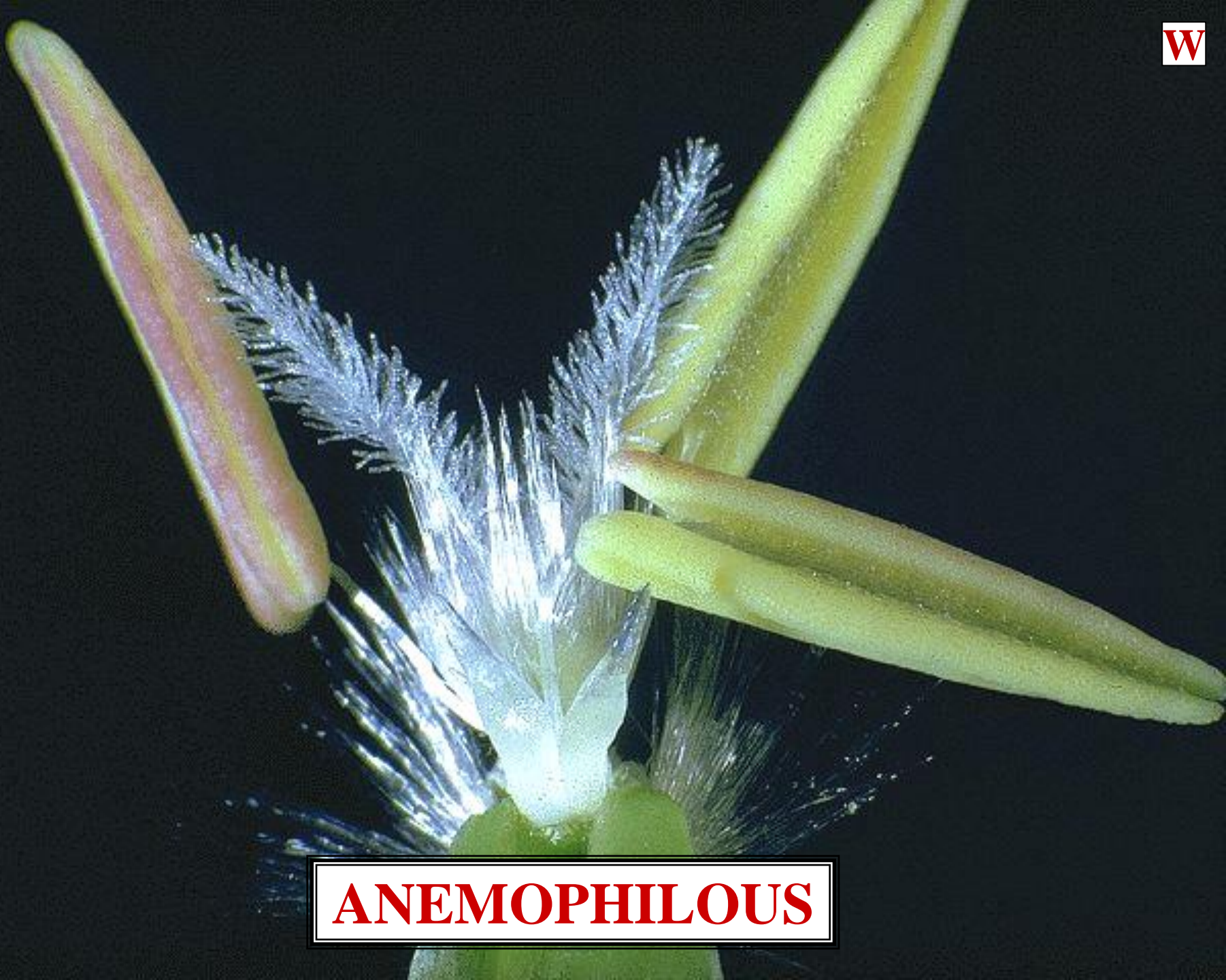
FLOWER

 = **POLLEN GRAIN**

POLLINATION VECTORS



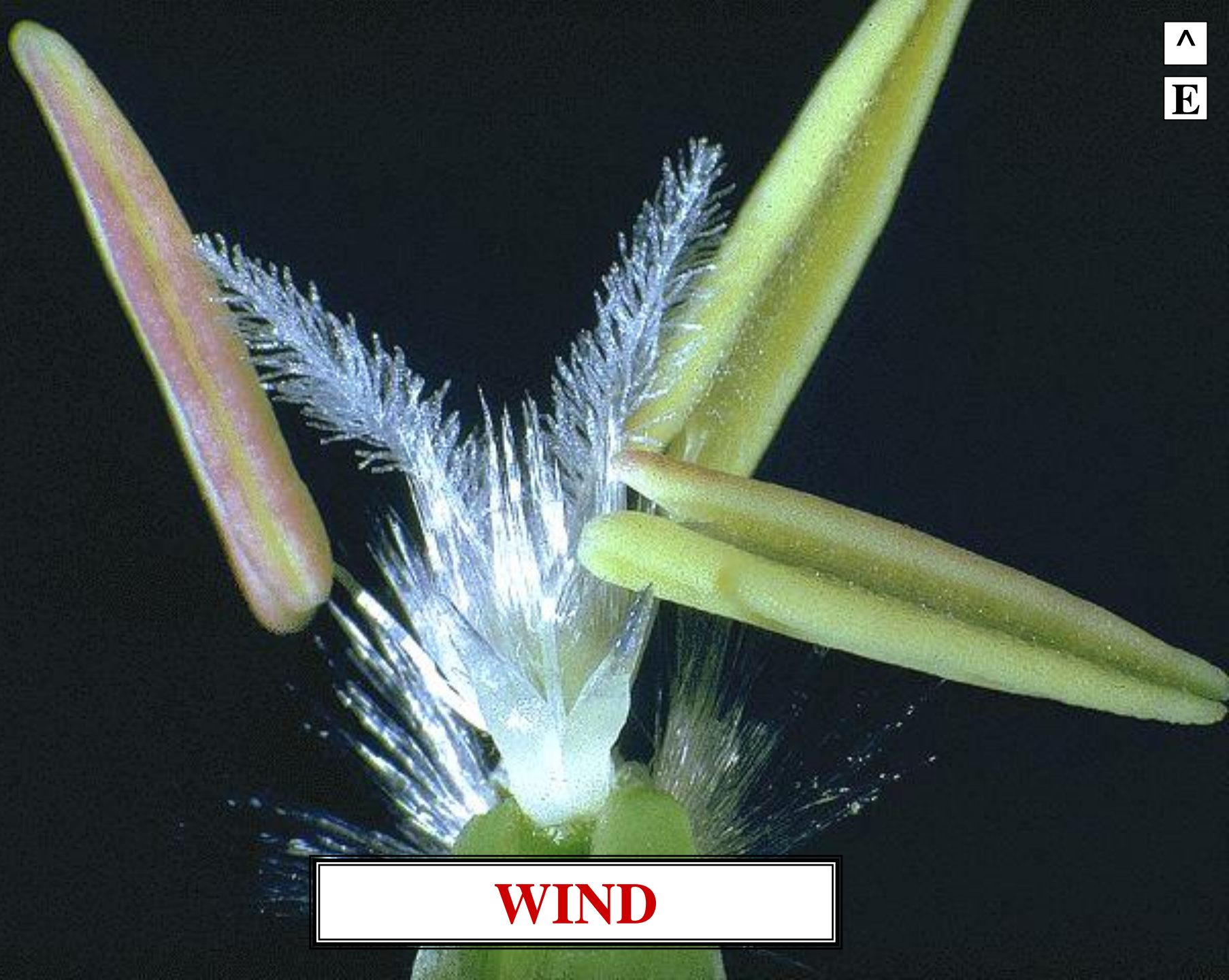
ANEMOPHILOUS POLLINATION



ANEMOPHILOUS

^

E



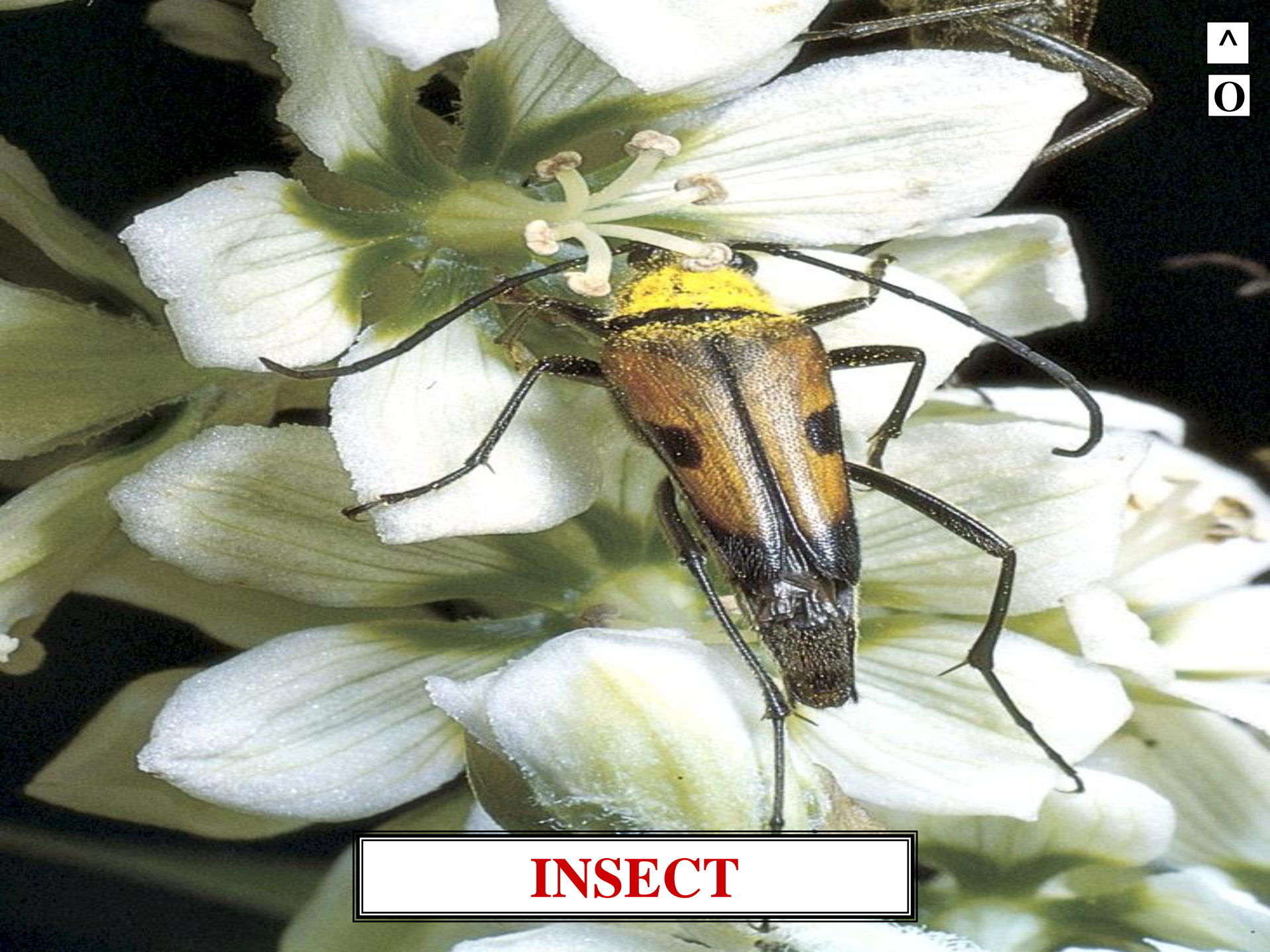
WIND



ENTOMOPHILOUS POLLINATION



ENTOMOPHILOUS



INSECT



ORNITHOPHILOUS POLLINATION



ORNITHOPHILOUS



BIRD



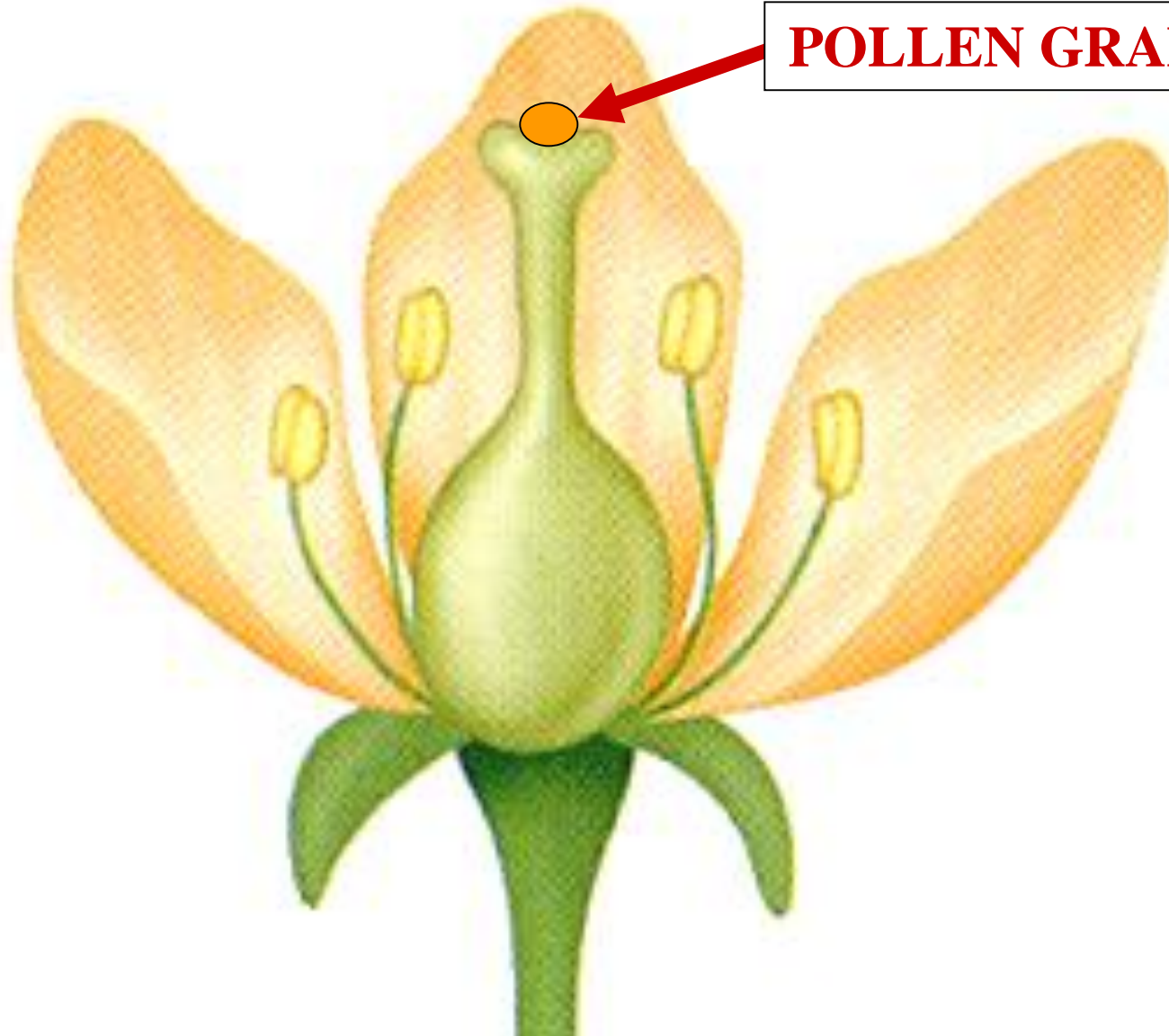
CHEIROPTEROPHILOUS POLLINATION



CHEIROPTEROPHILOUS



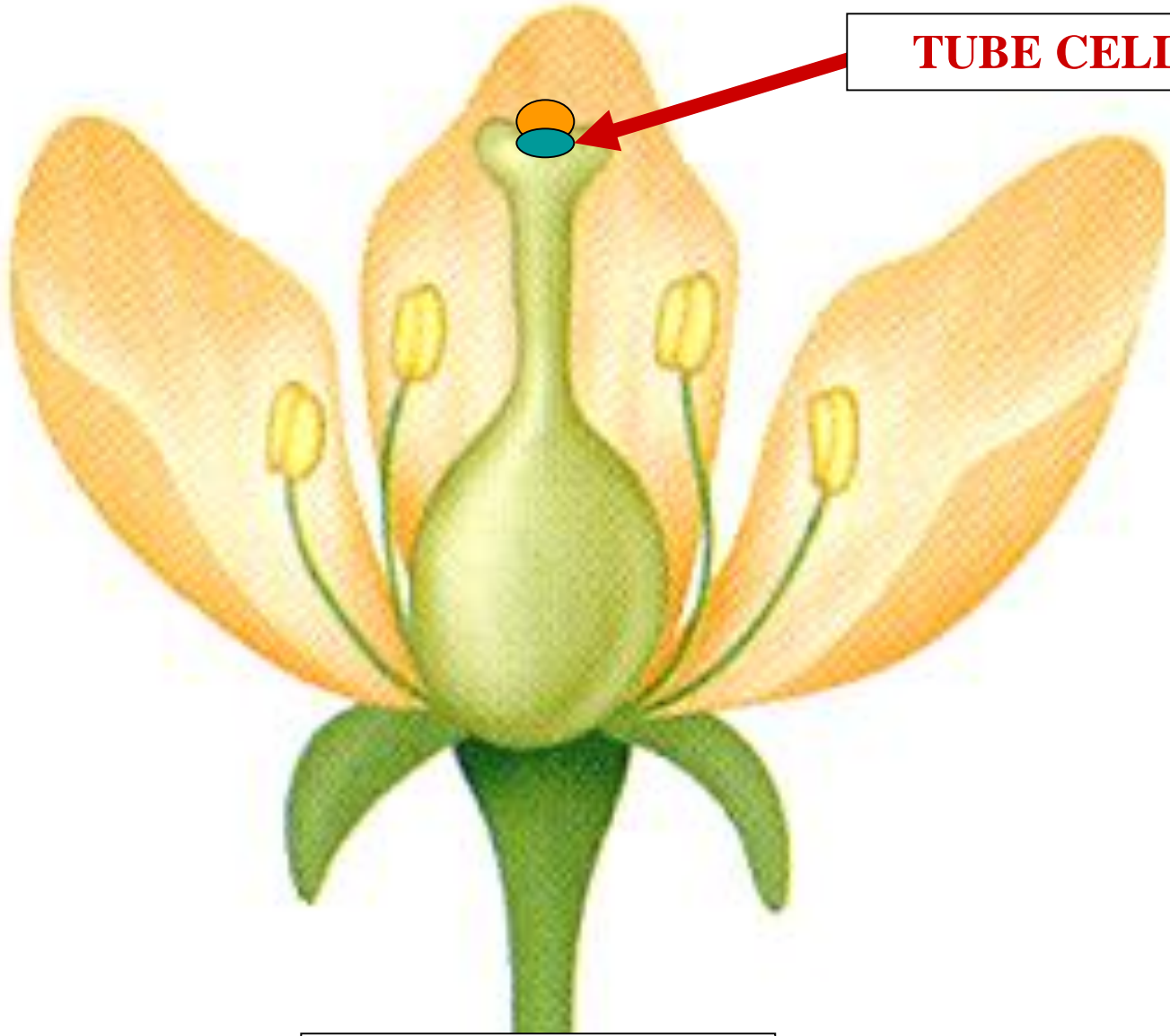
BAT



POLLEN GRAIN

FLOWER

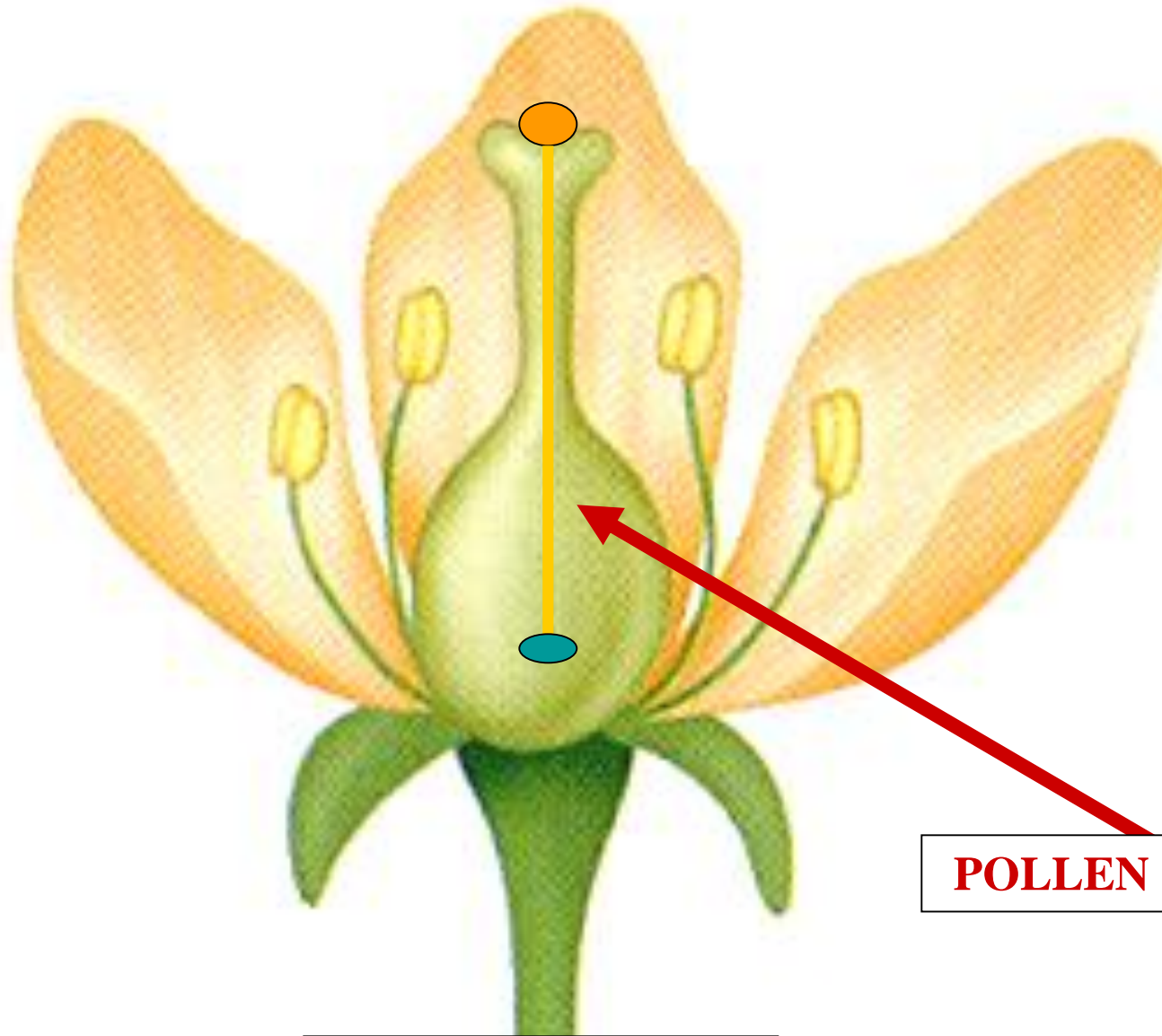
 = **POLLEN GRAIN**



TUBE CELL

FLOWER

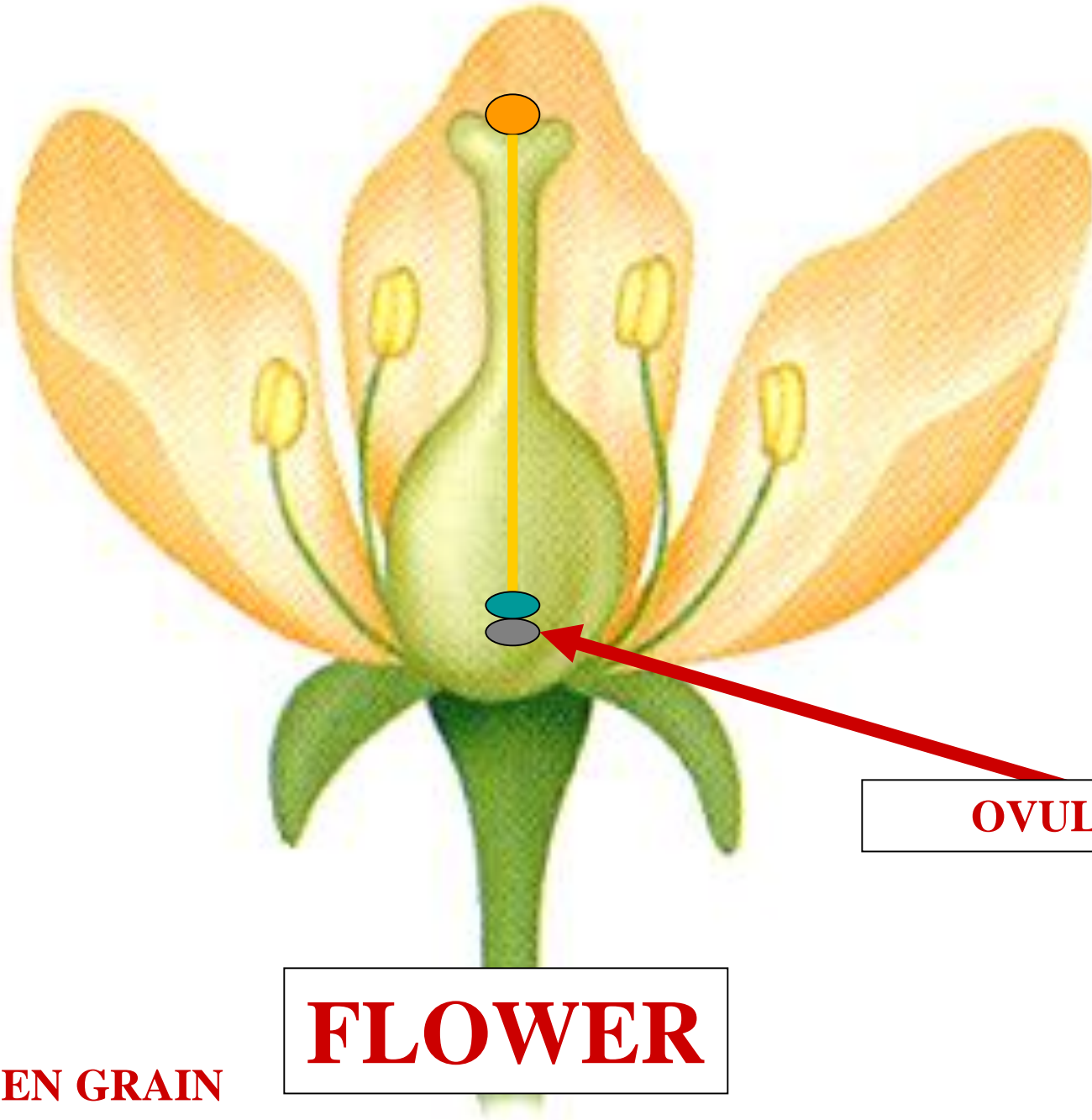
 = **POLLEN GRAIN**



POLLEN TUBE

FLOWER

● = POLLEN GRAIN



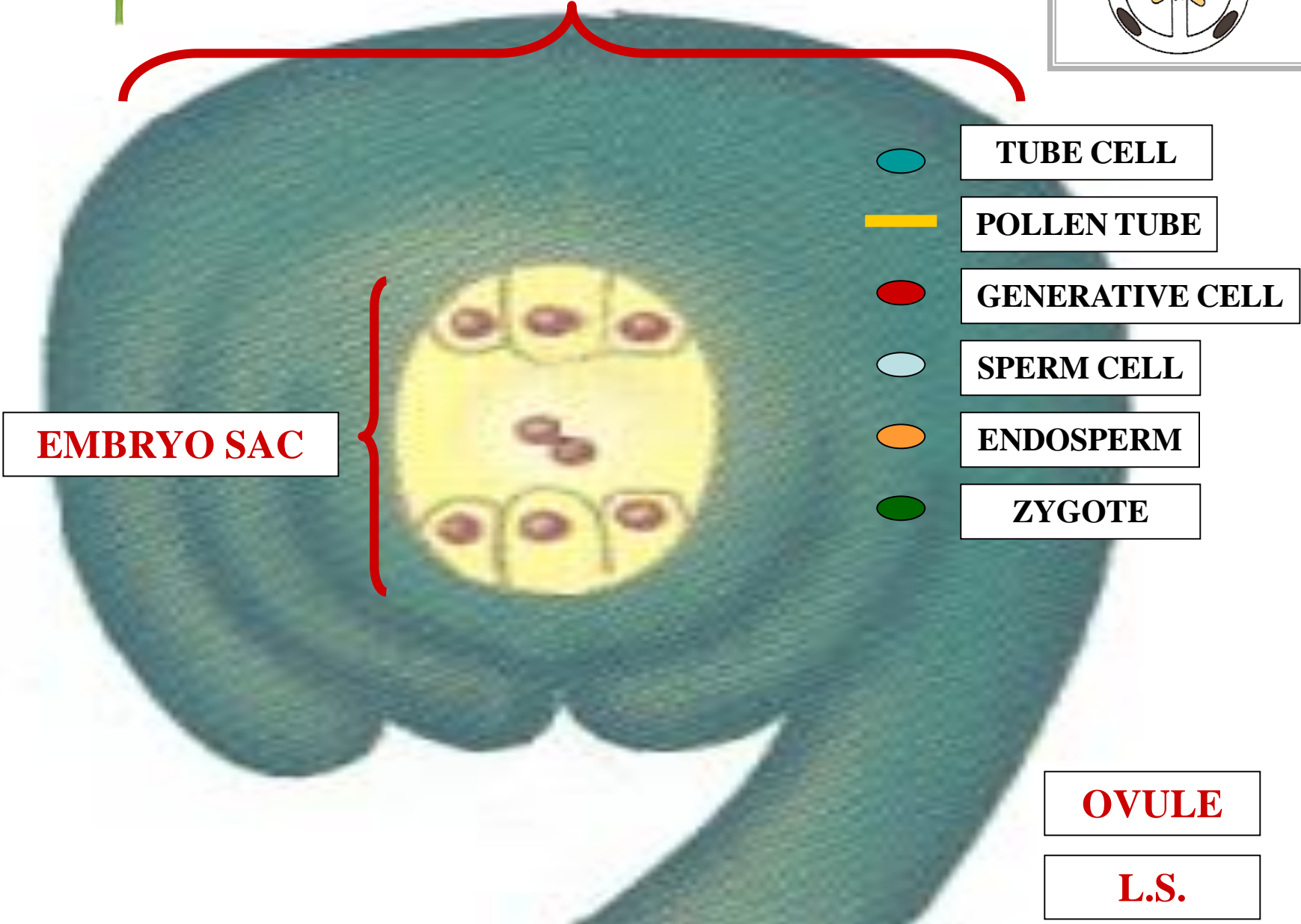
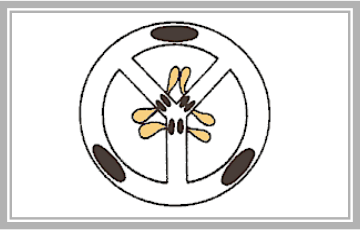
OVULE

FLOWER

 = **POLLEN GRAIN**



OVULE



EMBRYO SAC

TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

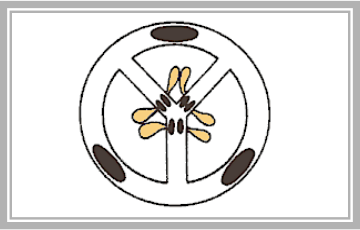
ZYGOTE

OVULE







L.S.



OVULE

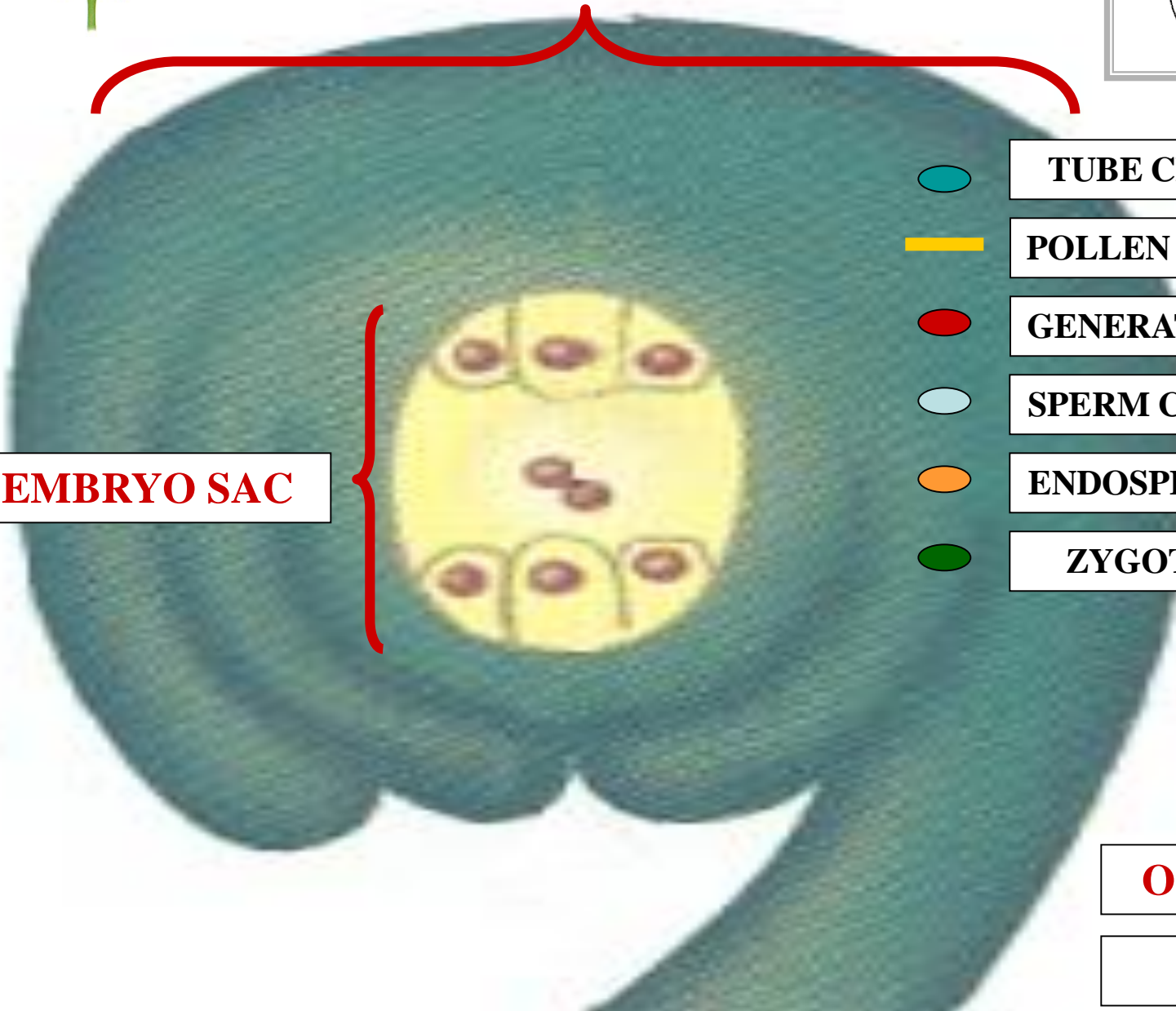


EMBRYO SAC

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

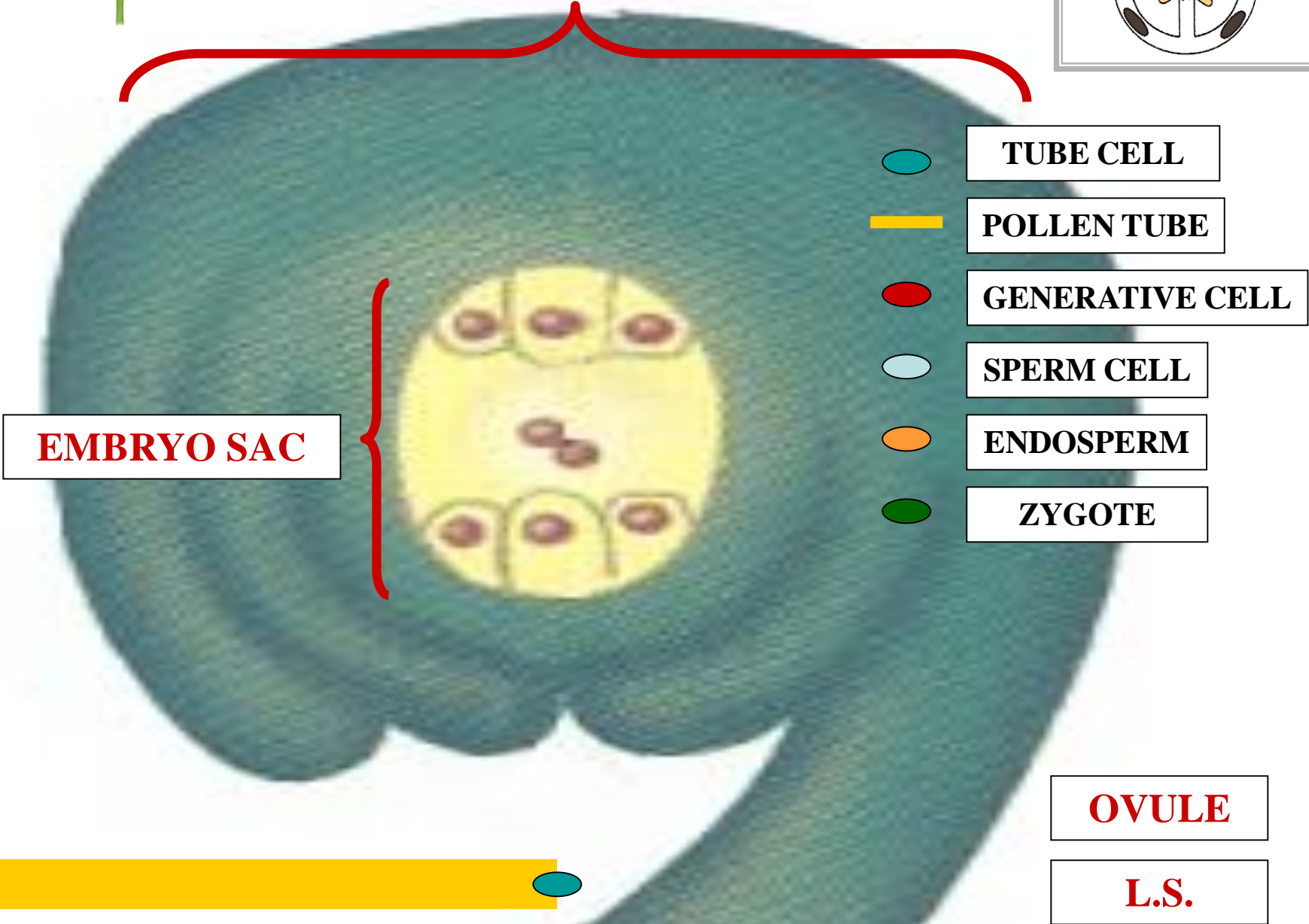
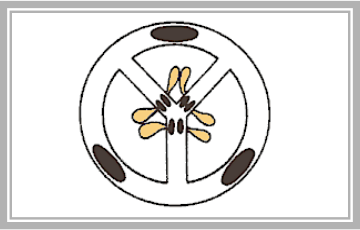
OVULE

L.S.





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

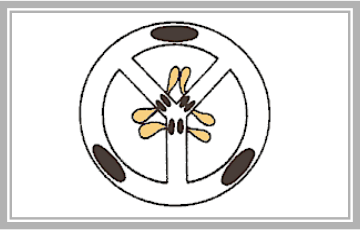
EMBRYO SAC

OVULE







L.S.



OVULE



EMBRYO SAC

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

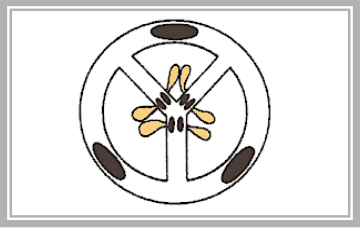
OVULE

L.S.











OVULE

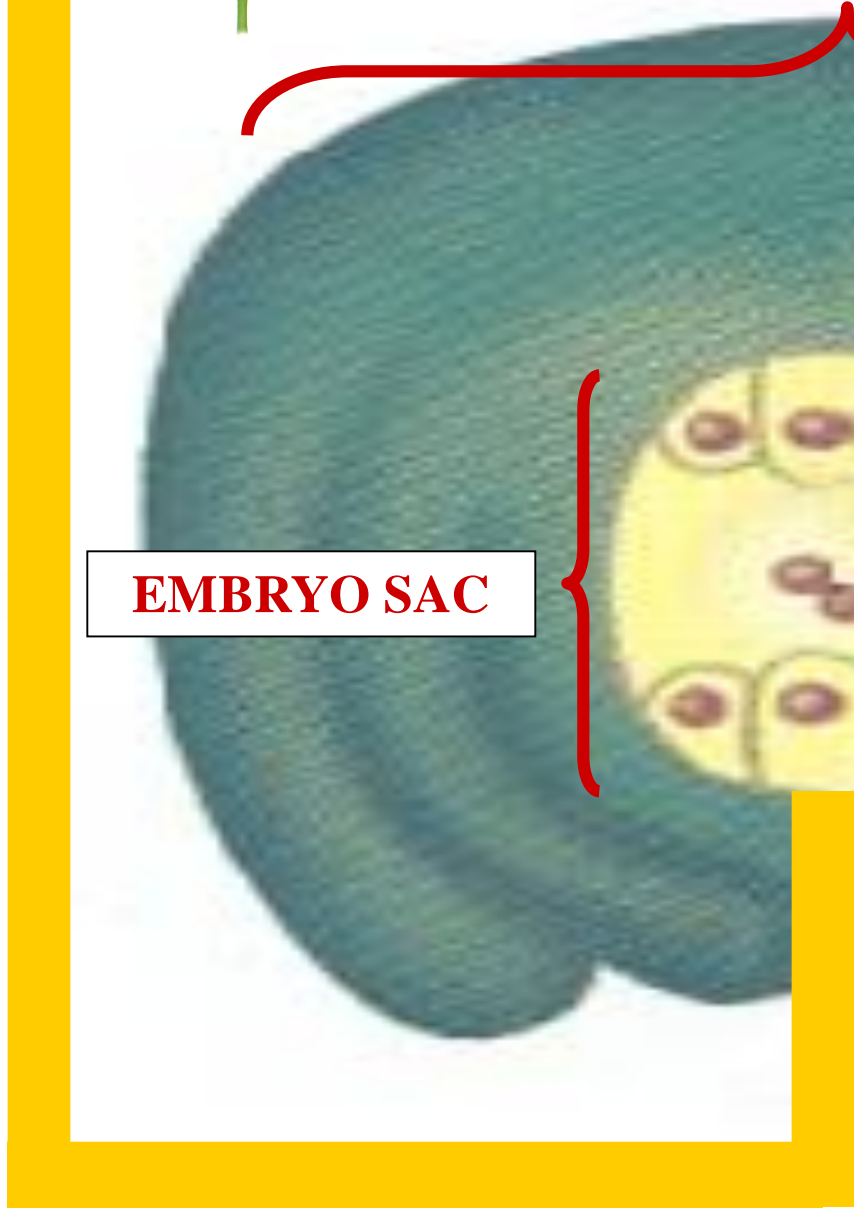


EMBRYO SAC

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

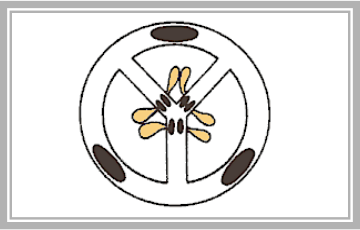
OVULE

L.S.











OVULE



EMBRYO SAC

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

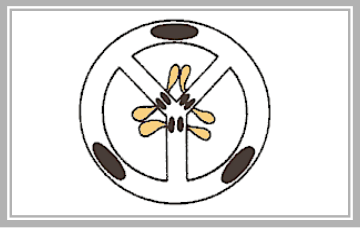
OVULE

L.S.











OVULE



EMBRYO SAC

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

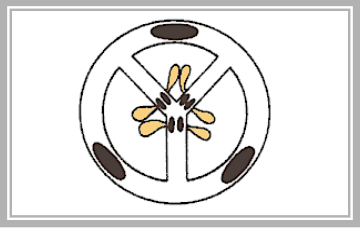
OVULE

L.S.











OVULE



EMBRYO SAC

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

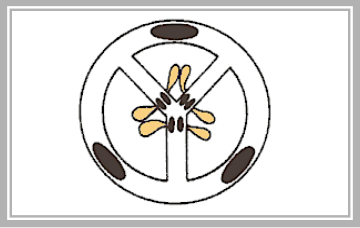
OVULE

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**

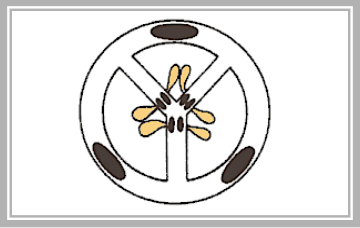
OVULE

L.S.











OVULE



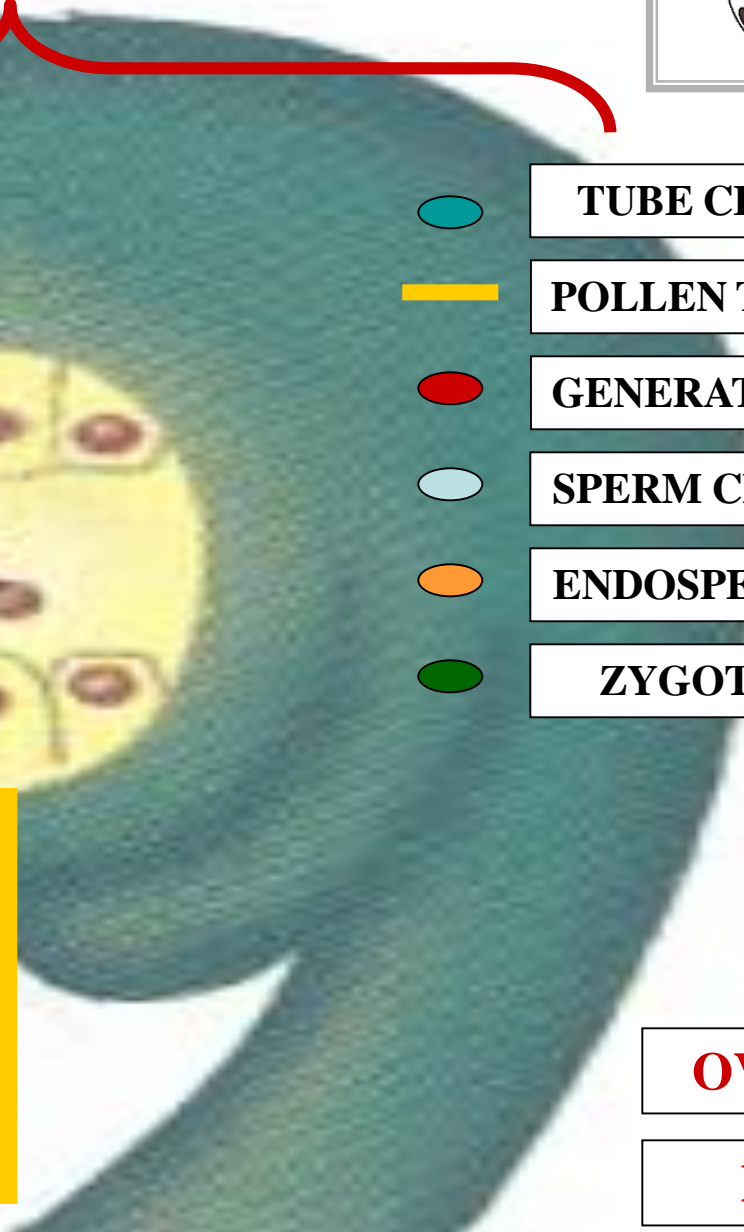
EMBRYO SAC

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

MITOSIS

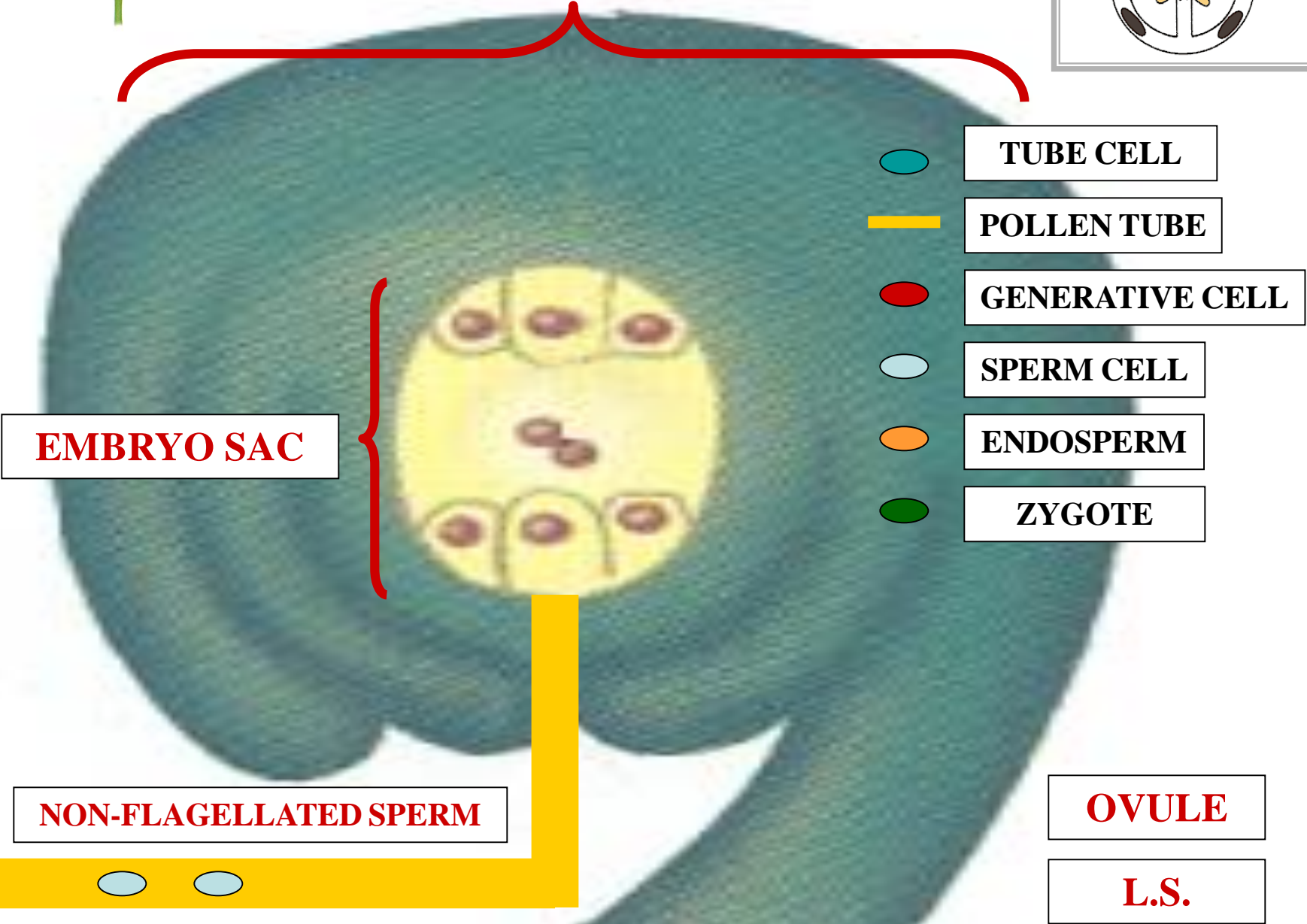
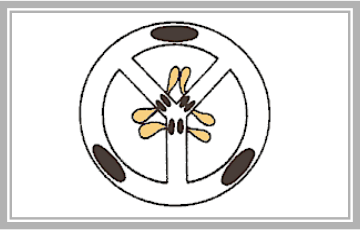
OVULE

L.S.





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

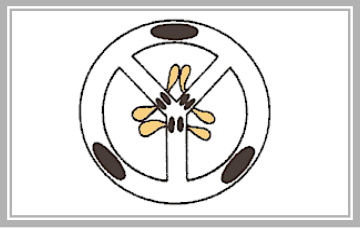
NON-FLAGELLATED SPERM

OVULE

L.S.



OVULE



EMBRYO SAC

TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

DOUBLE FERTILIZATION

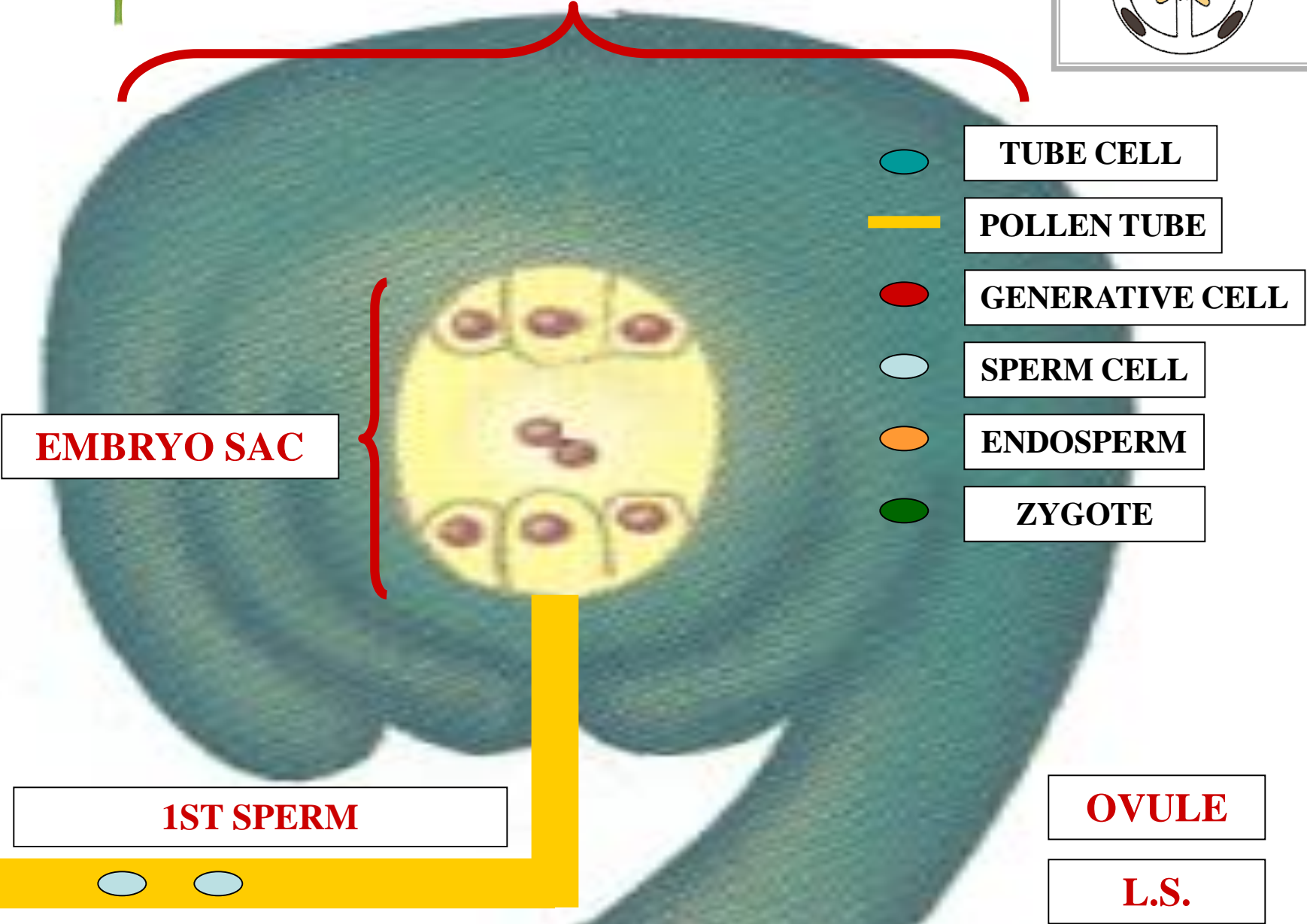
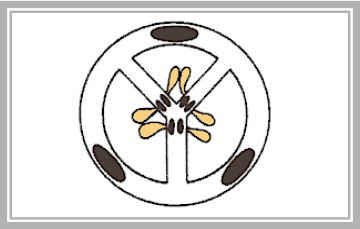
OVULE

L.S.





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

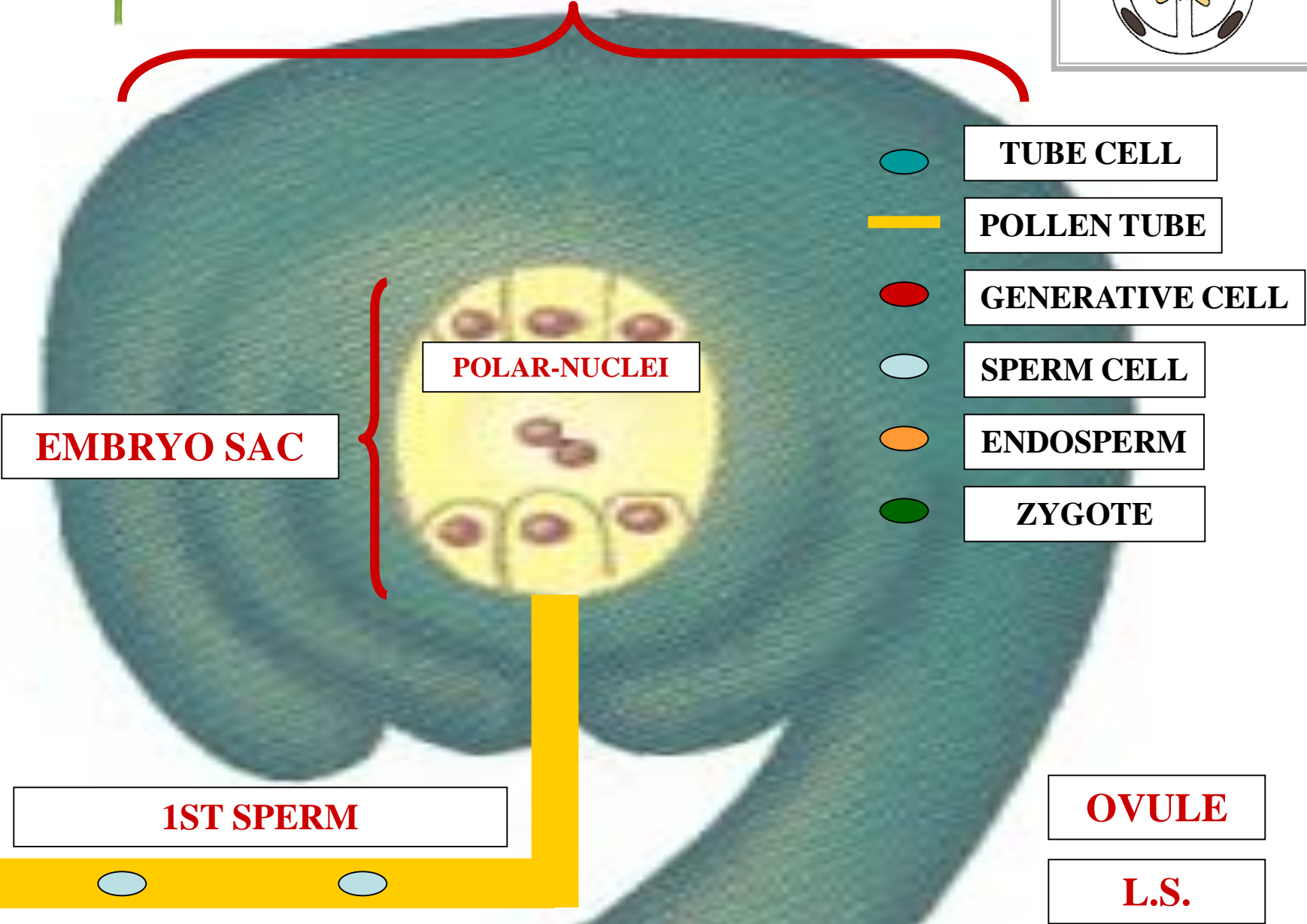
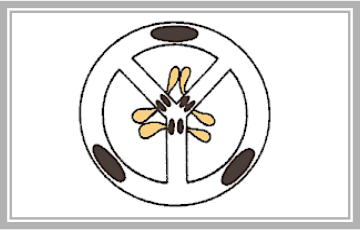
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

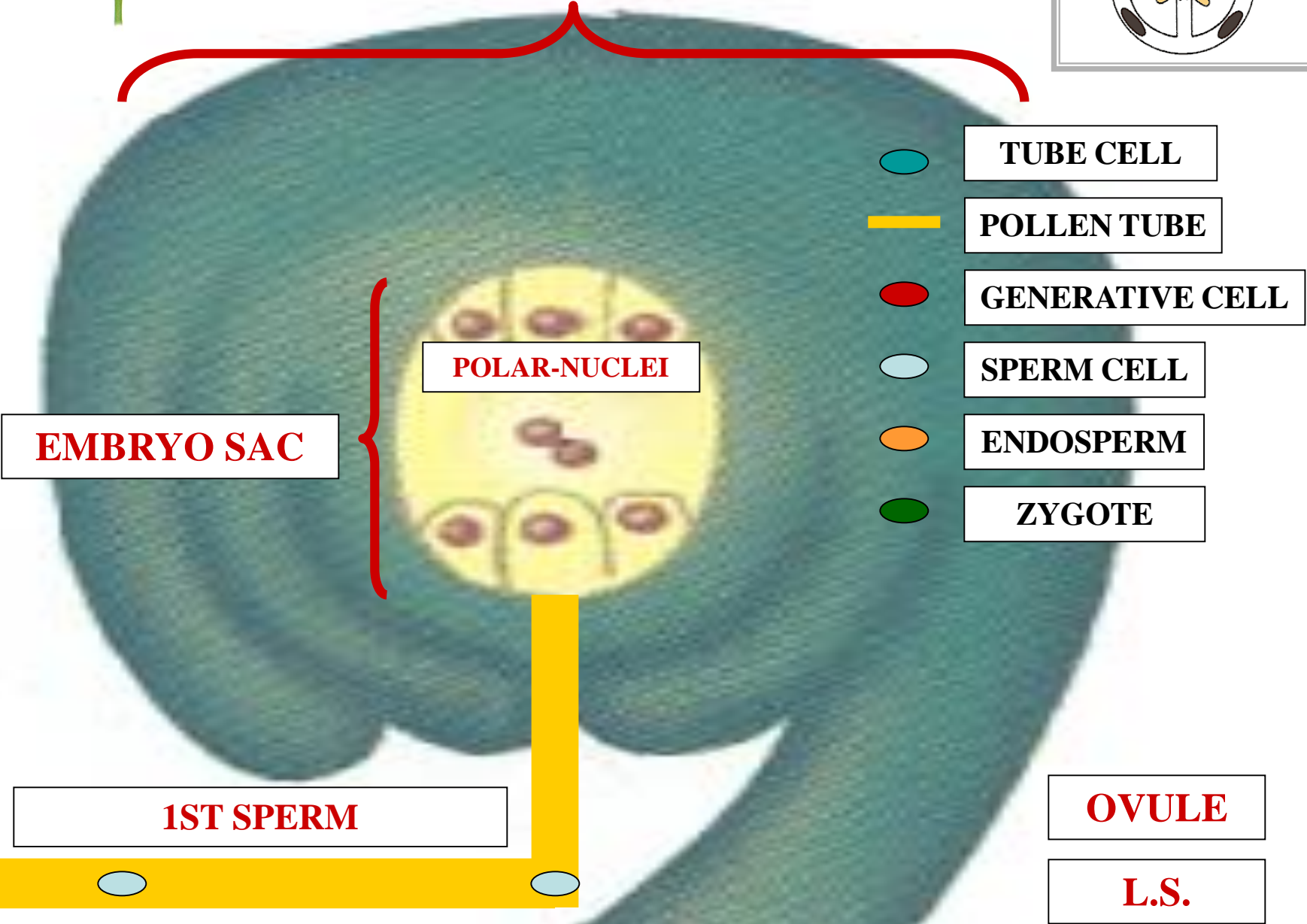
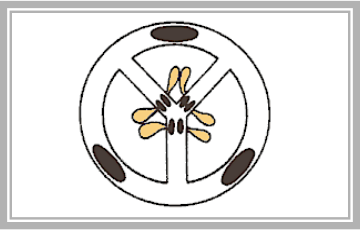
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

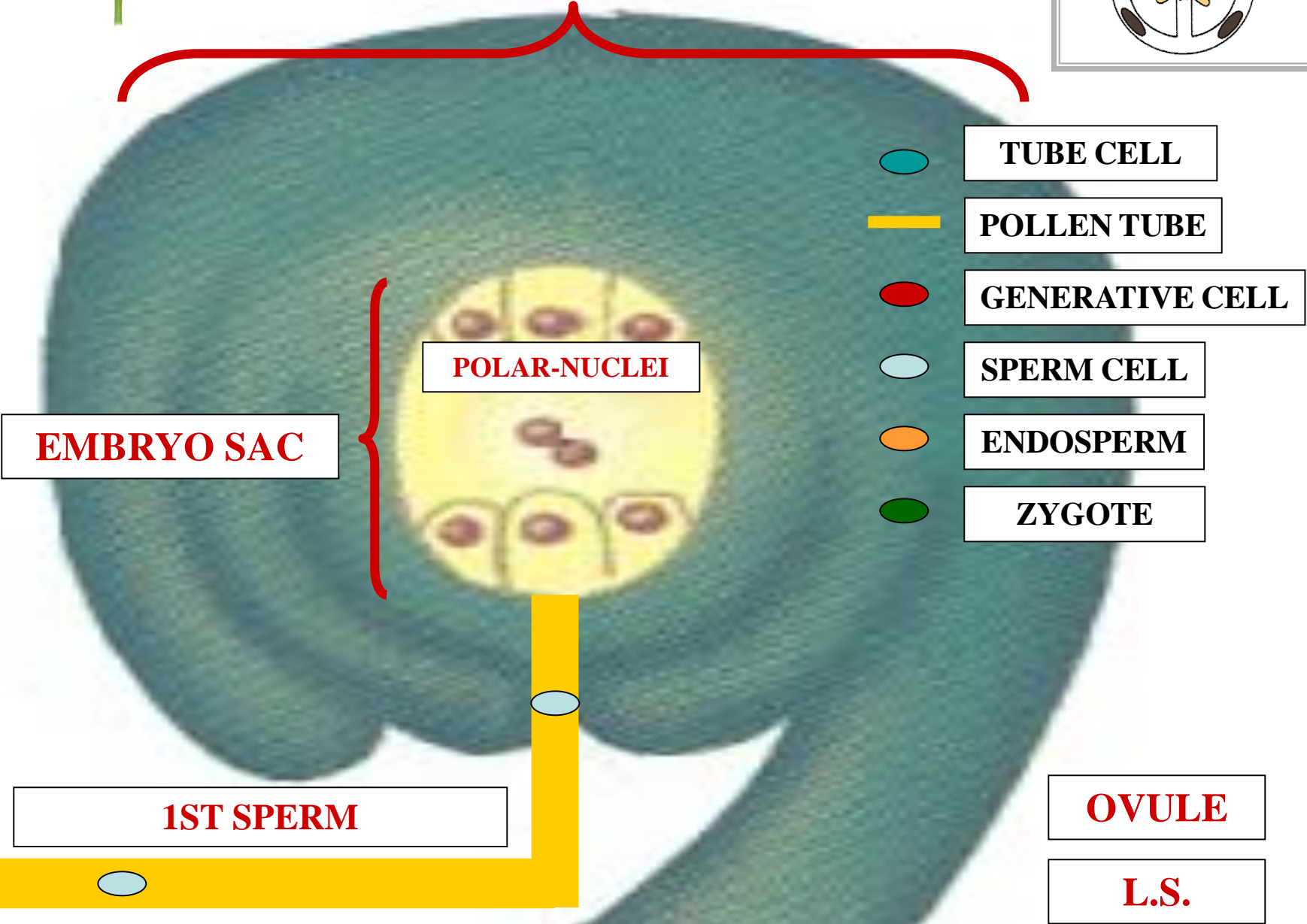
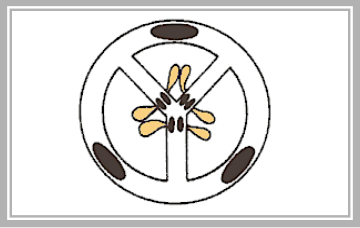
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

POLAR-NUCLEI

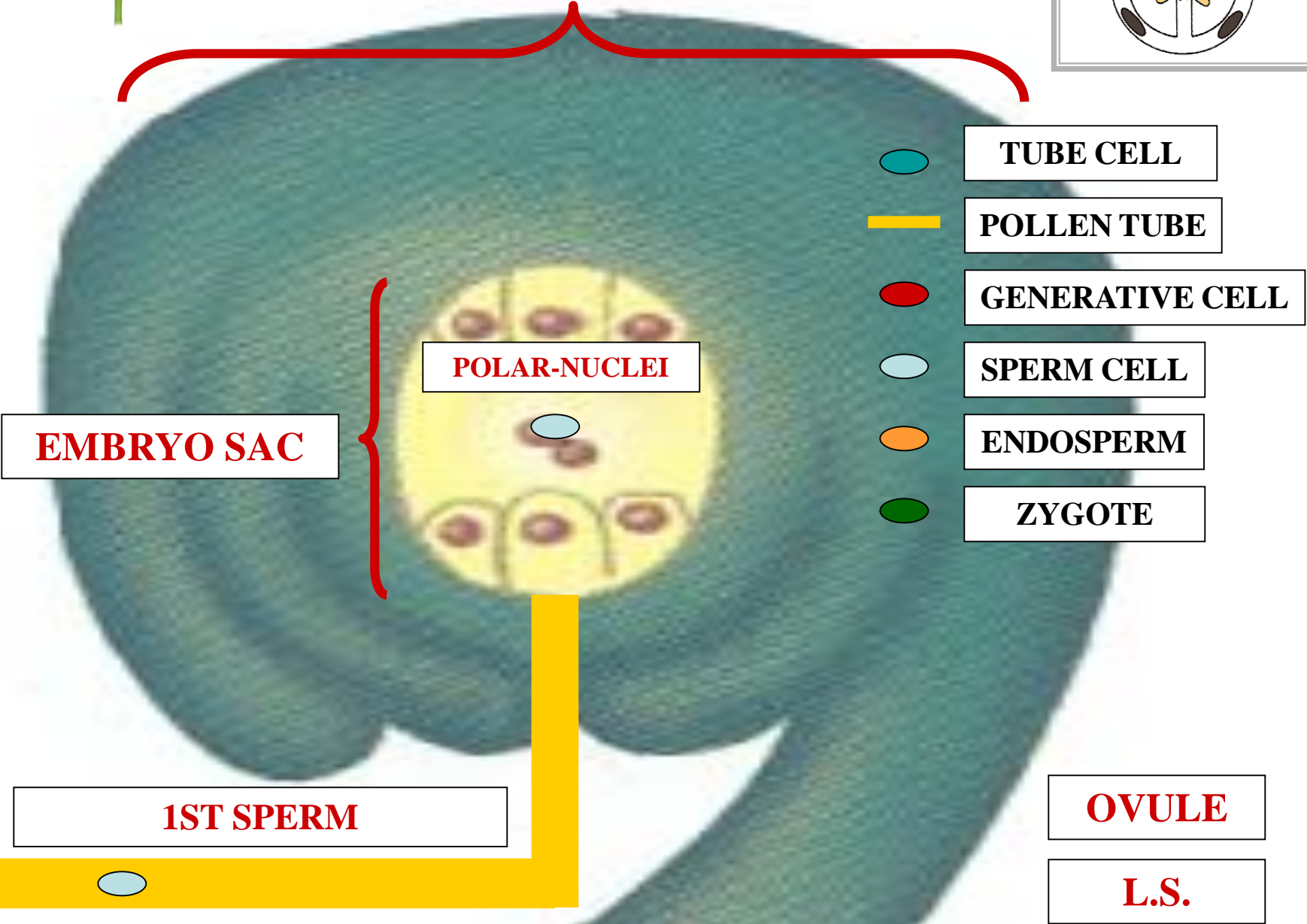
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

POLAR-NUCLEI

EMBRYO SAC

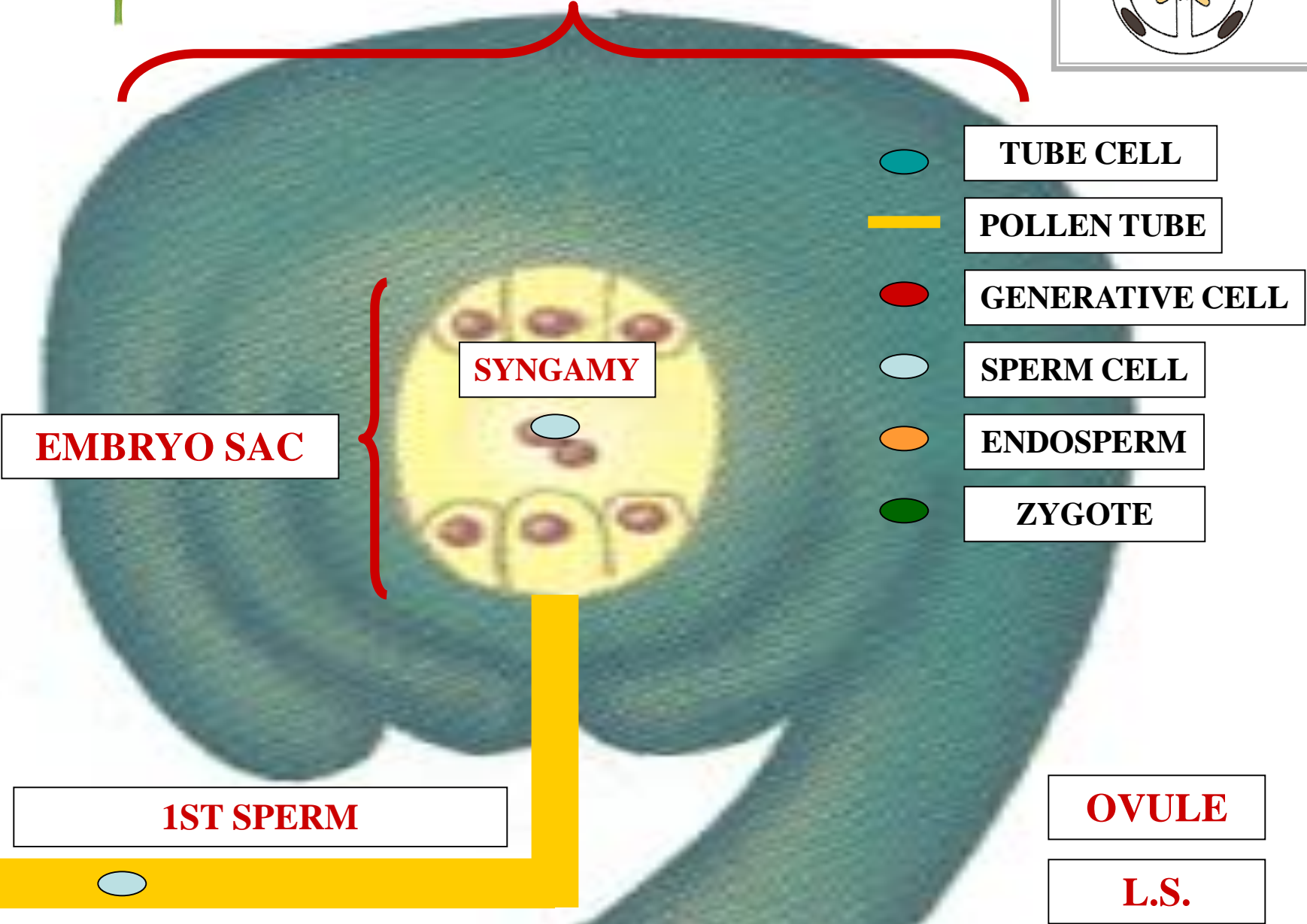
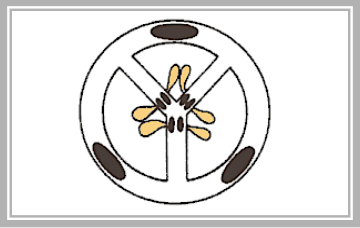
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

SYNGAMY

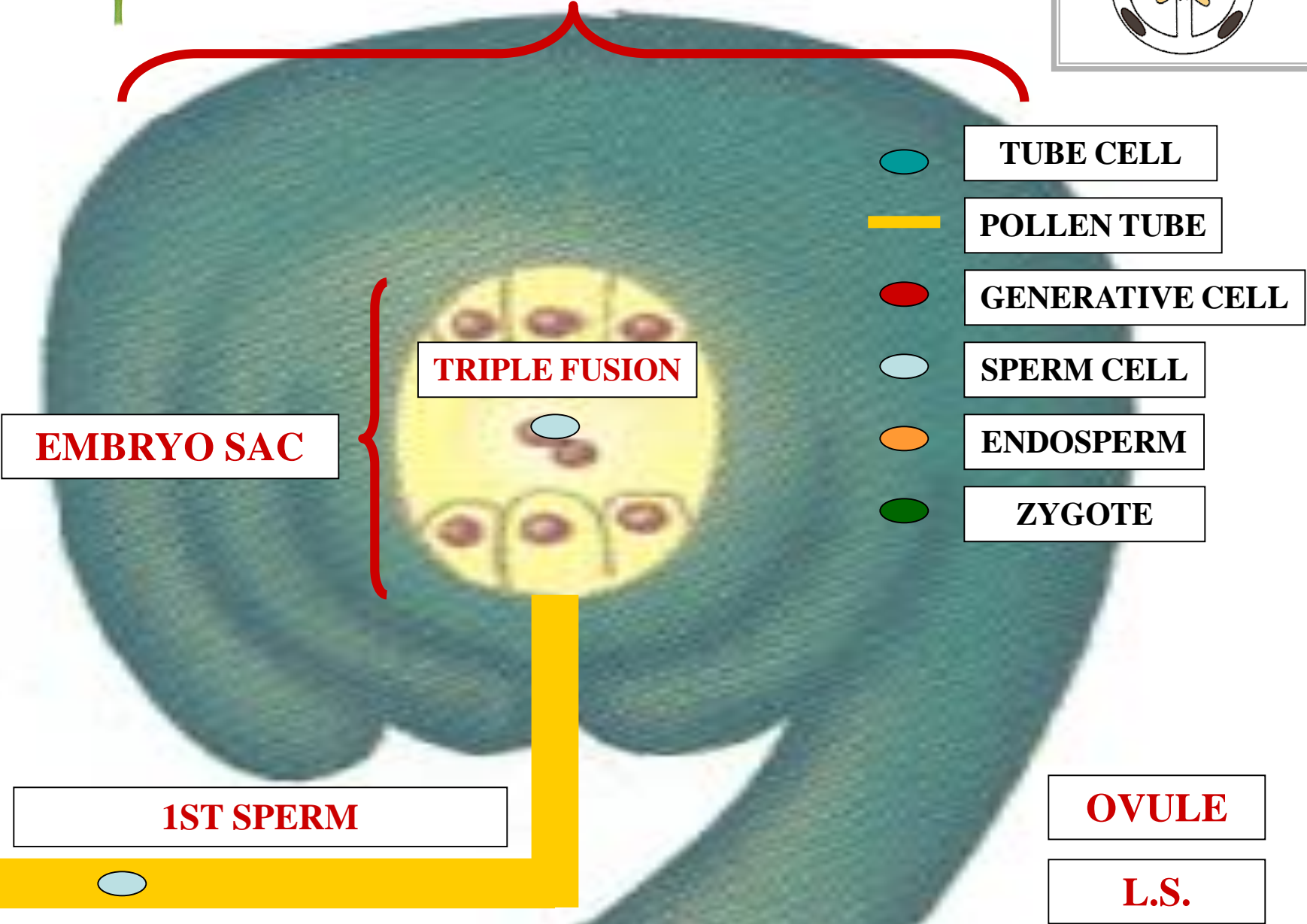
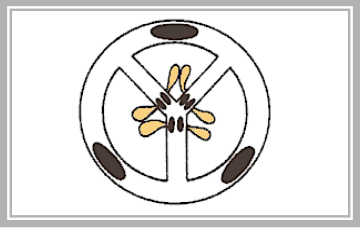
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

TRIPLE FUSION

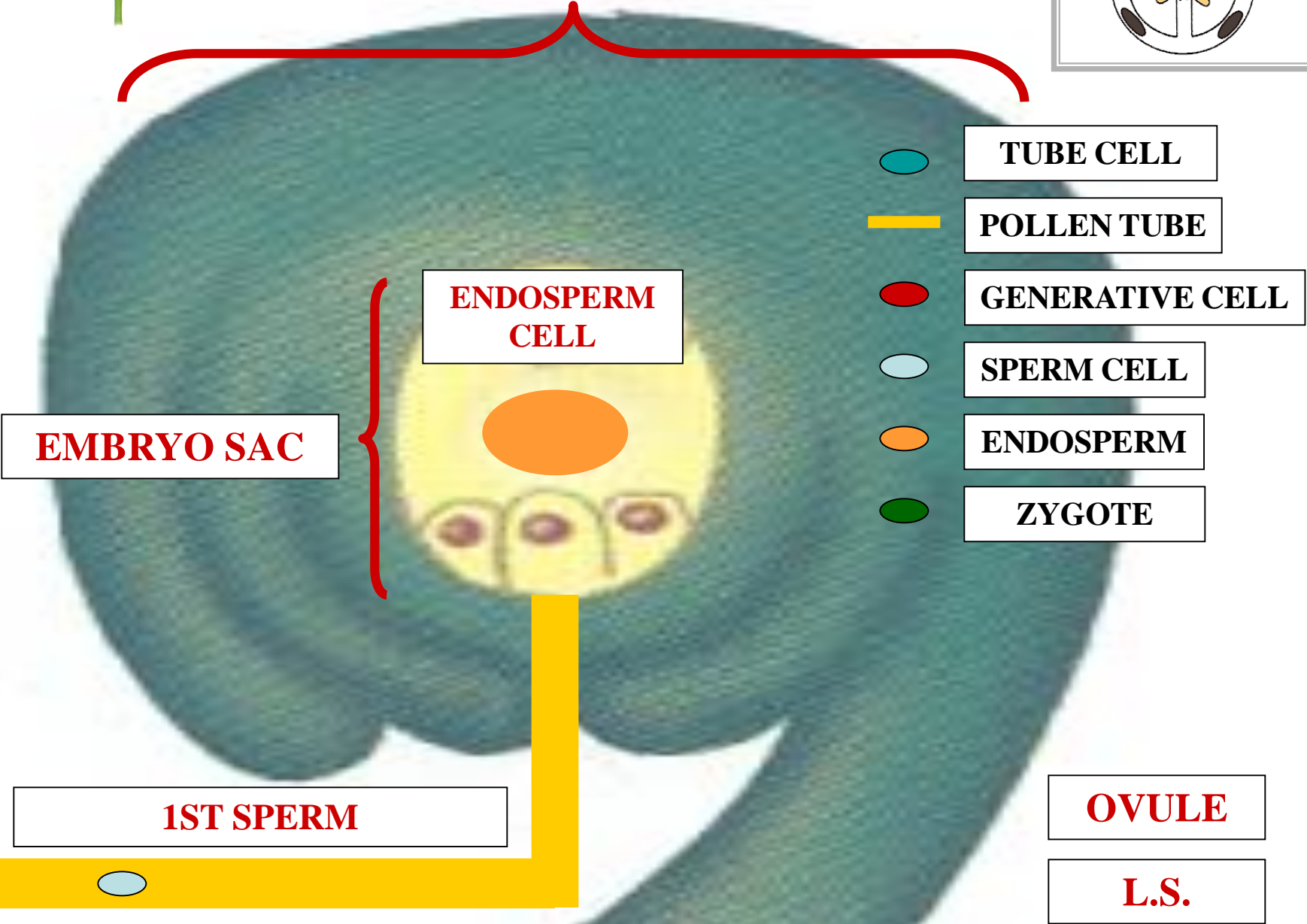
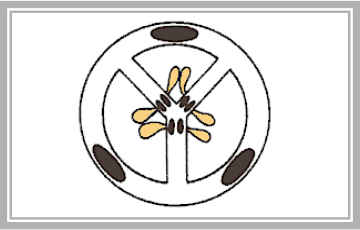
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM CELL

EMBRYO SAC

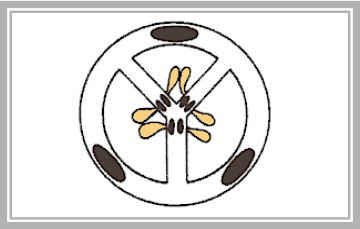
1ST SPERM

OVULE

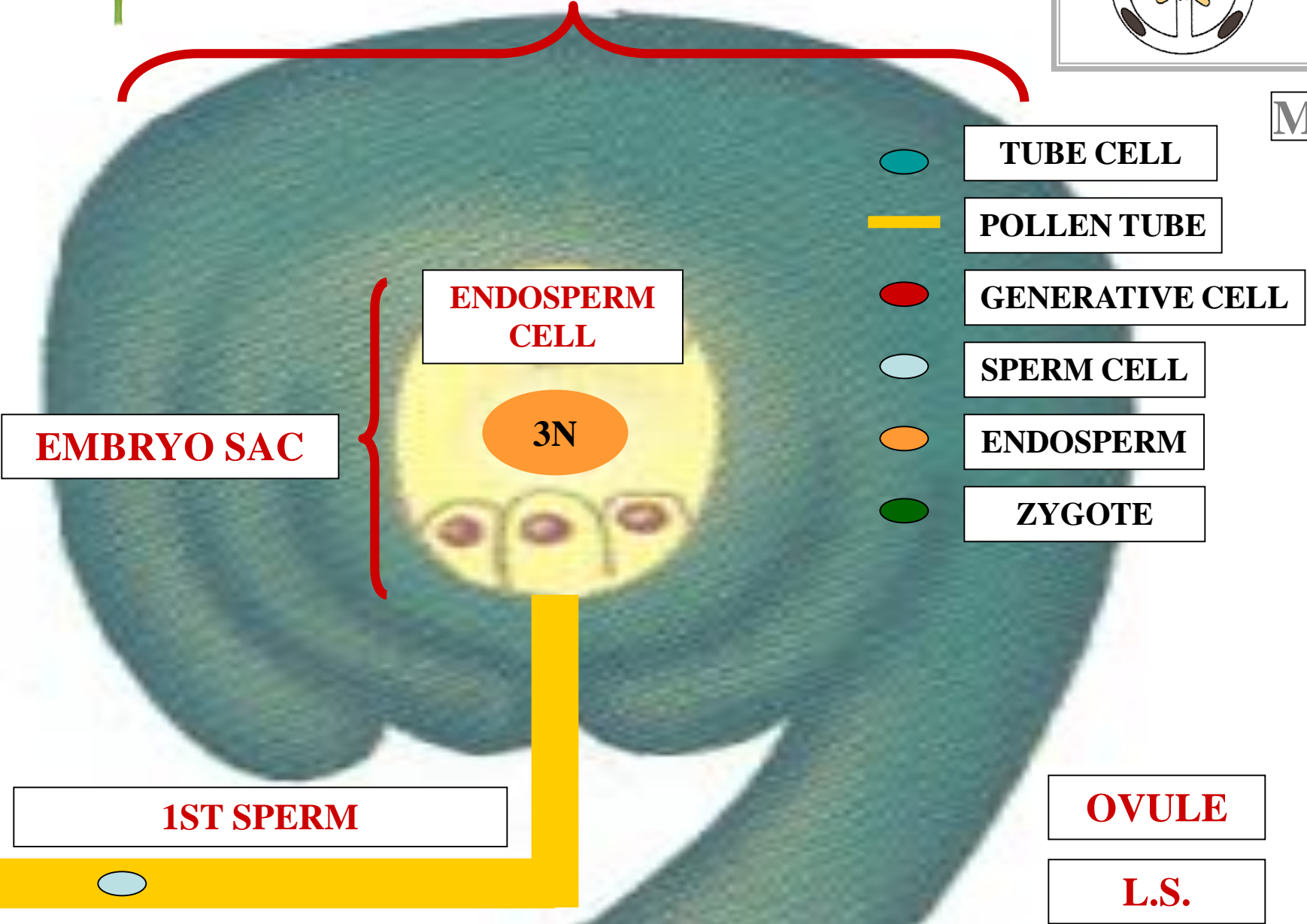
L.S.



OVULE



M



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM CELL

EMBRYO SAC

3N

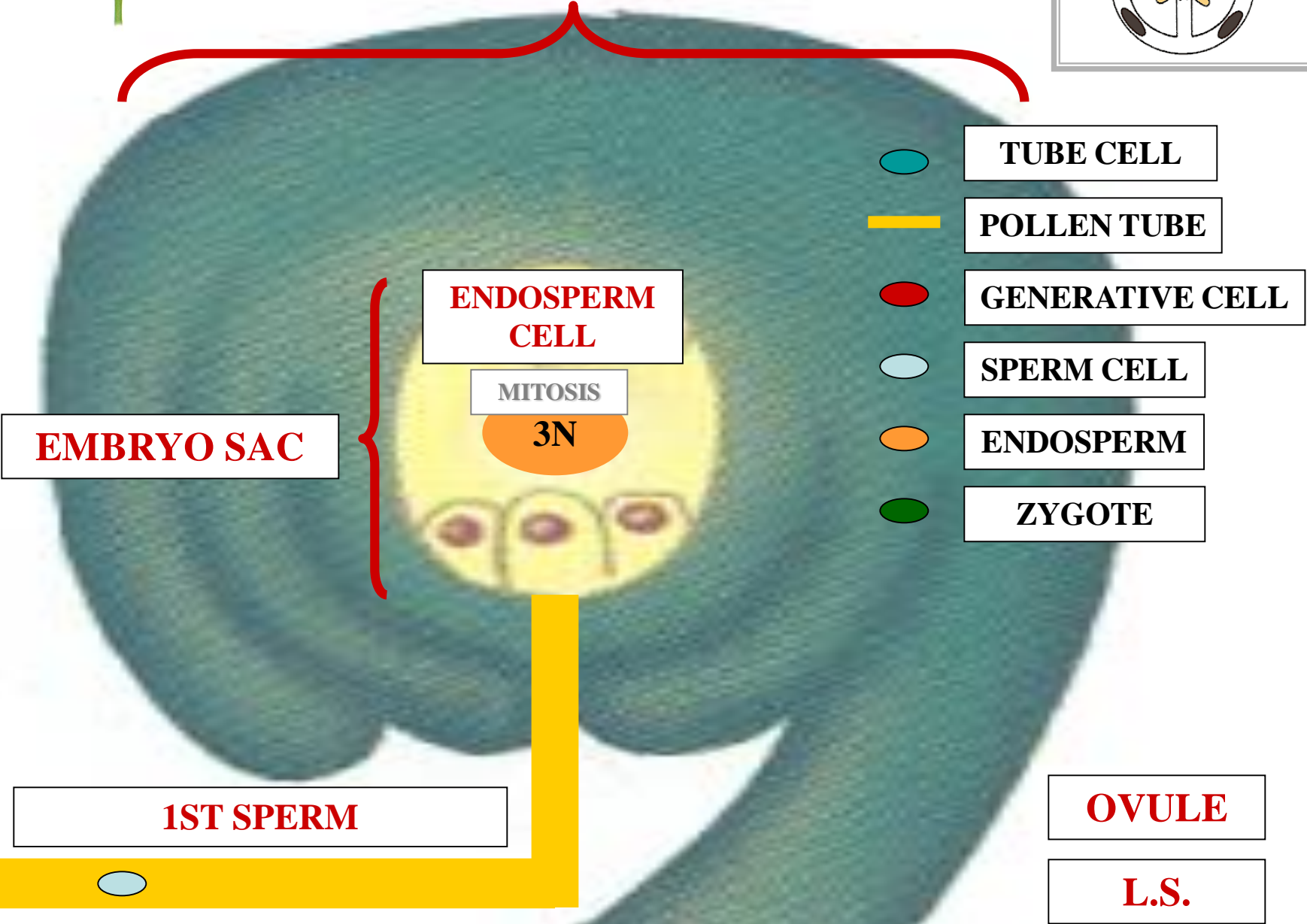
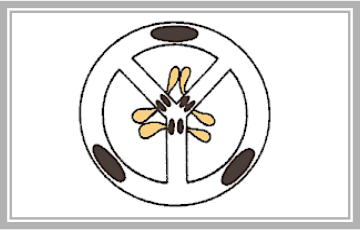
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM CELL

MITOSIS

3N

EMBRYO SAC

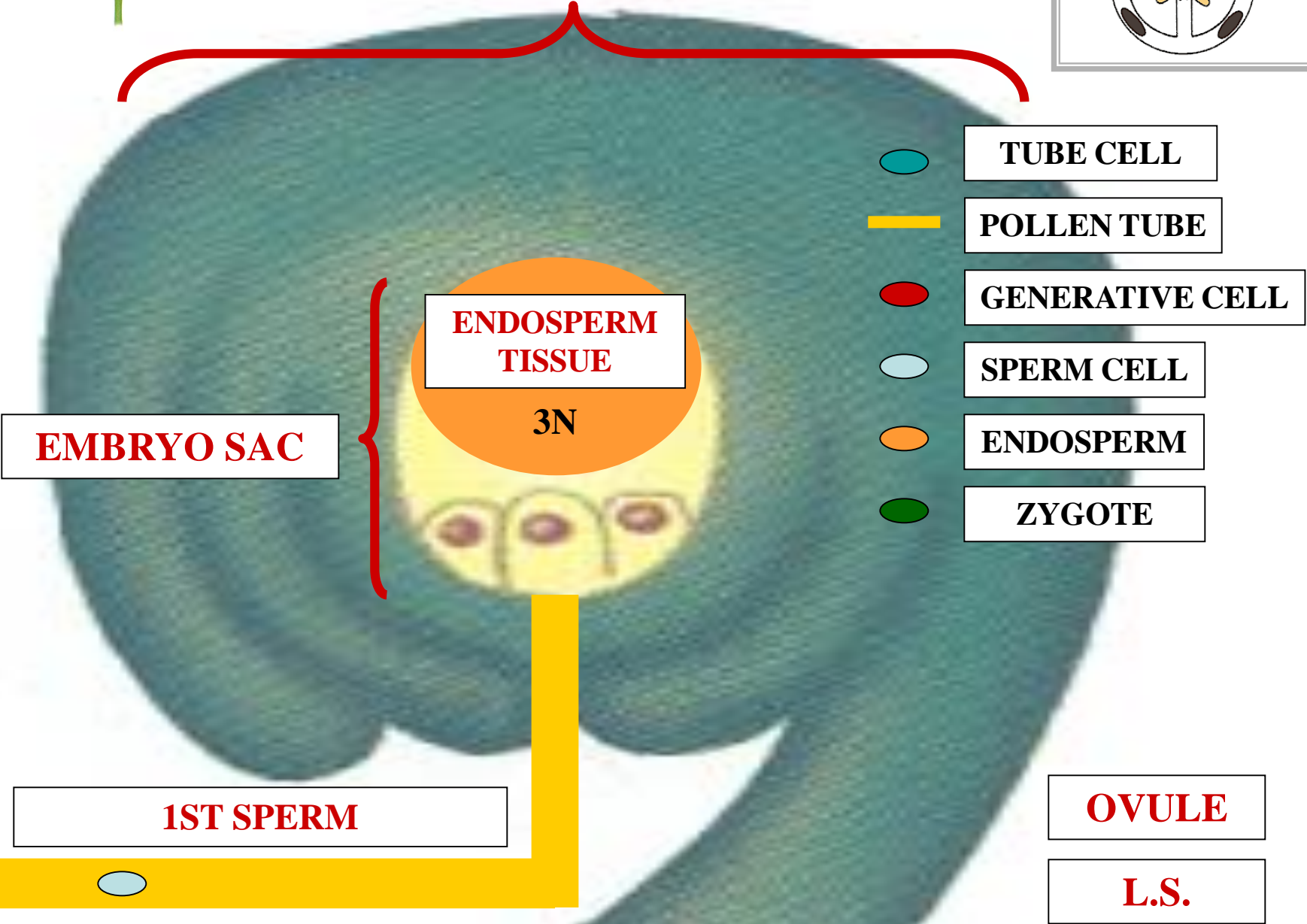
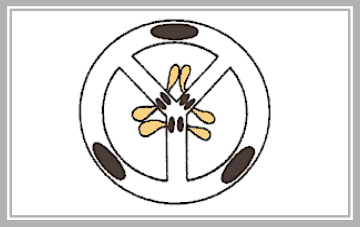
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

ENDOSPERM TISSUE

3N

EMBRYO SAC

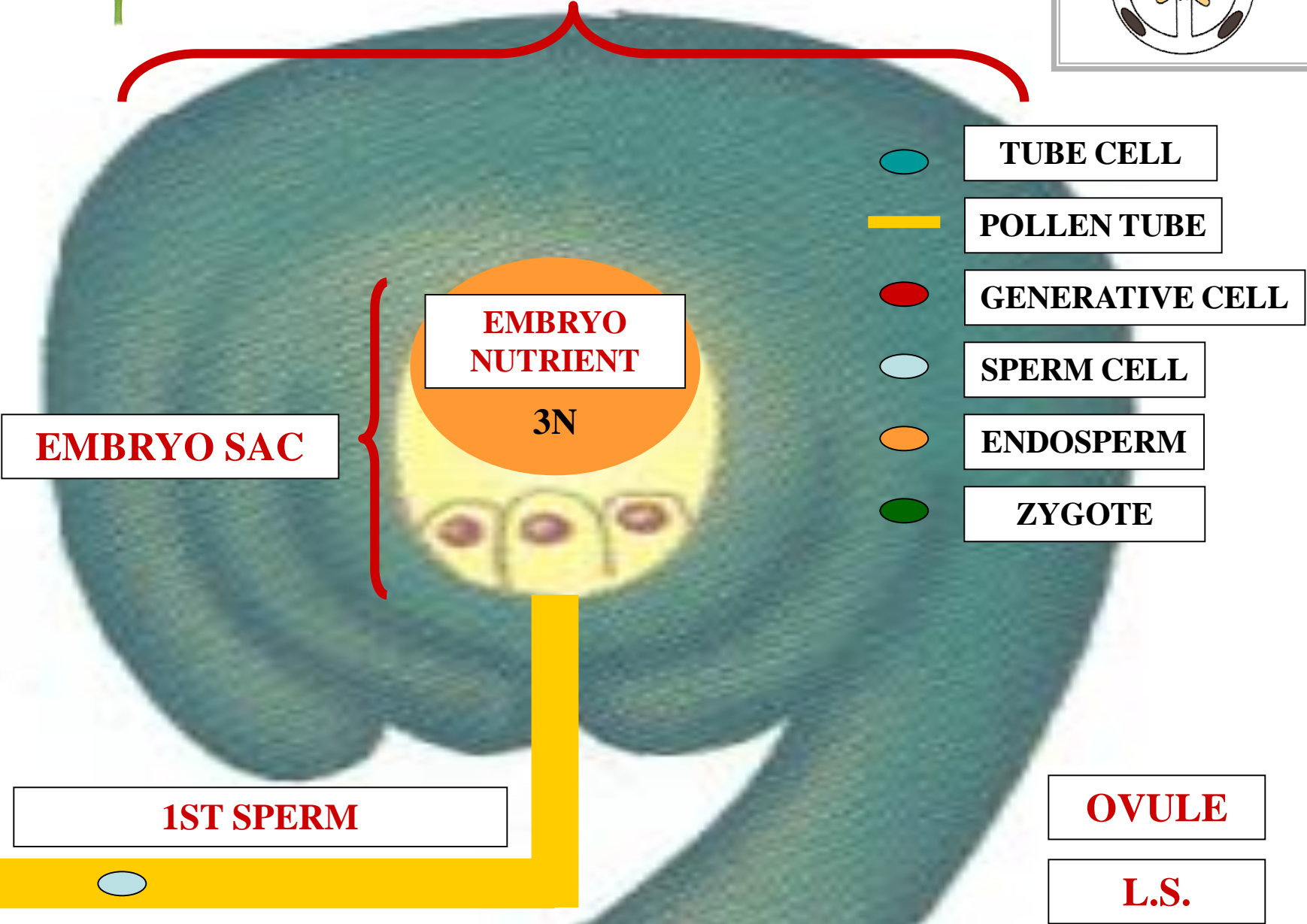
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

EMBRYO NUTRIENT

3N

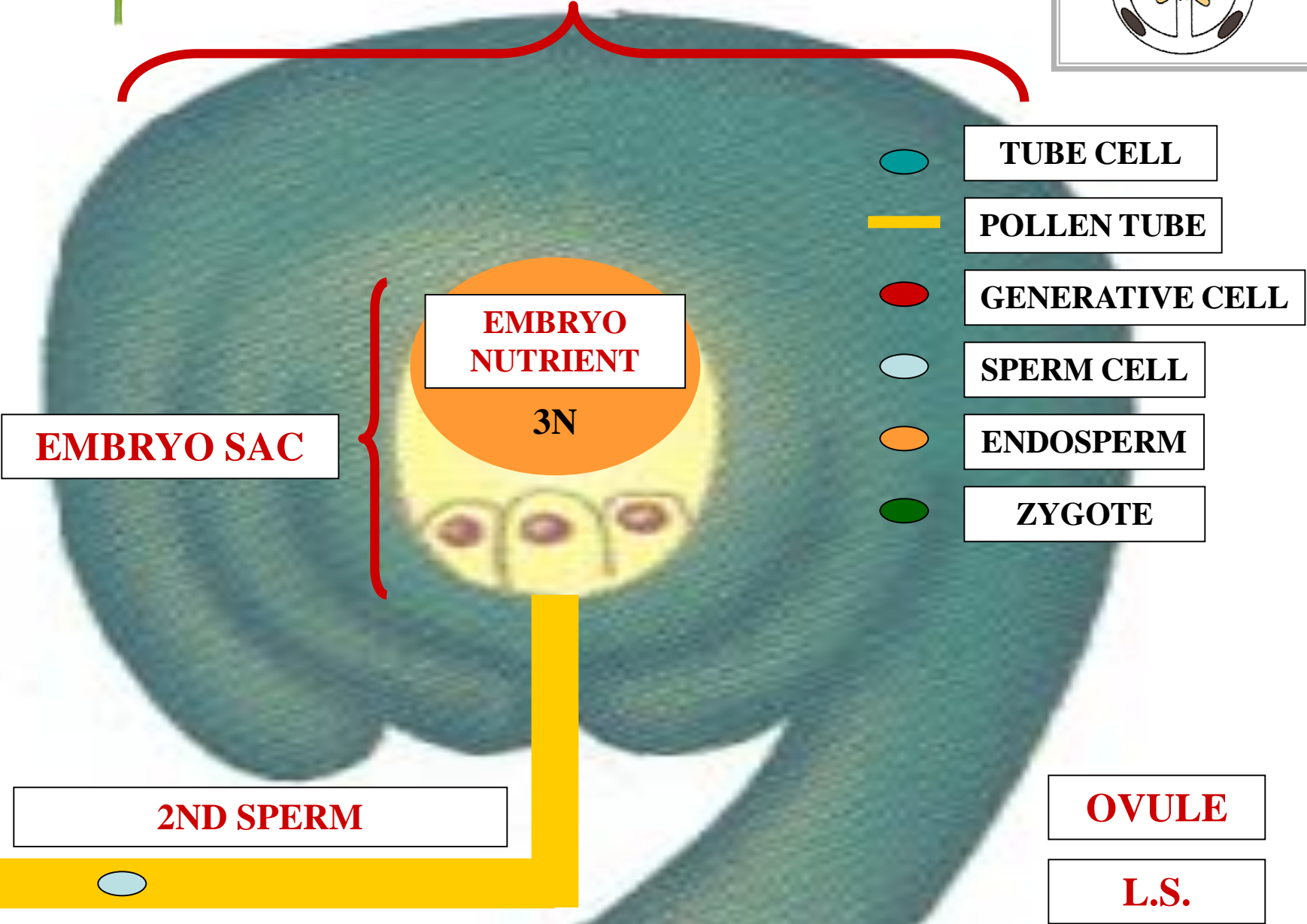
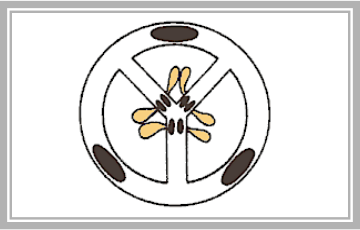
1ST SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

EMBRYO NUTRIENT

3N

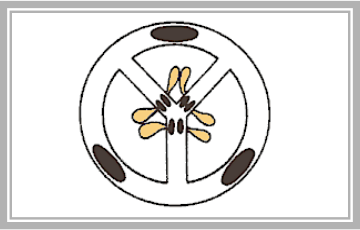
2ND SPERM

OVULE

L.S.



OVULE



EMBRYO SAC

EMBRYO NUTRIENT

3N

EGG

TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

2ND SPERM

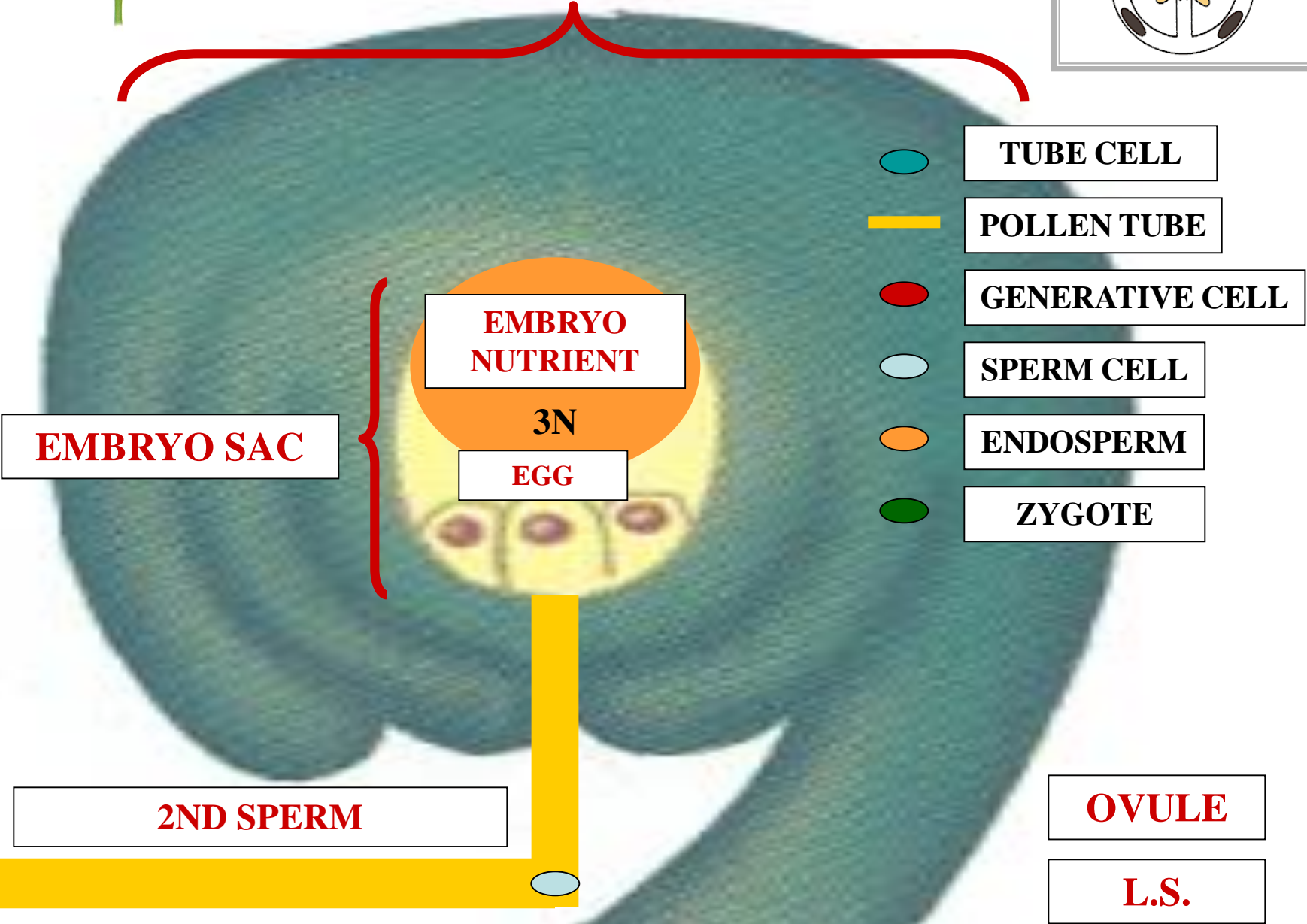
OVULE

L.S.



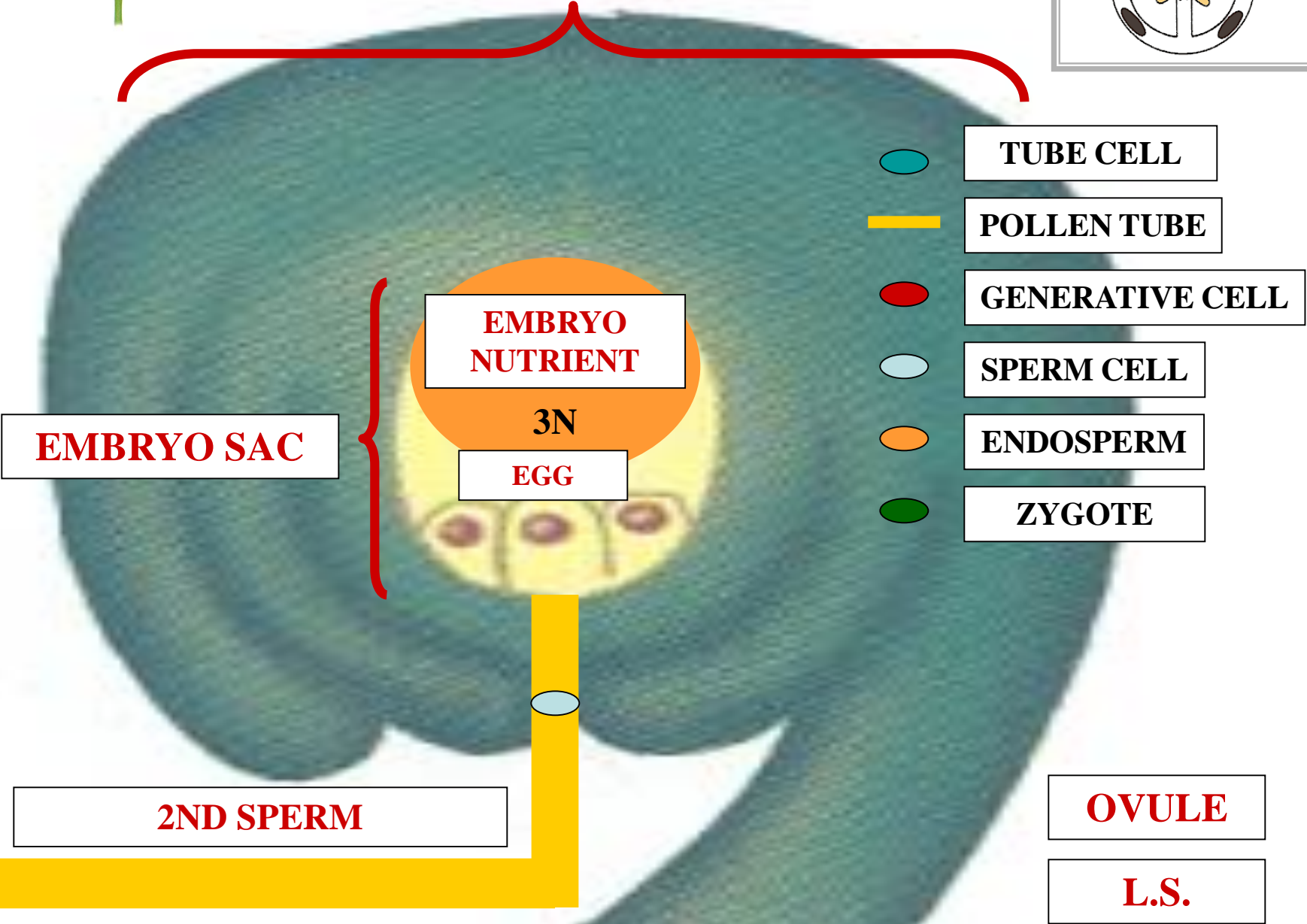
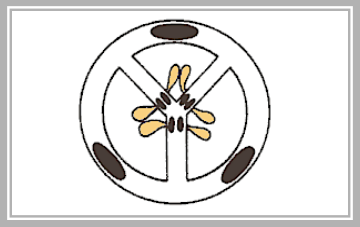


OVULE





OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO NUTRIENT

3N

EGG

EMBRYO SAC

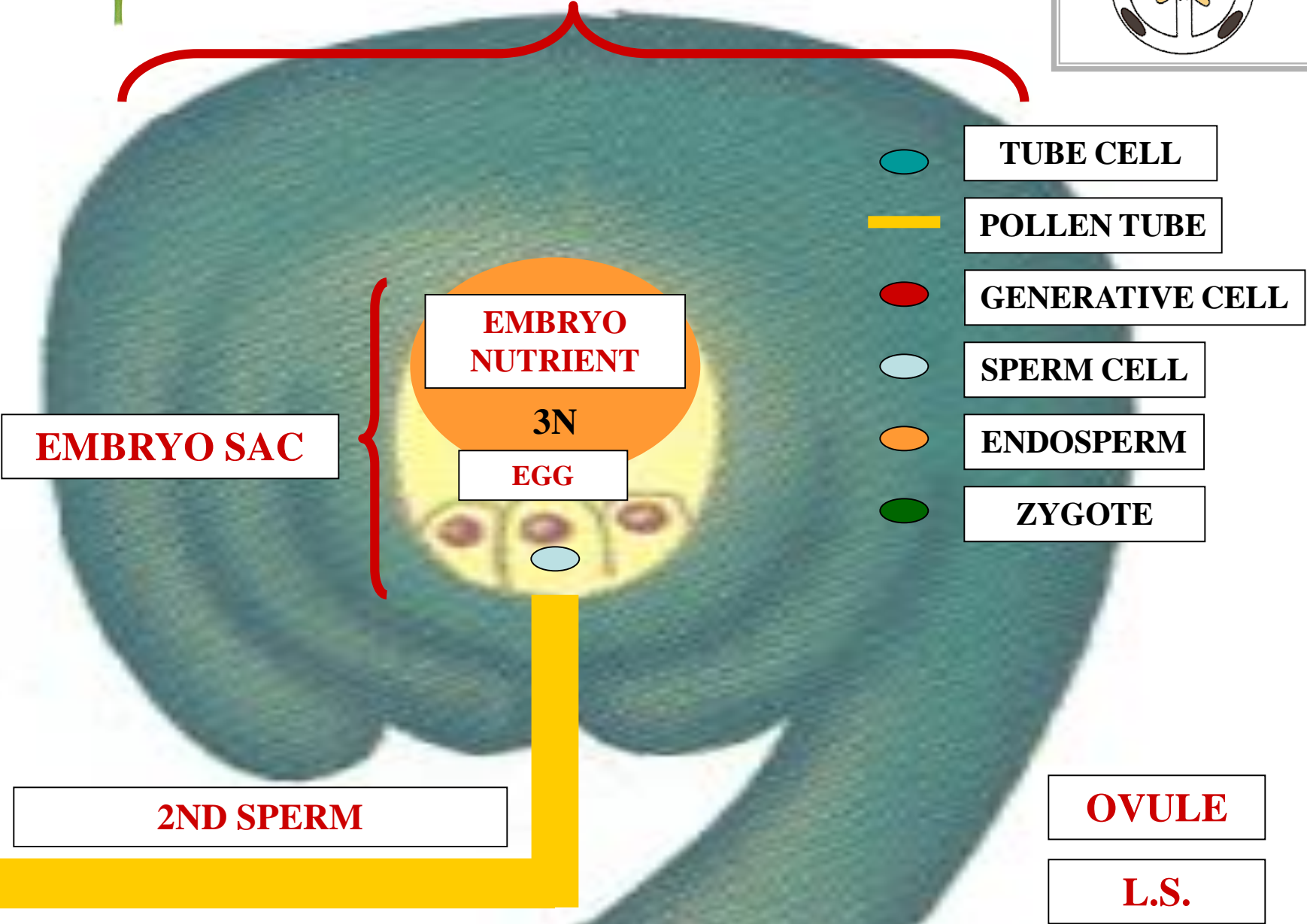
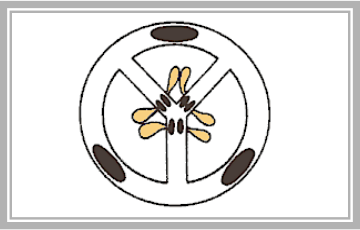
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

EMBRYO NUTRIENT

EGG

3N

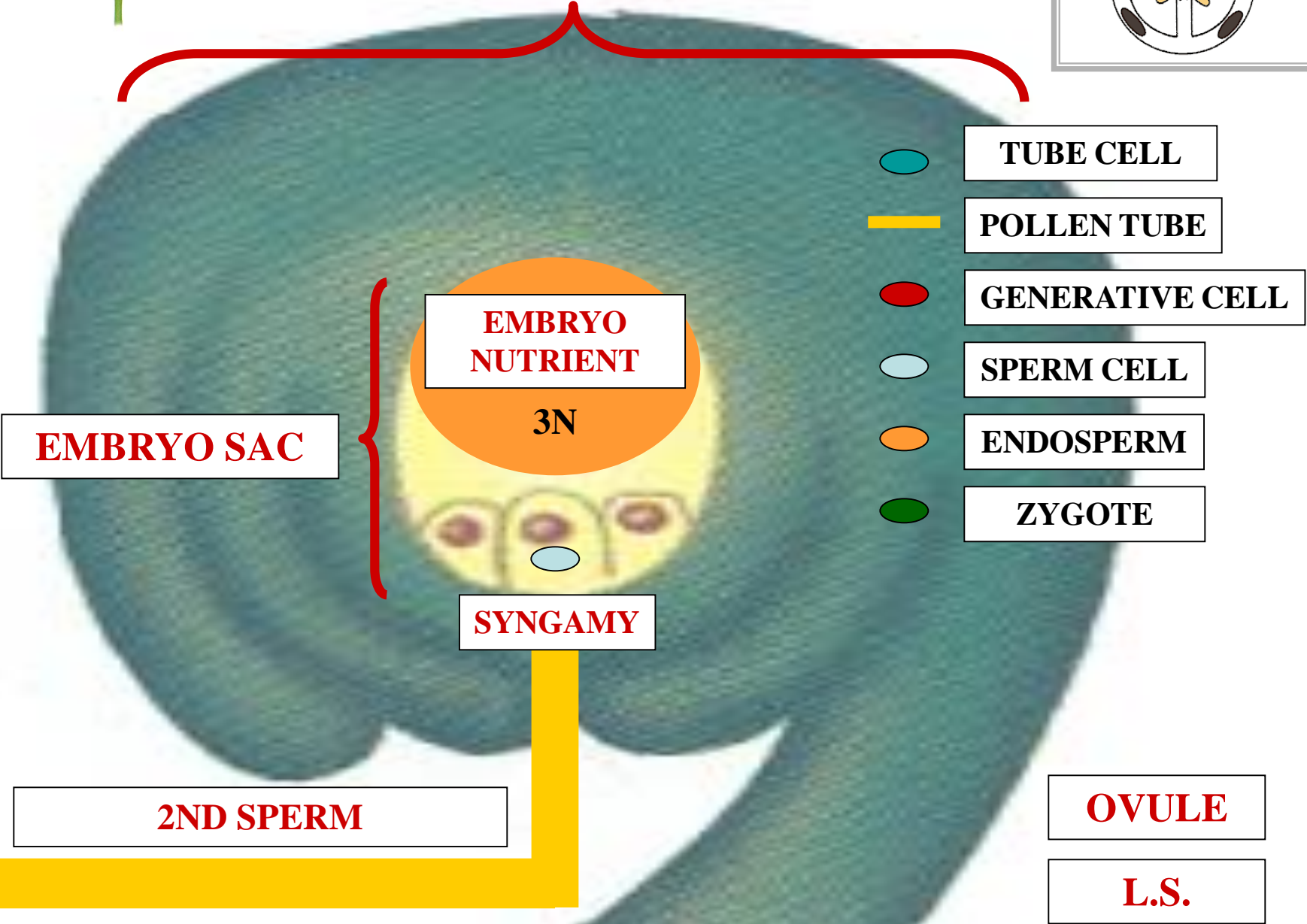
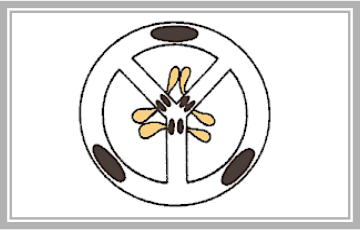
2ND SPERM

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

EMBRYO NUTRIENT

3N

SYNGAMY

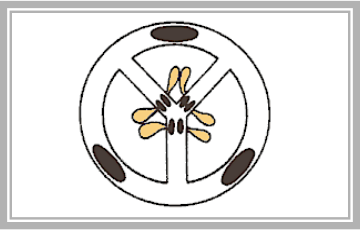
2ND SPERM

OVULE

L.S.



OVULE









EMBRYO SAC

EMBRYO NUTRIENT

3N

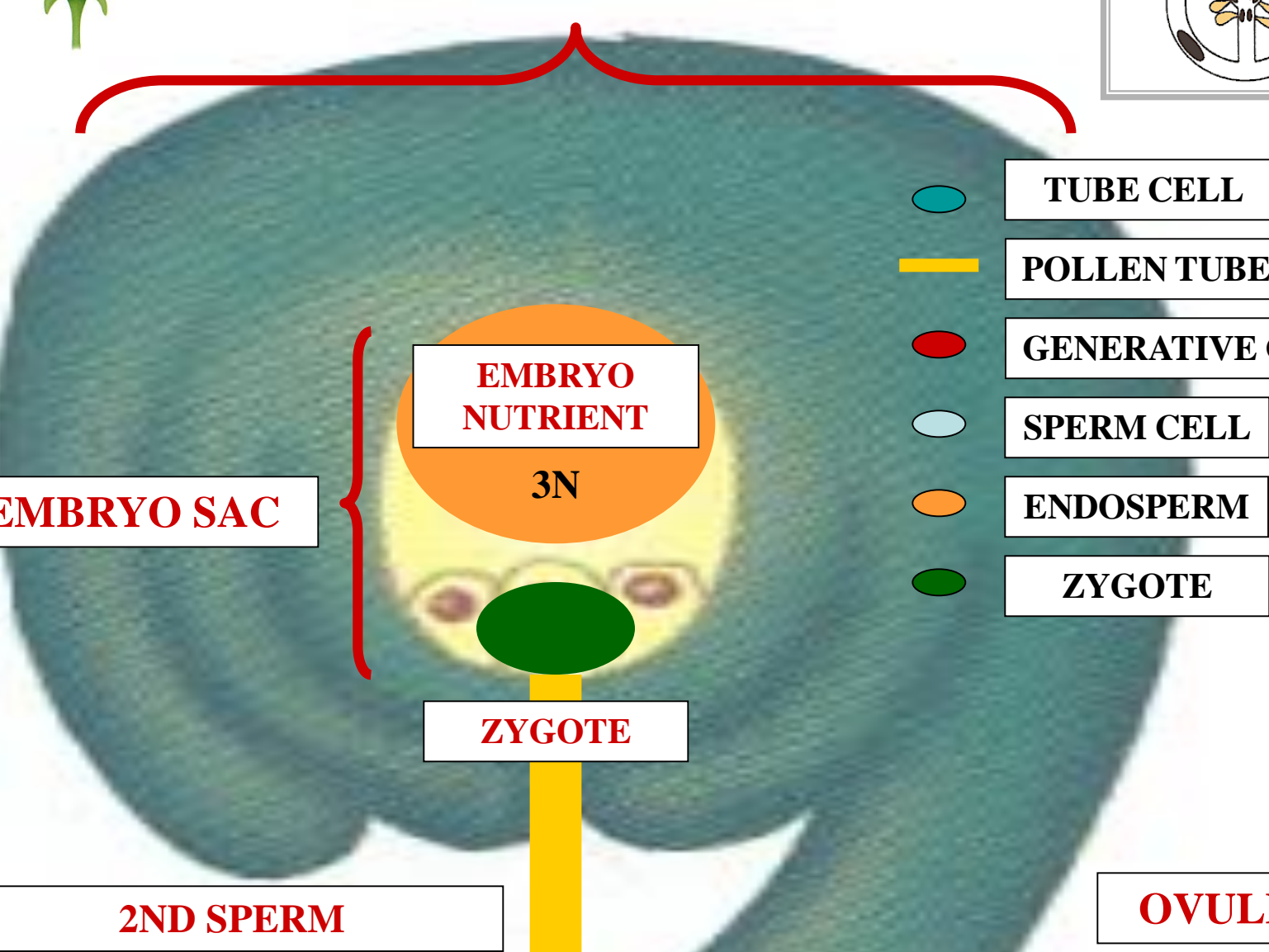
ZYGOTE

2ND SPERM

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

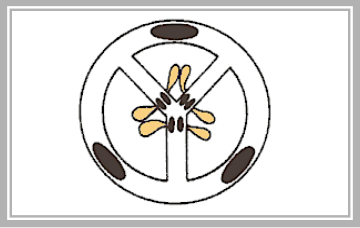
OVULE

L.S.

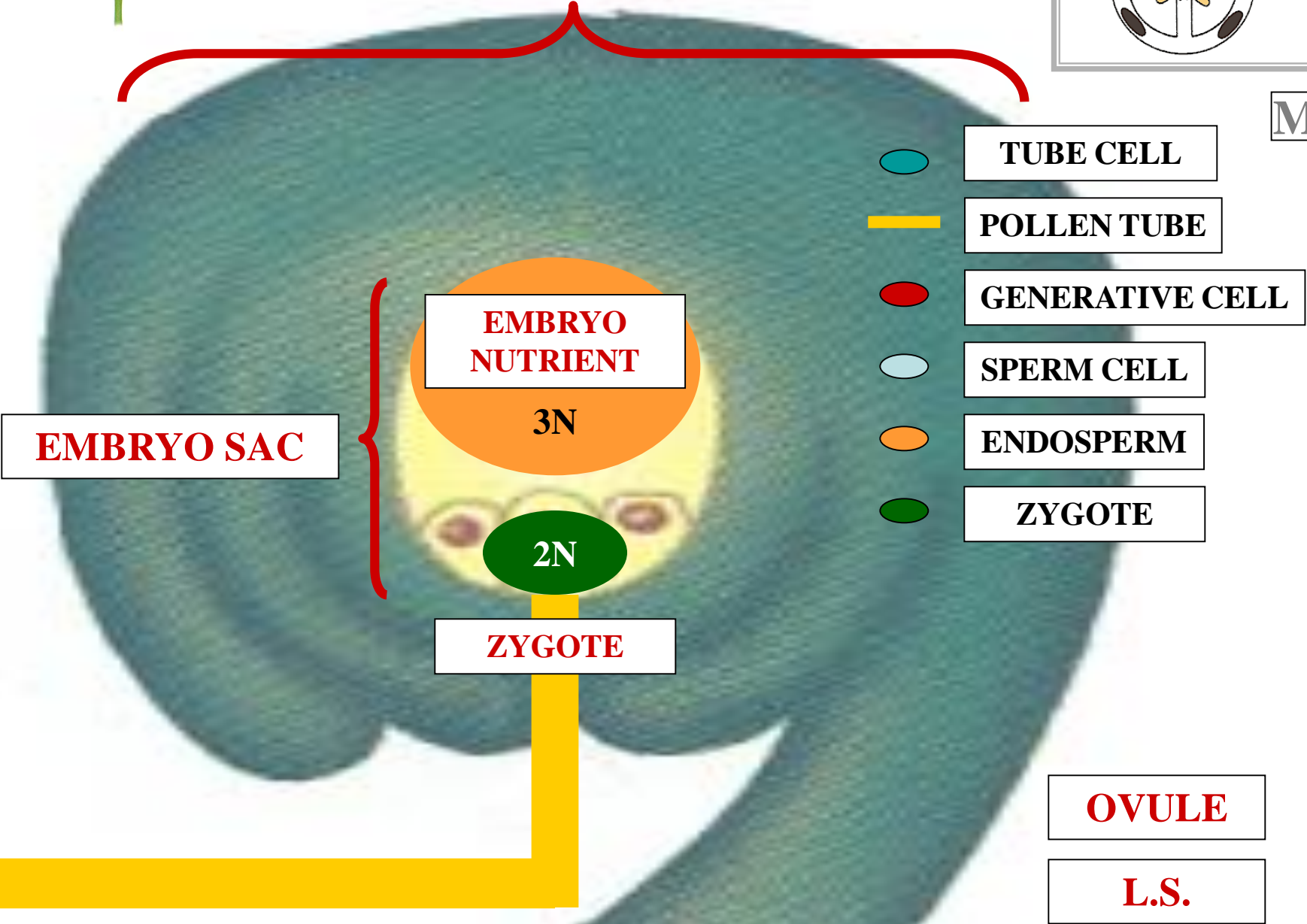




OVULE



M



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO SAC

EMBRYO NUTRIENT

3N

2N

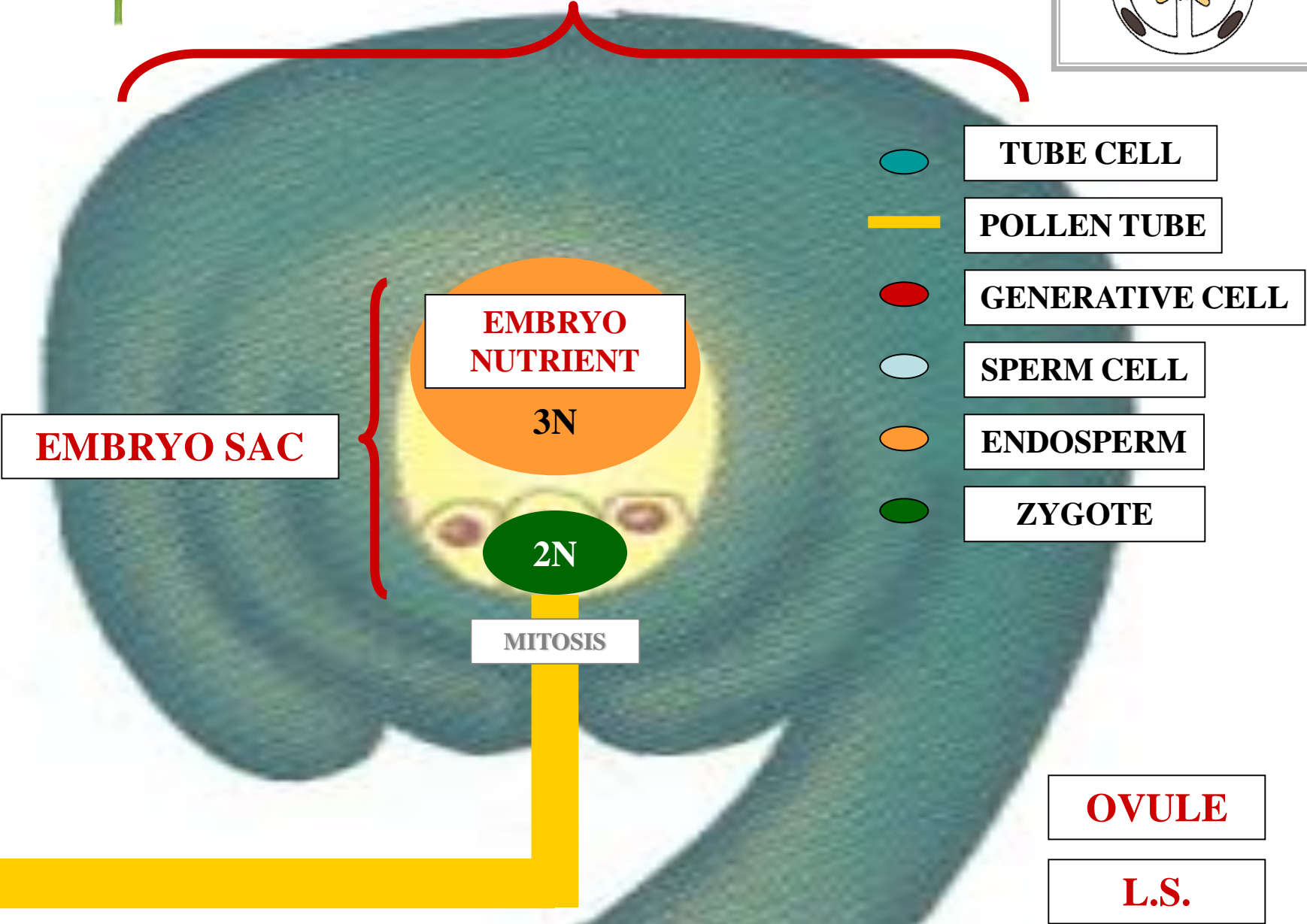
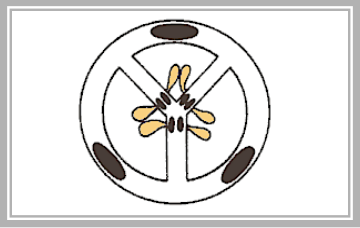
ZYGOTE

OVULE

L.S.



OVULE



TUBE CELL

POLLEN TUBE

GENERATIVE CELL

SPERM CELL

ENDOSPERM

ZYGOTE

EMBRYO NUTRIENT

3N

EMBRYO SAC

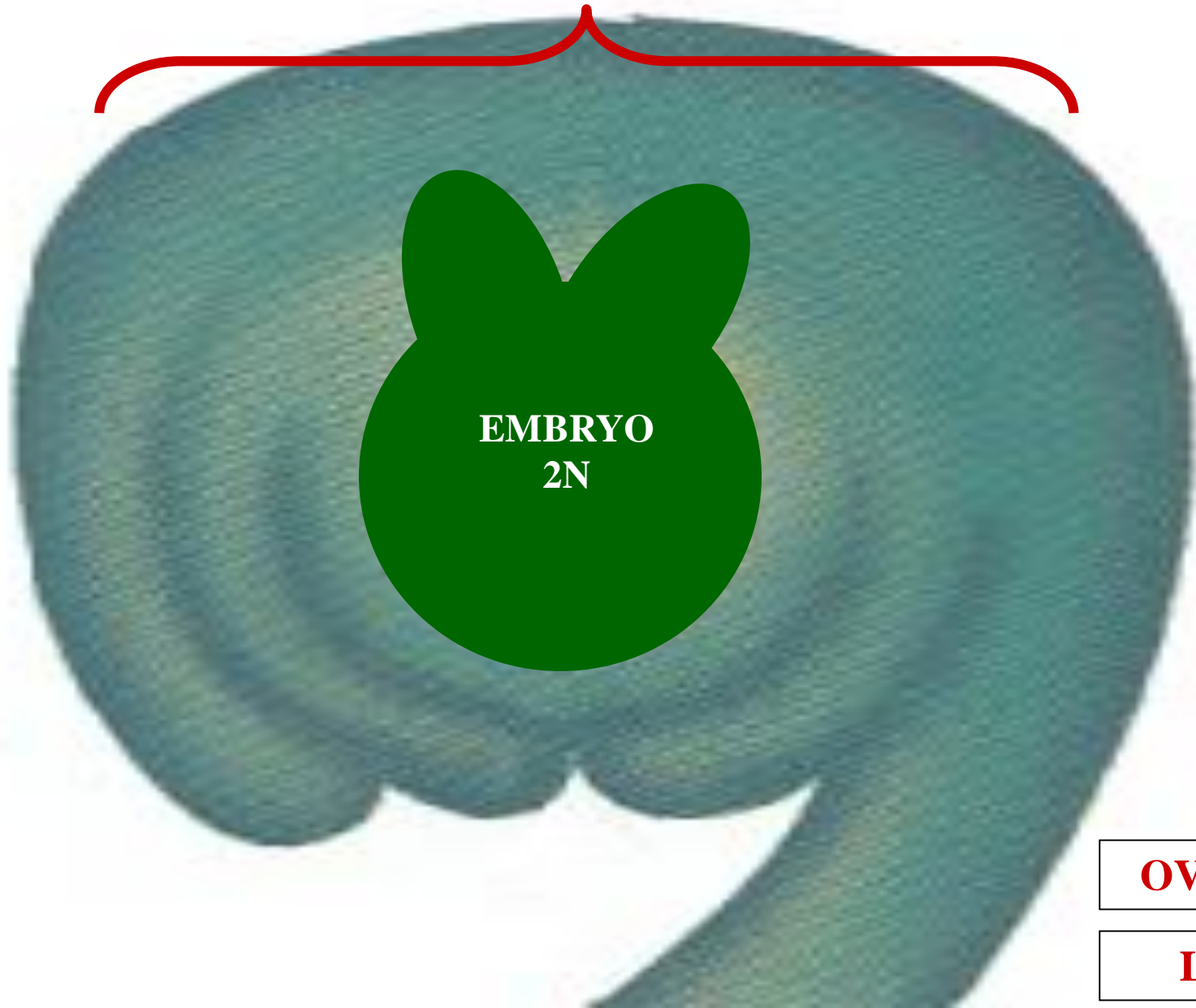
2N

MITOSIS

OVULE

L.S.

OVULE

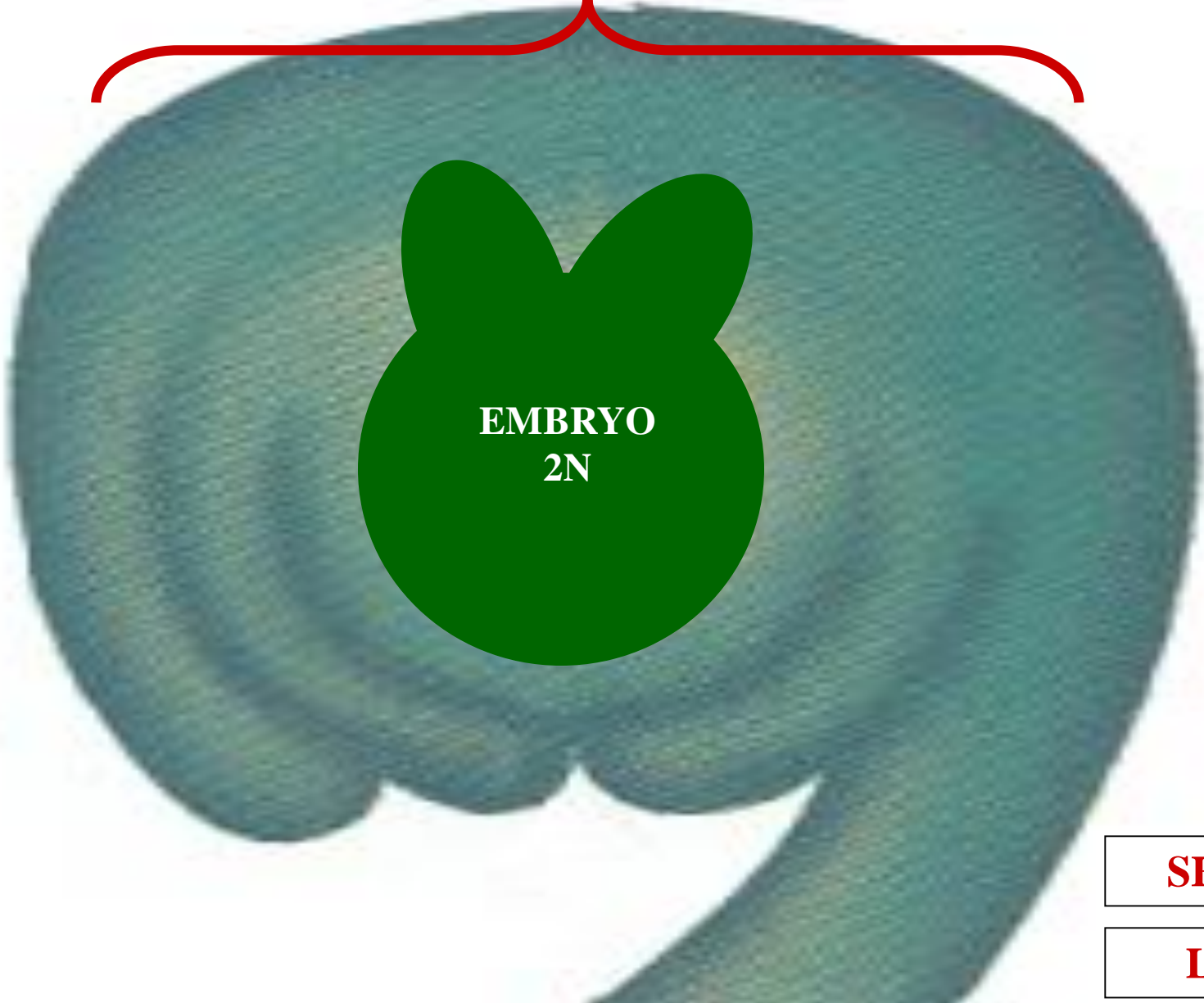


EMBRYO
2N

OVULE

L.S.

SEED



EMBRYO
2N

SEED

L.S.



SEED



EMBRYO
2N

MITOSIS

SEED

L.S.

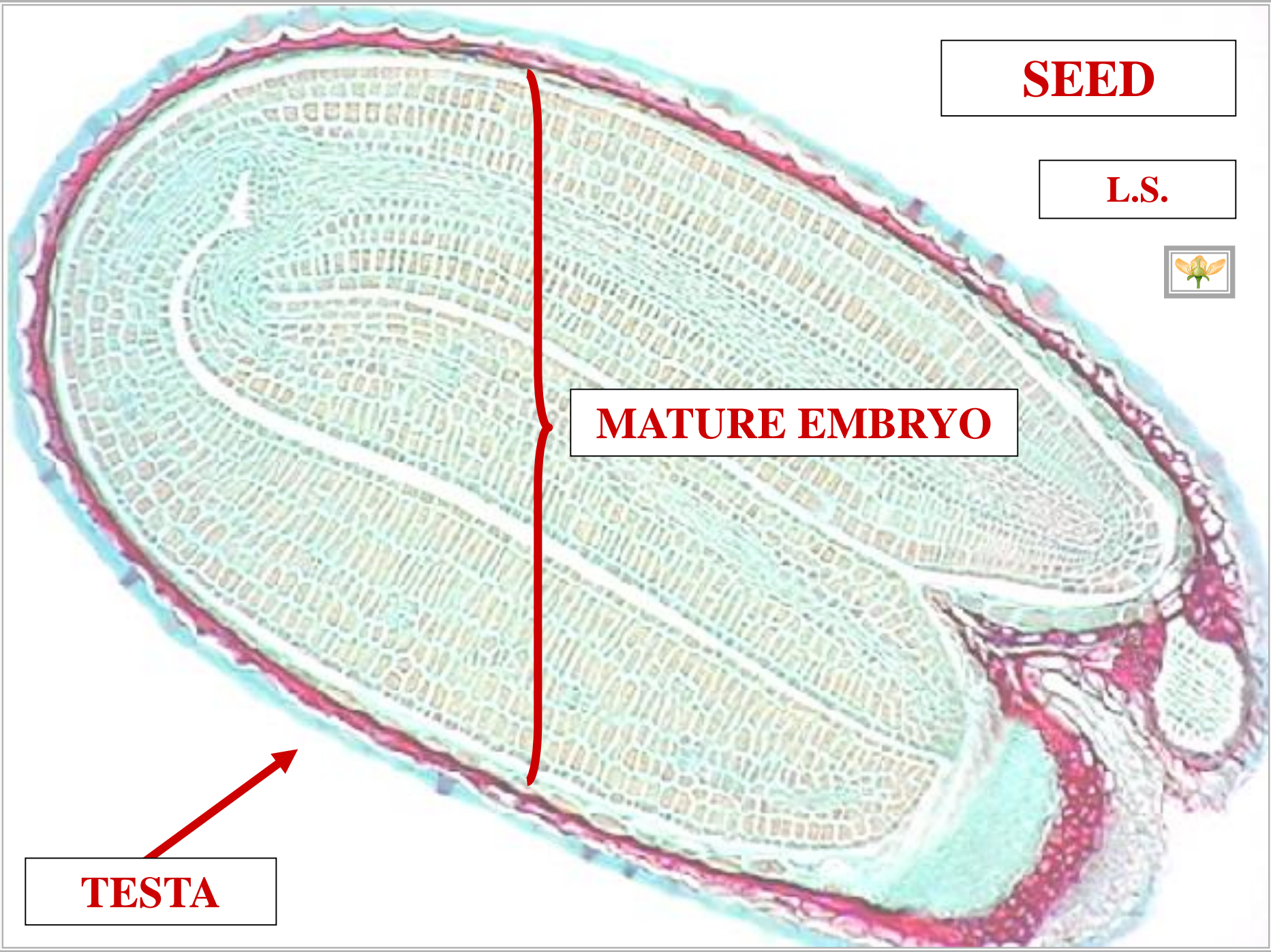
SEED

L.S.



MATURE EMBRYO

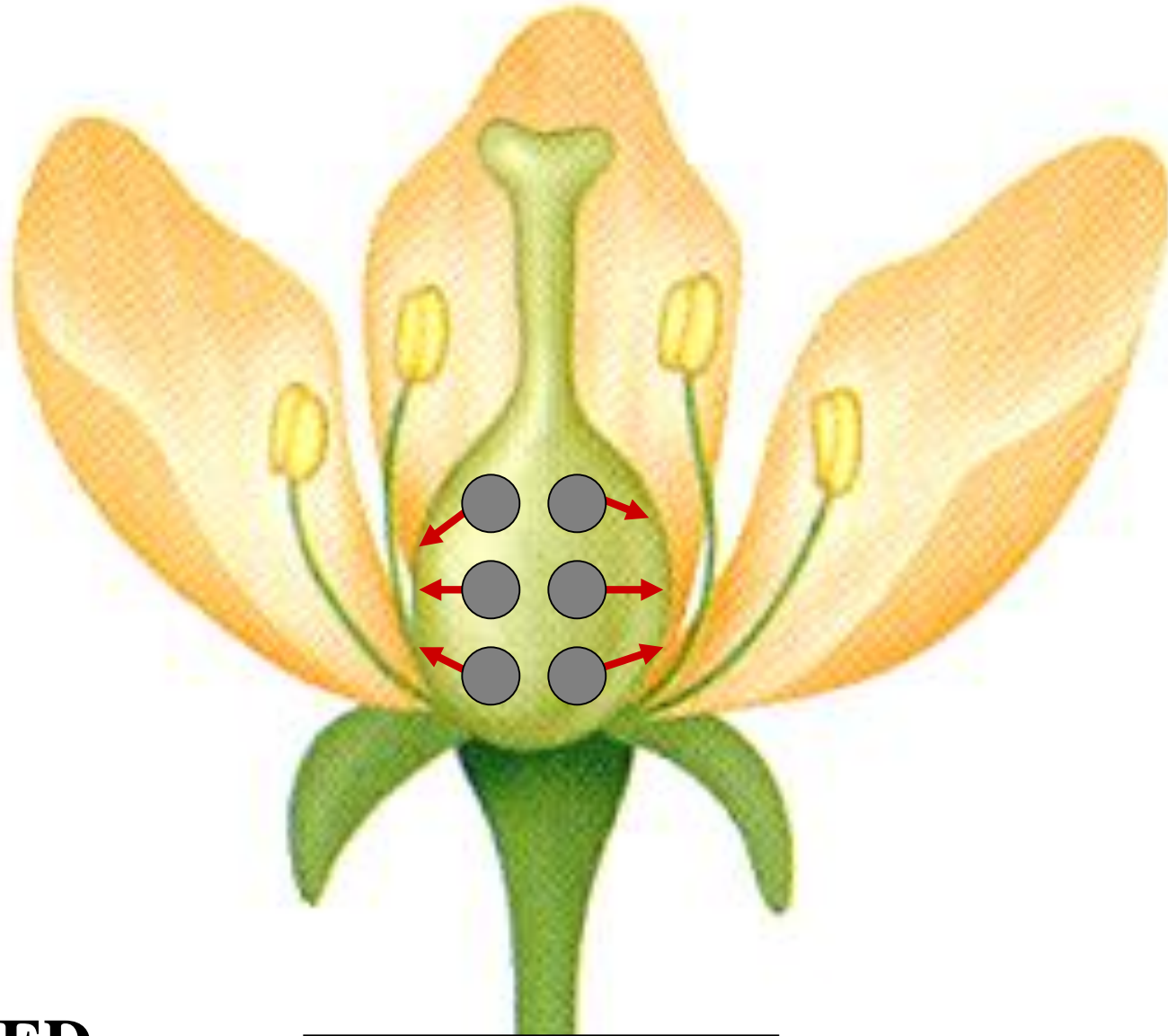
TESTA





● = SEED

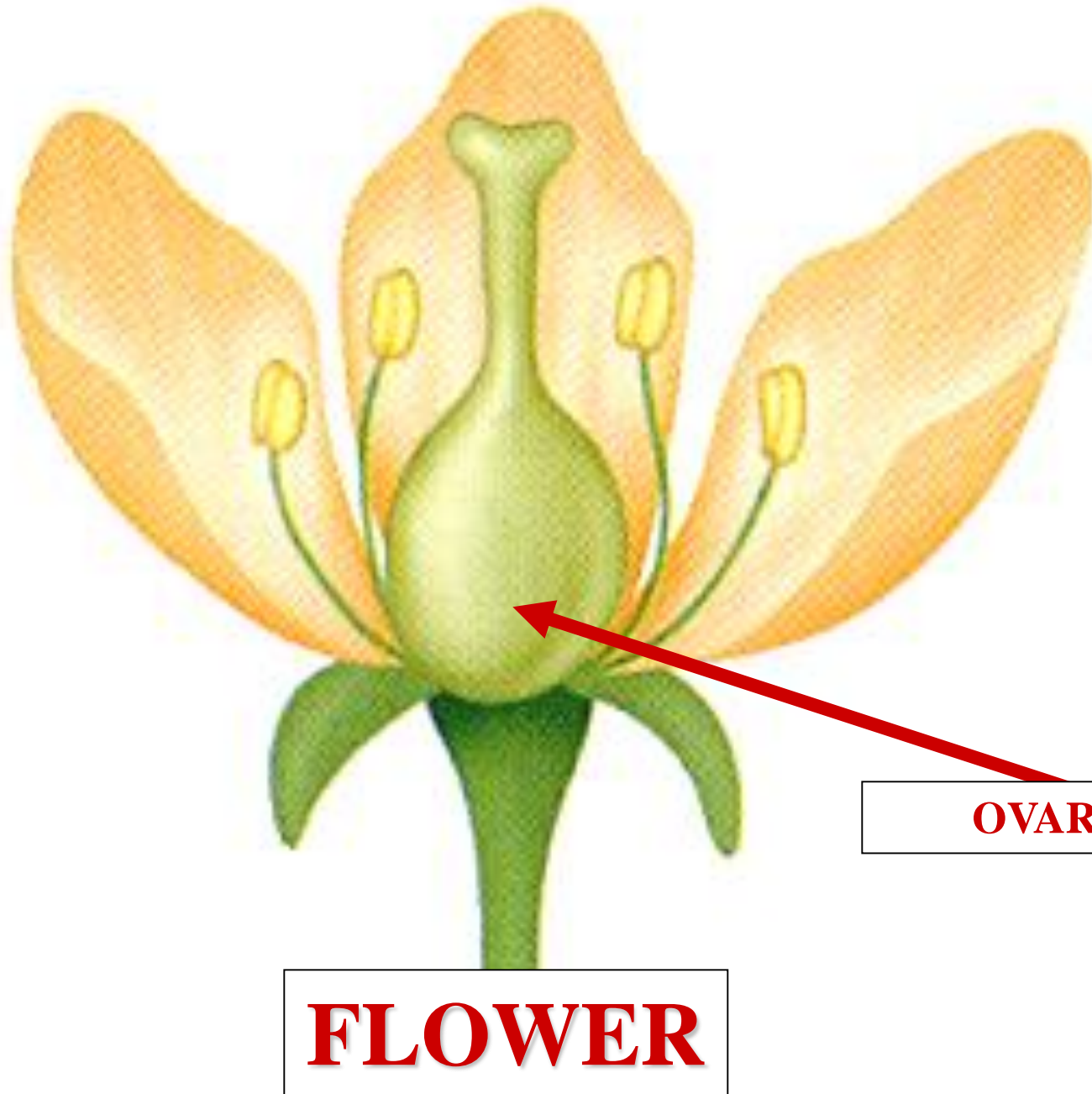
FLOWER



● = SEED

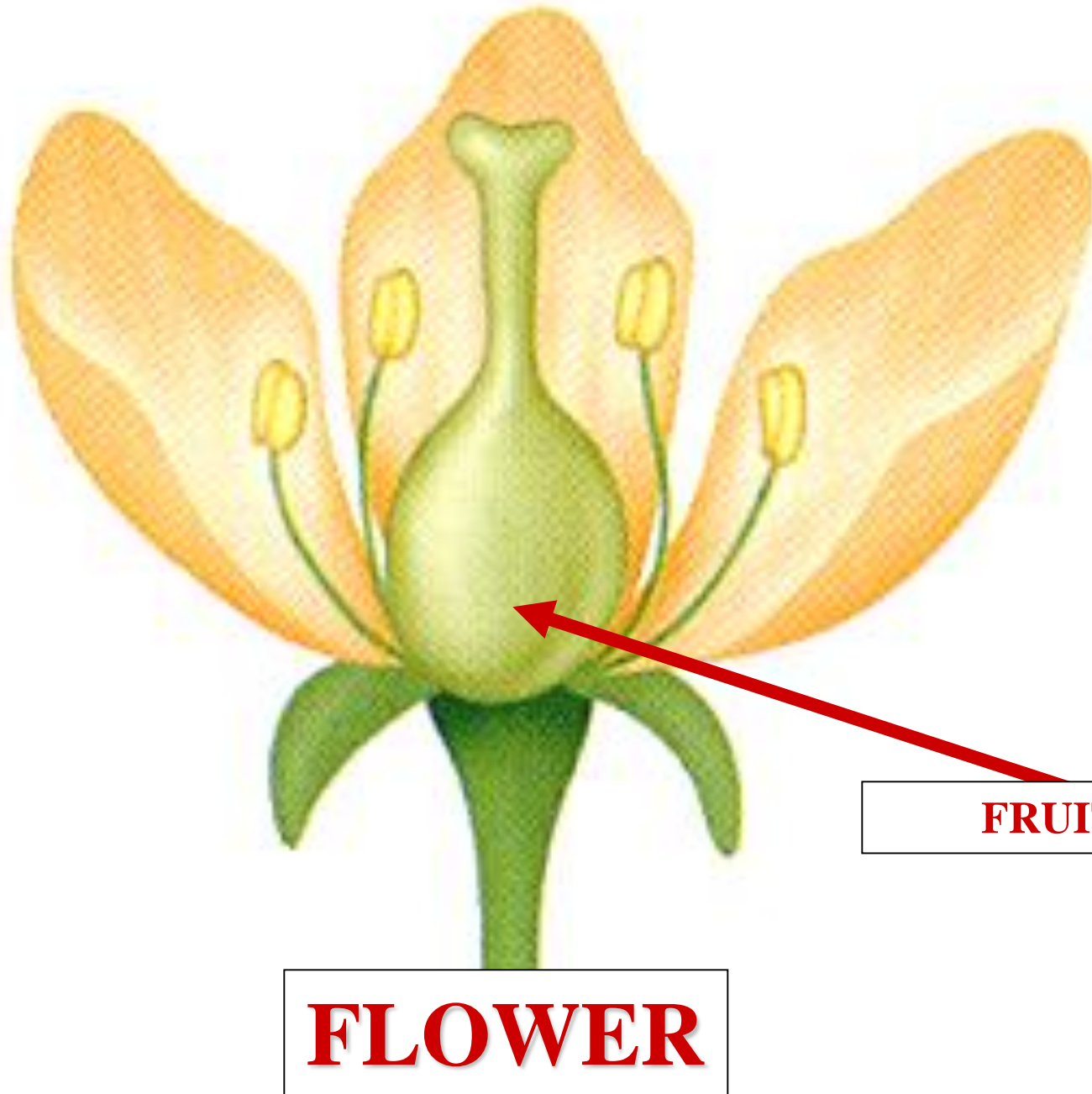
→ = HORMONE

FLOWER



FLOWER

OVARY



FRUIT

FLOWER



**FRUIT
DISSEMINATED**

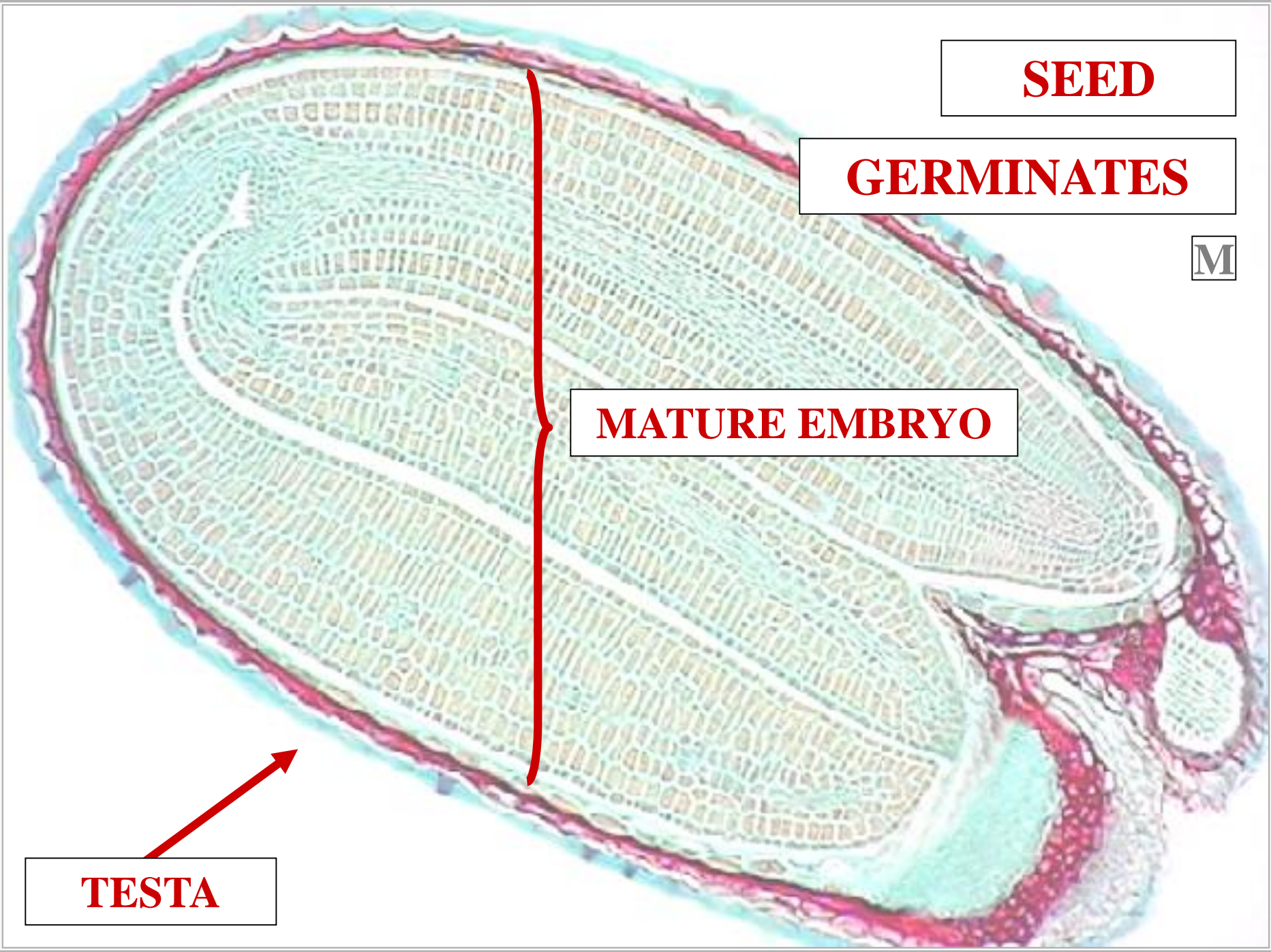
SEED

GERMINATES

M

MATURE EMBRYO

TESTA



SEED

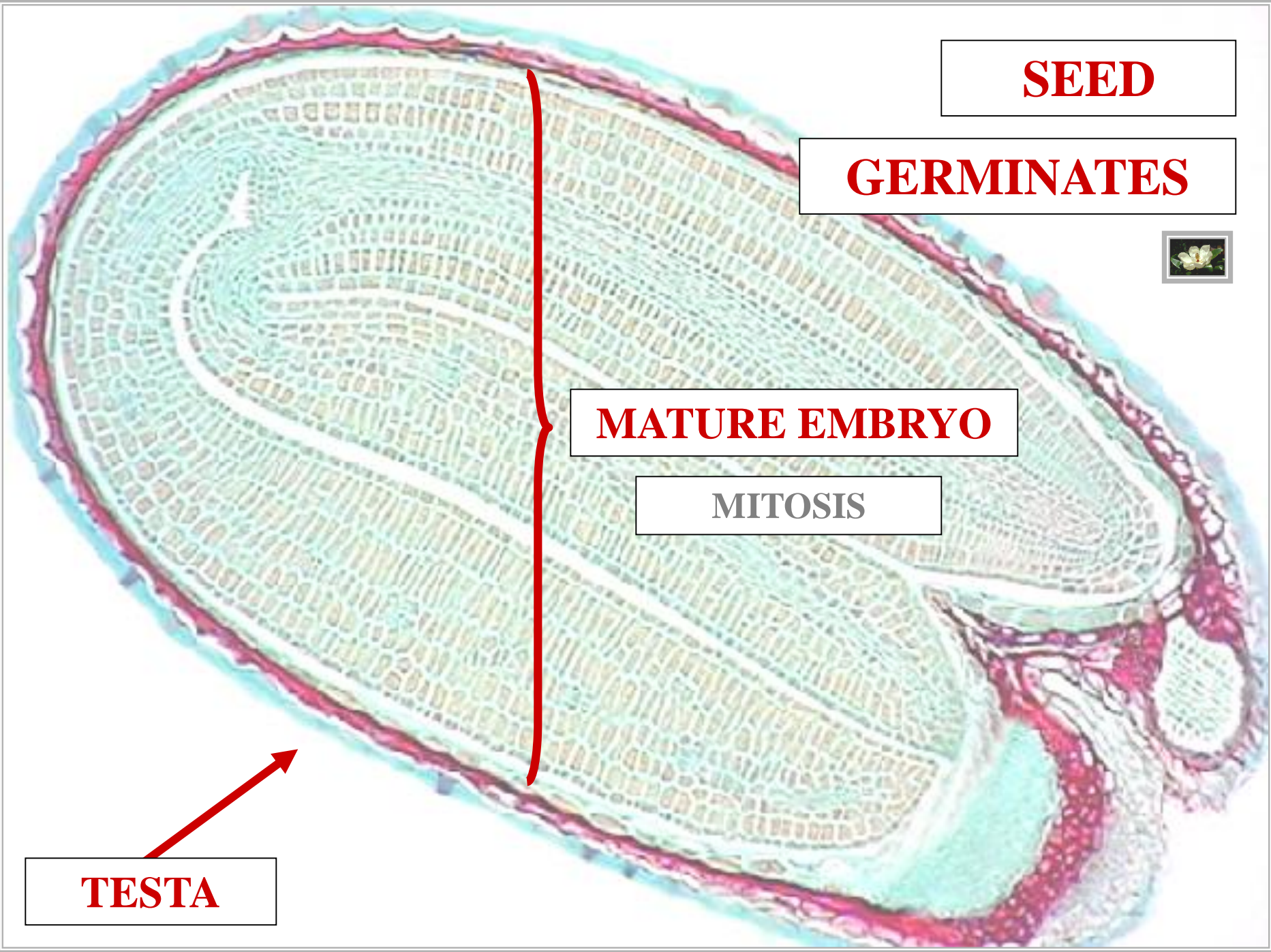
GERMINATES



MATURE EMBRYO

MITOSIS

TESTA



A close-up photograph of a large, white magnolia flower in full bloom, with several green leaves visible. The flower has a prominent yellow stamen and a red pistil. The background is dark and out of focus.

**MATURE
ANGIOSPERM
SPOROPHYTE**

ANGIOSPERM FRUIT

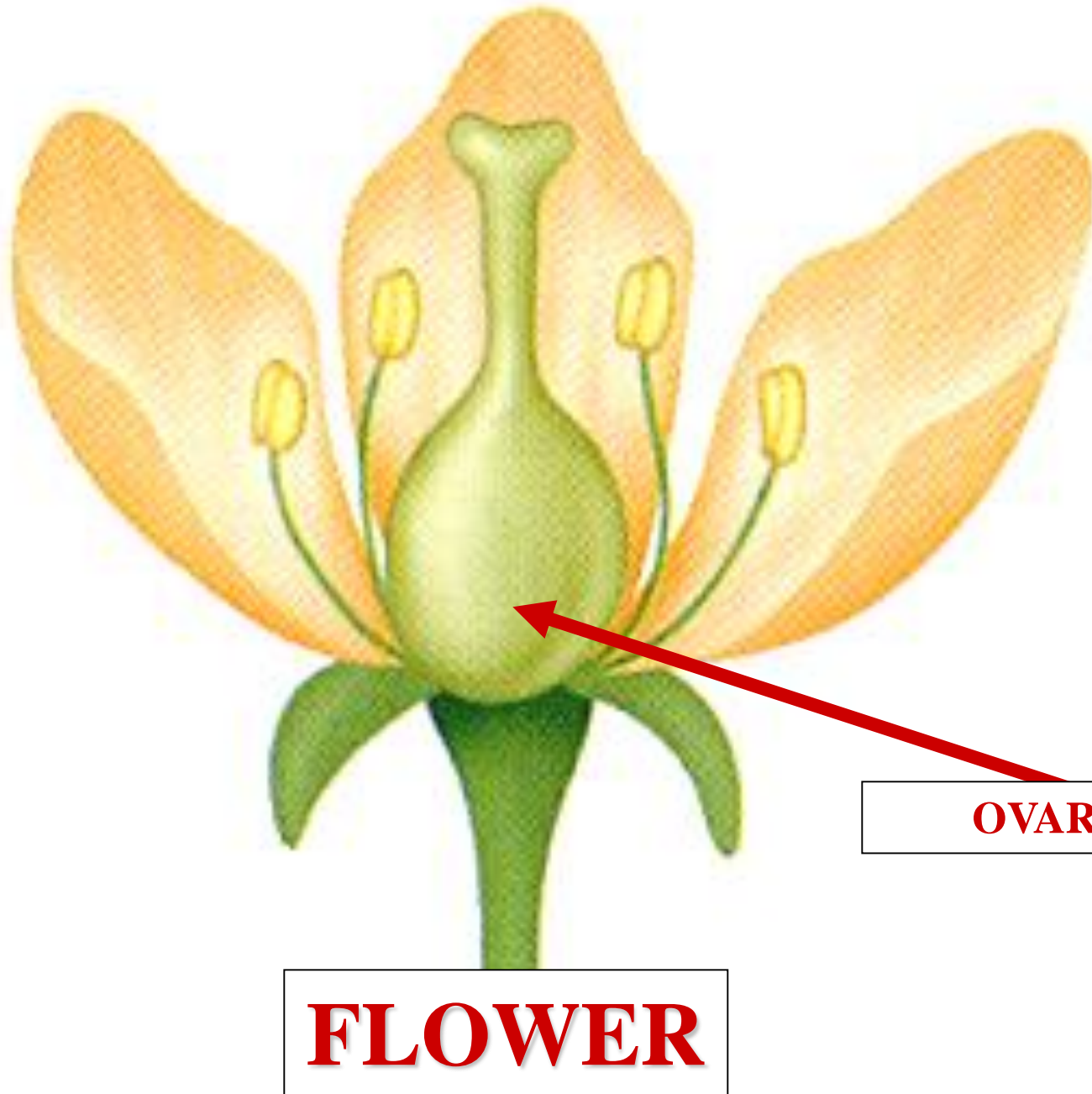


FRUIT

GENERAL FRUIT TYPES



SIMPLE FRUIT



OVARY

FLOWER



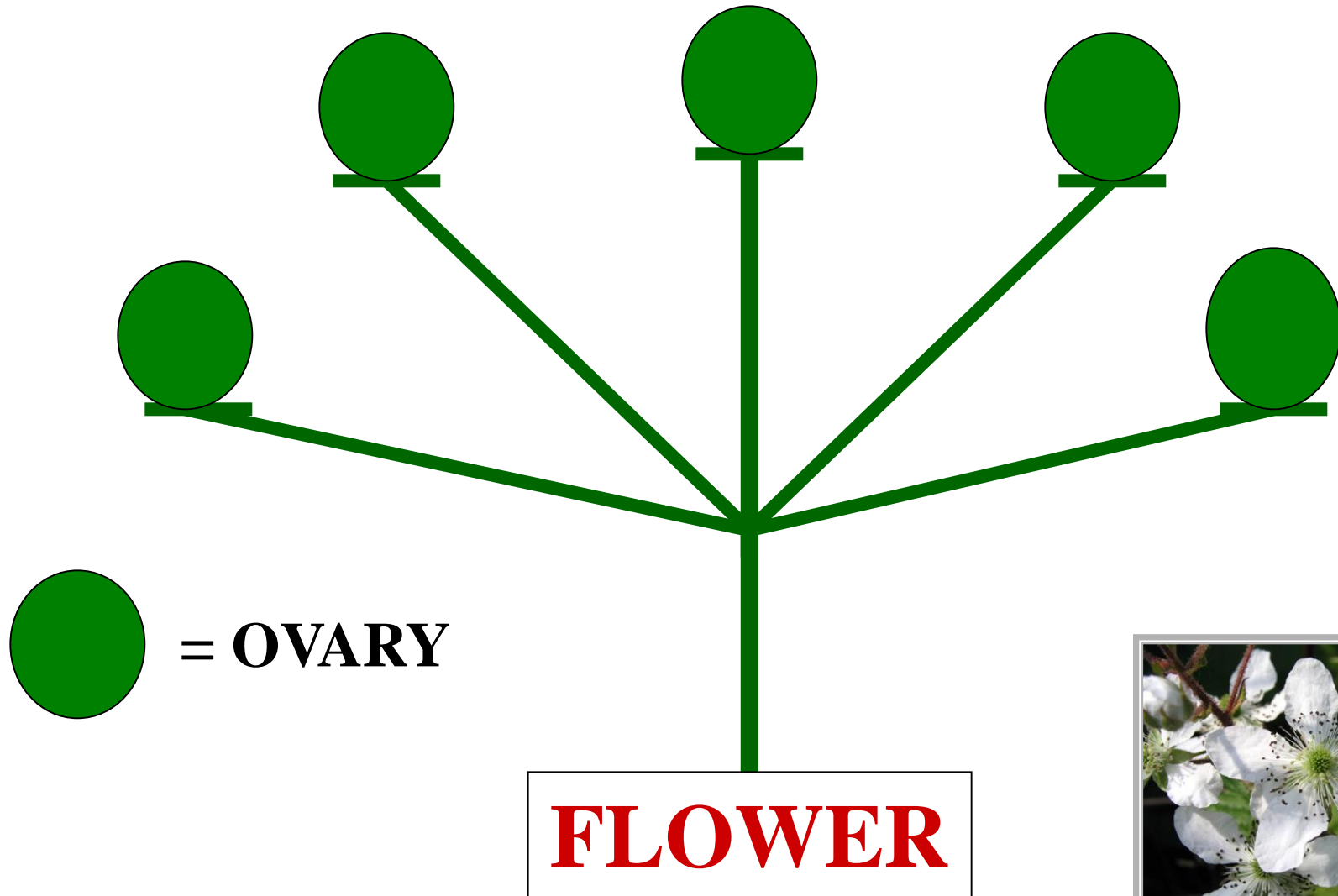
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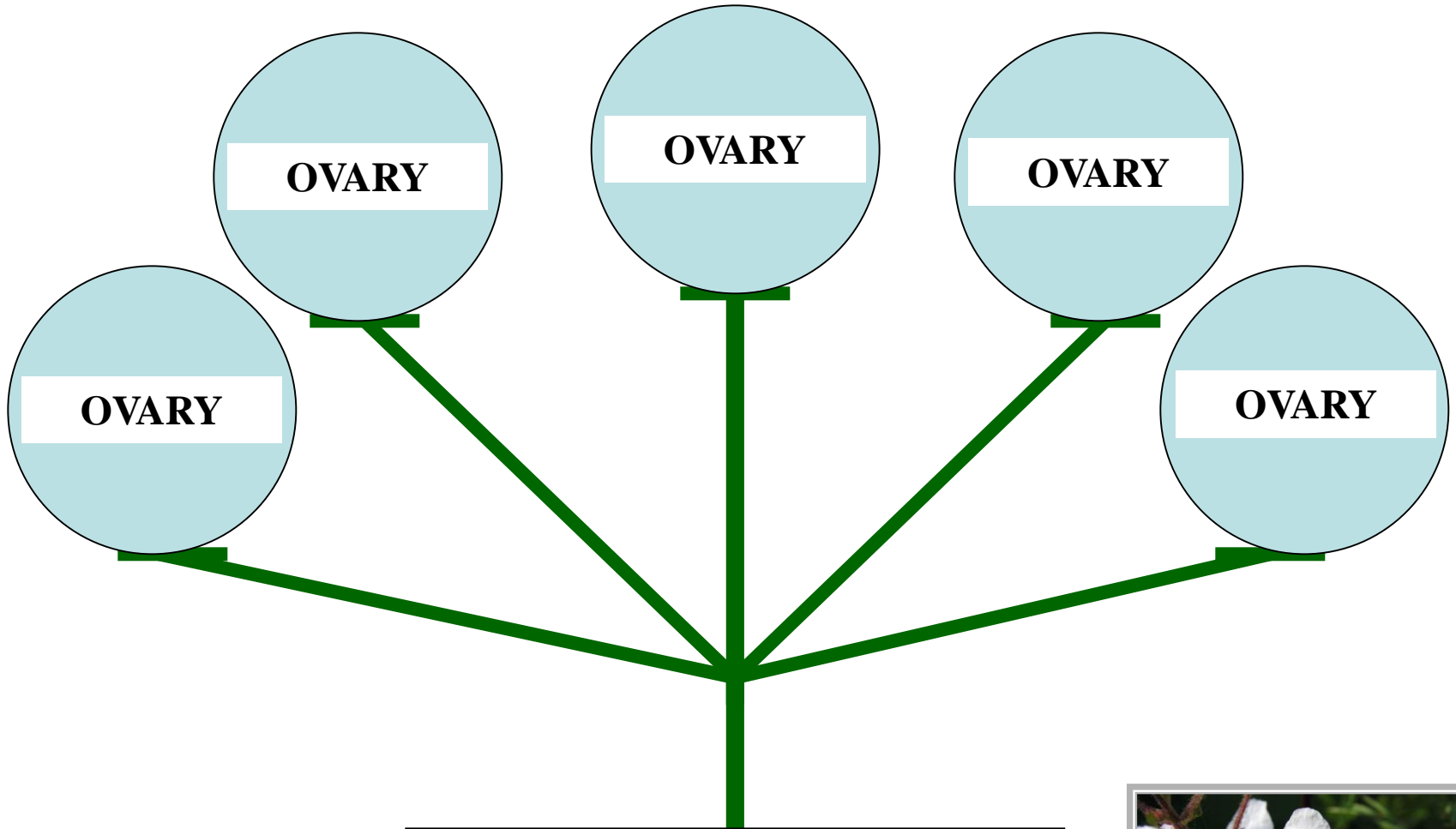
A



AGGREGATE FRUIT

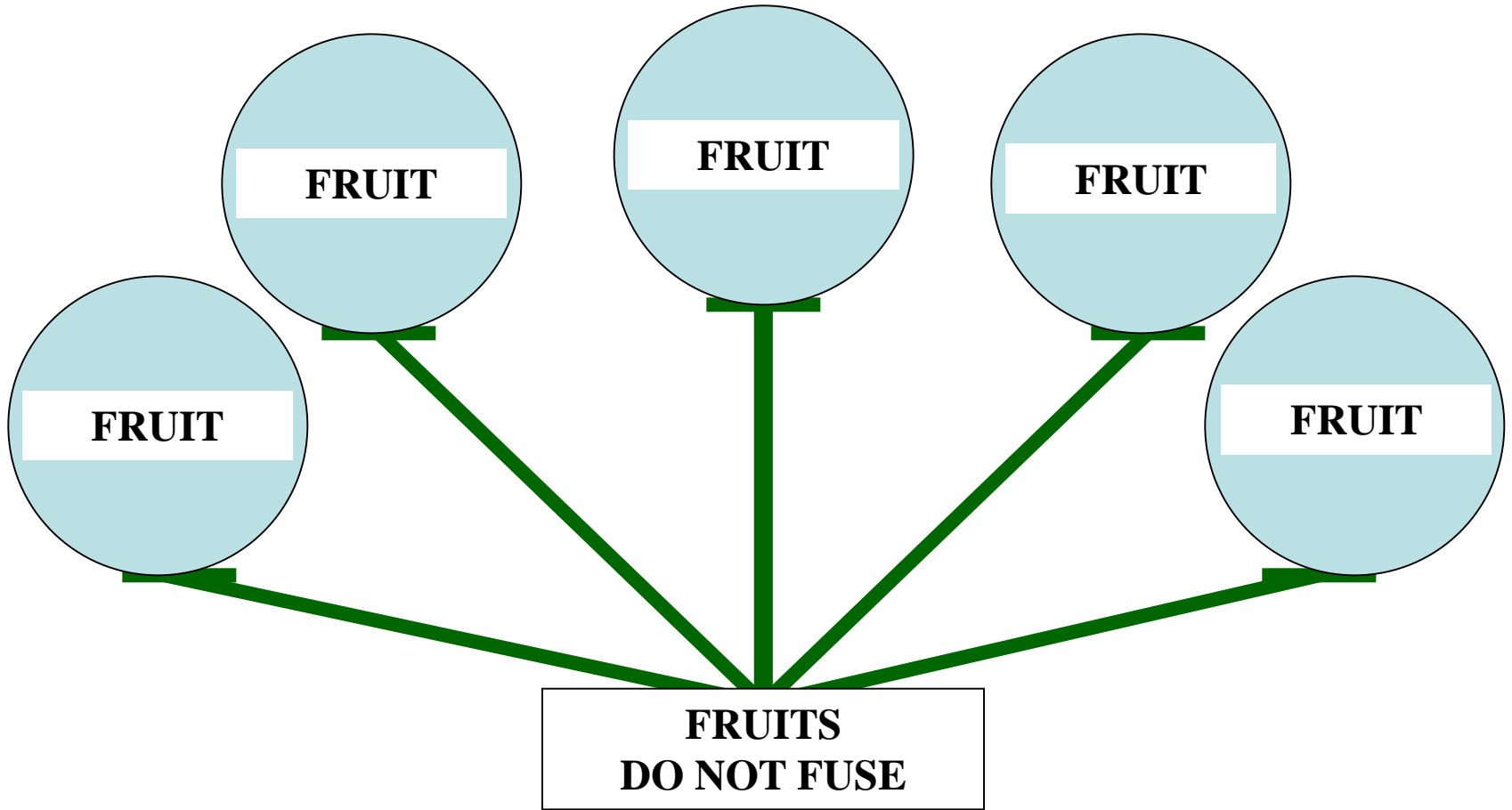






**AGGREGATE
FRUIT**





**AGGREGATE
FRUIT**





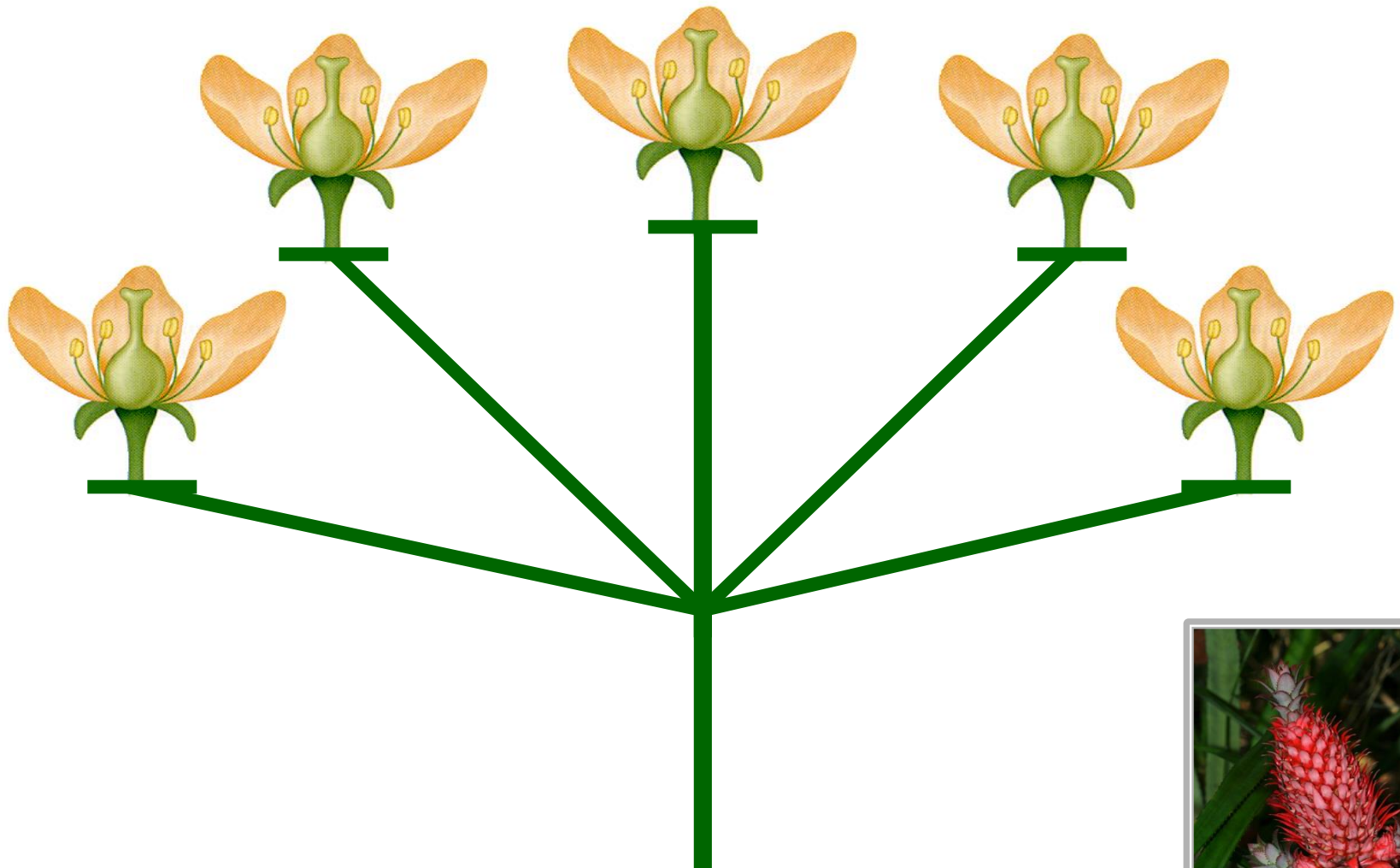
^
M





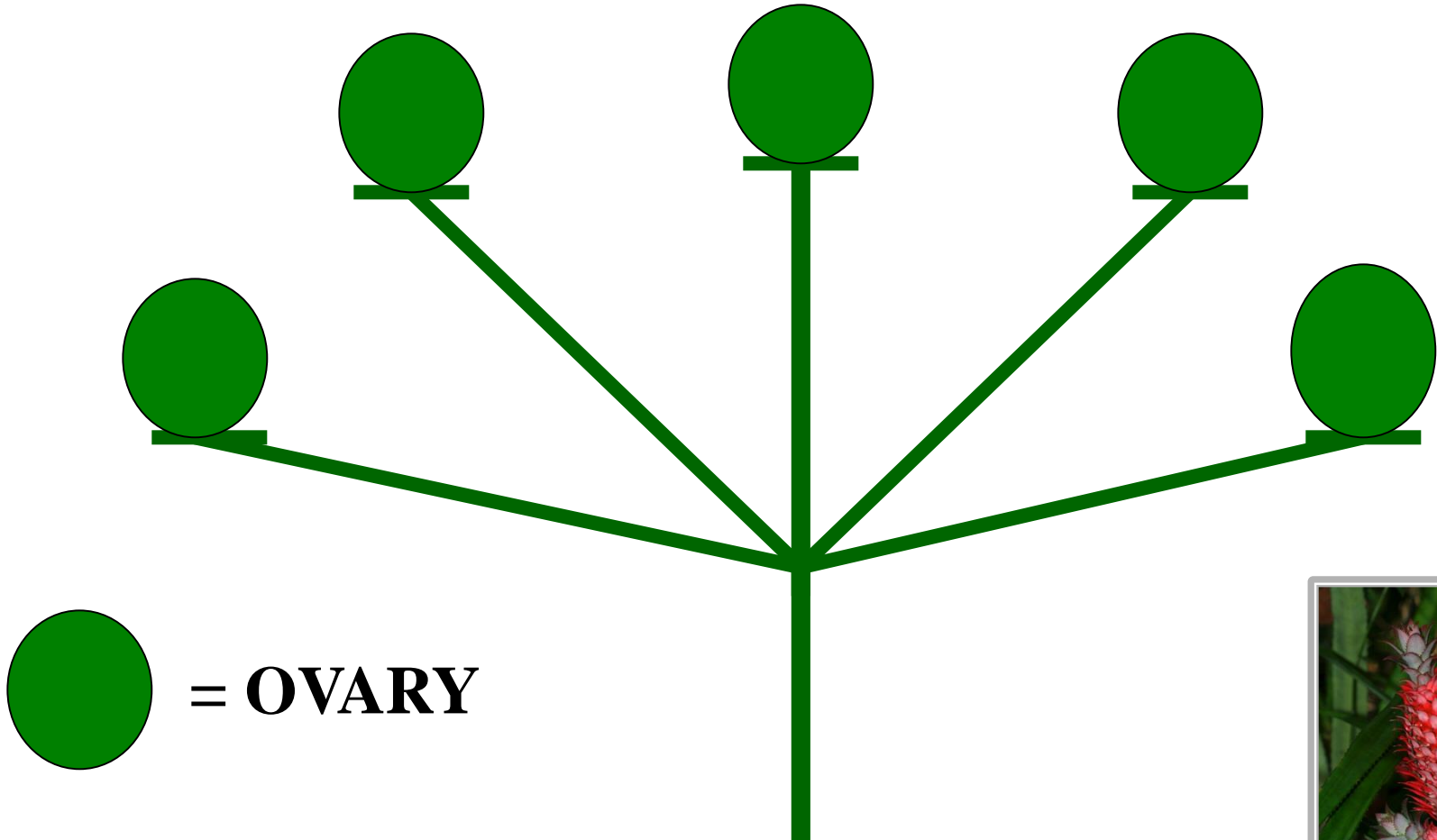
MULTIPLE FRUIT

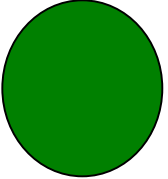




INFLORESCENCE

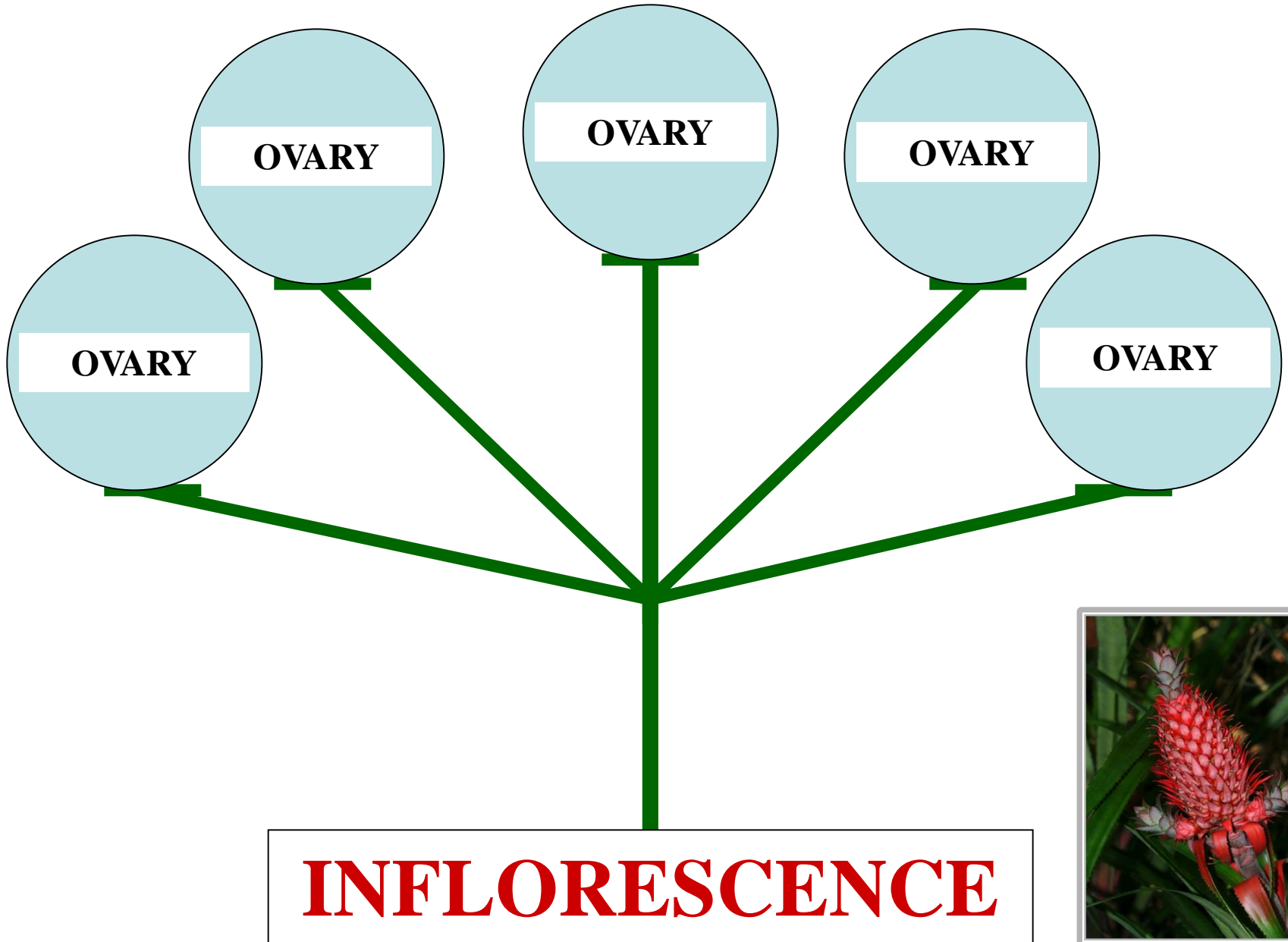


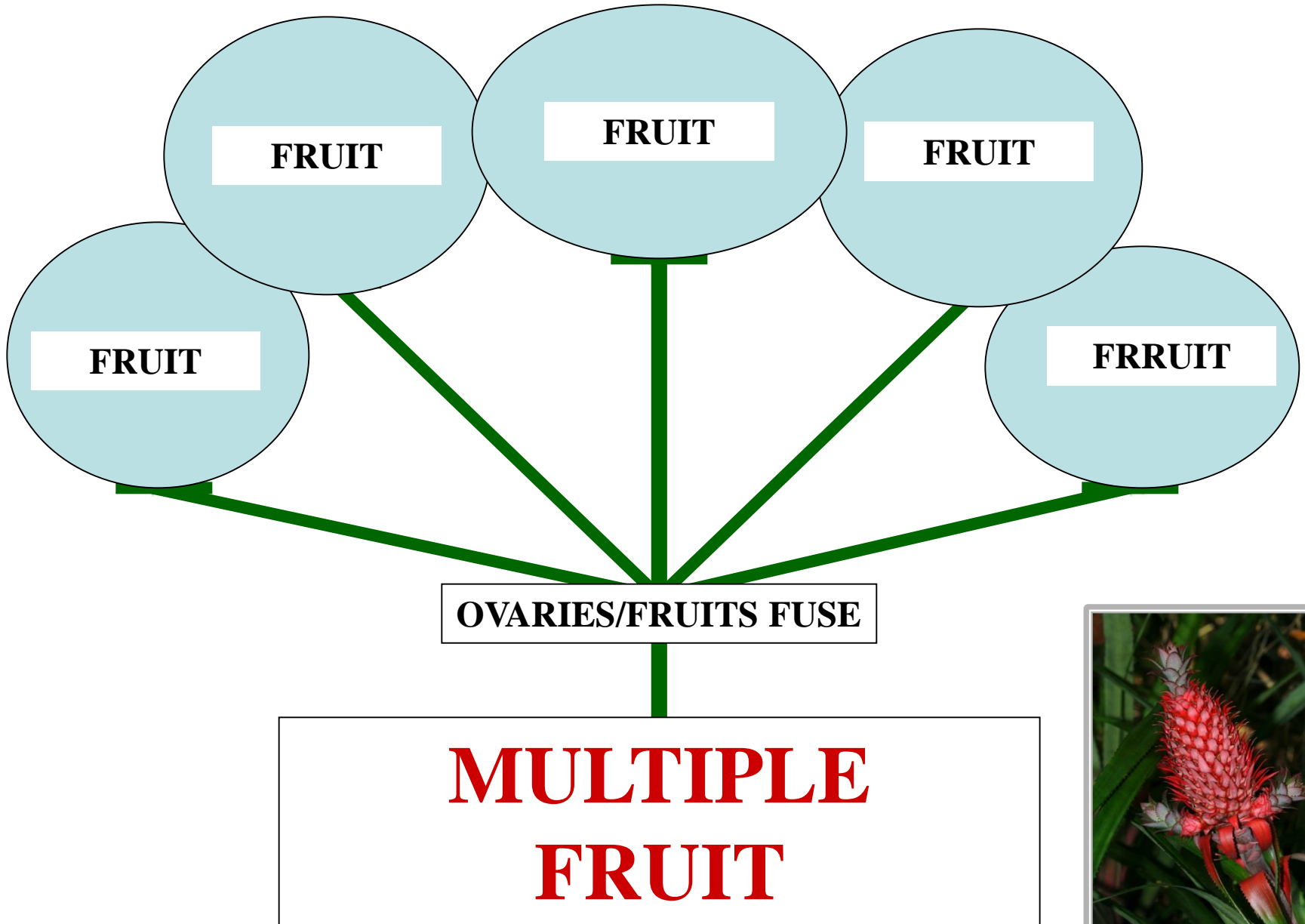


 = OVARY

INFLORESCENCE











FRUIT ANATOMY

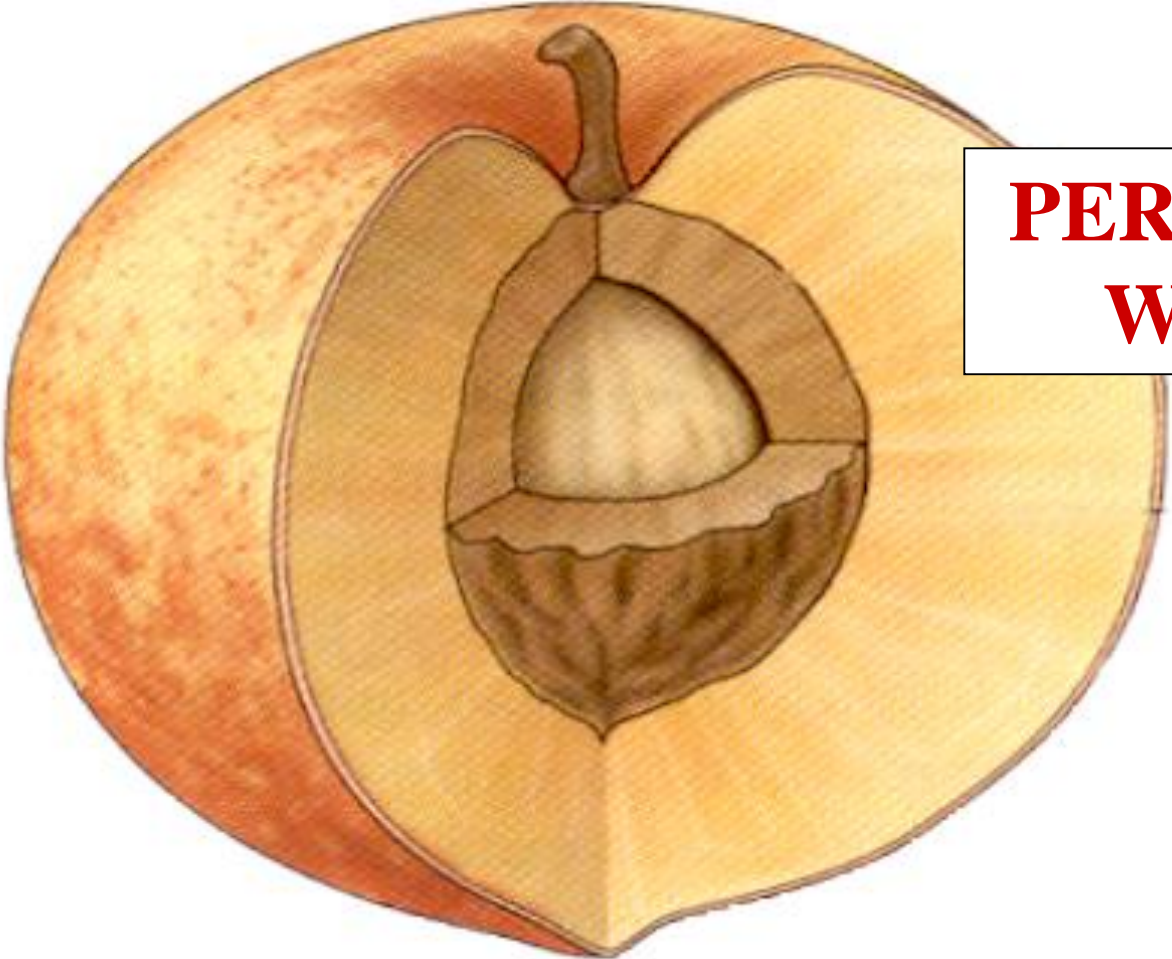
PERICARP



PERICARP



ANGIOSPERM FRUIT



**PERICARP
WALL**

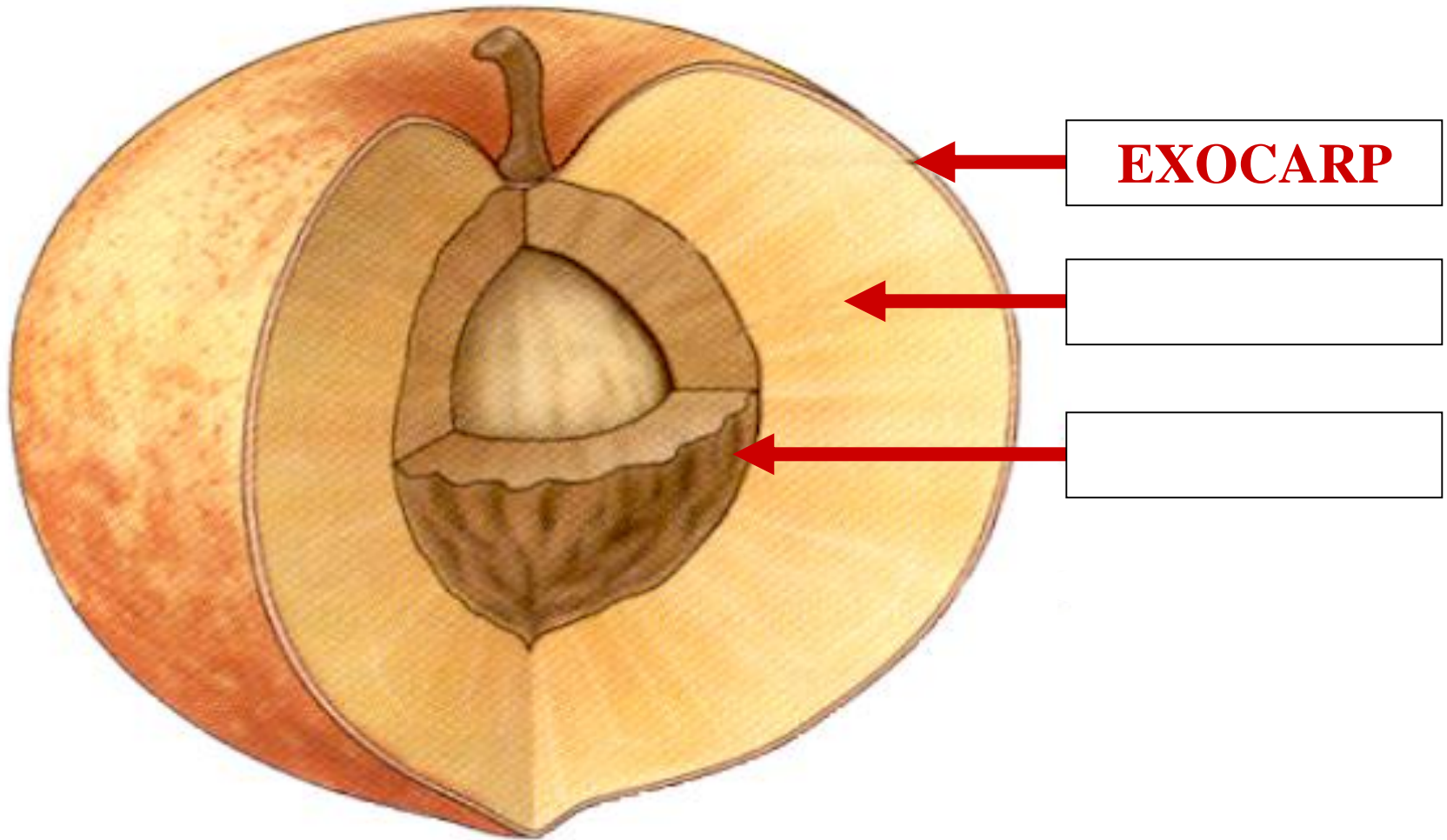
ANGIOSPERM FRUIT

PERICARP LAYERS



EXOCARP

ANGIOSPERM FRUIT



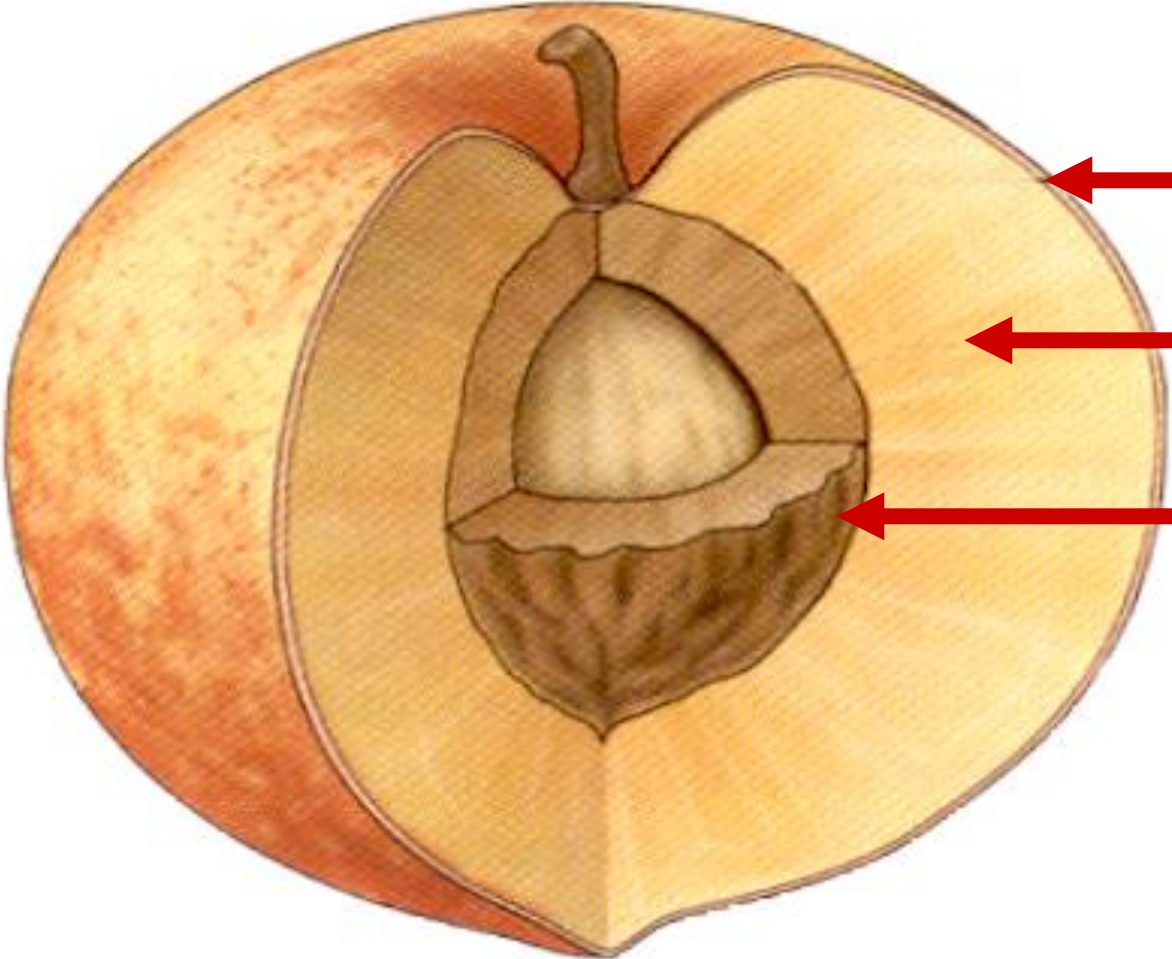
EXOCARP

PERICARP



MESOCARP

ANGIOSPERM FRUIT



EXOCARP

MESOCARP

PERICARP

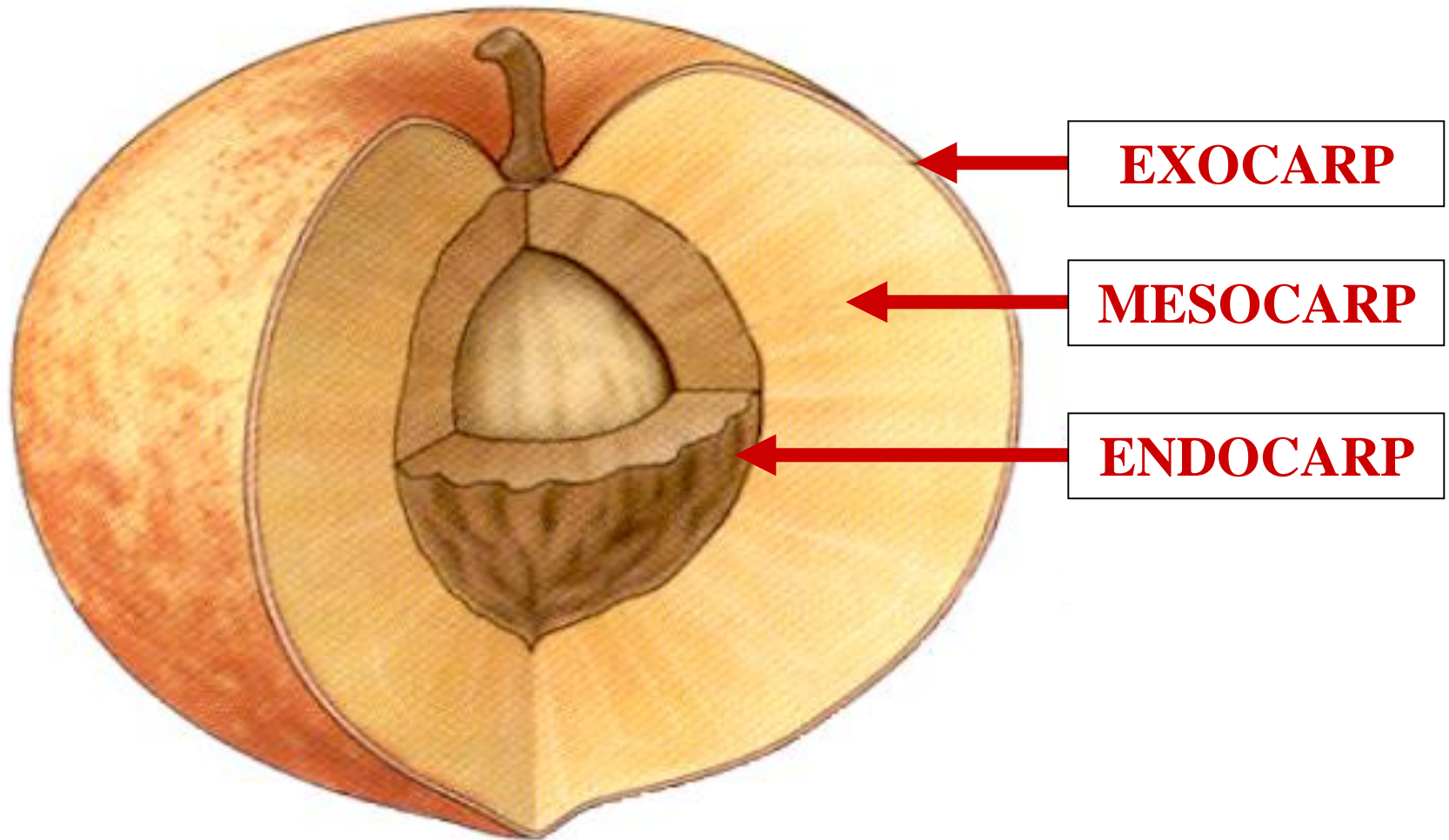


ENDOCARP

ANGIOSPERM FRUIT

S

!



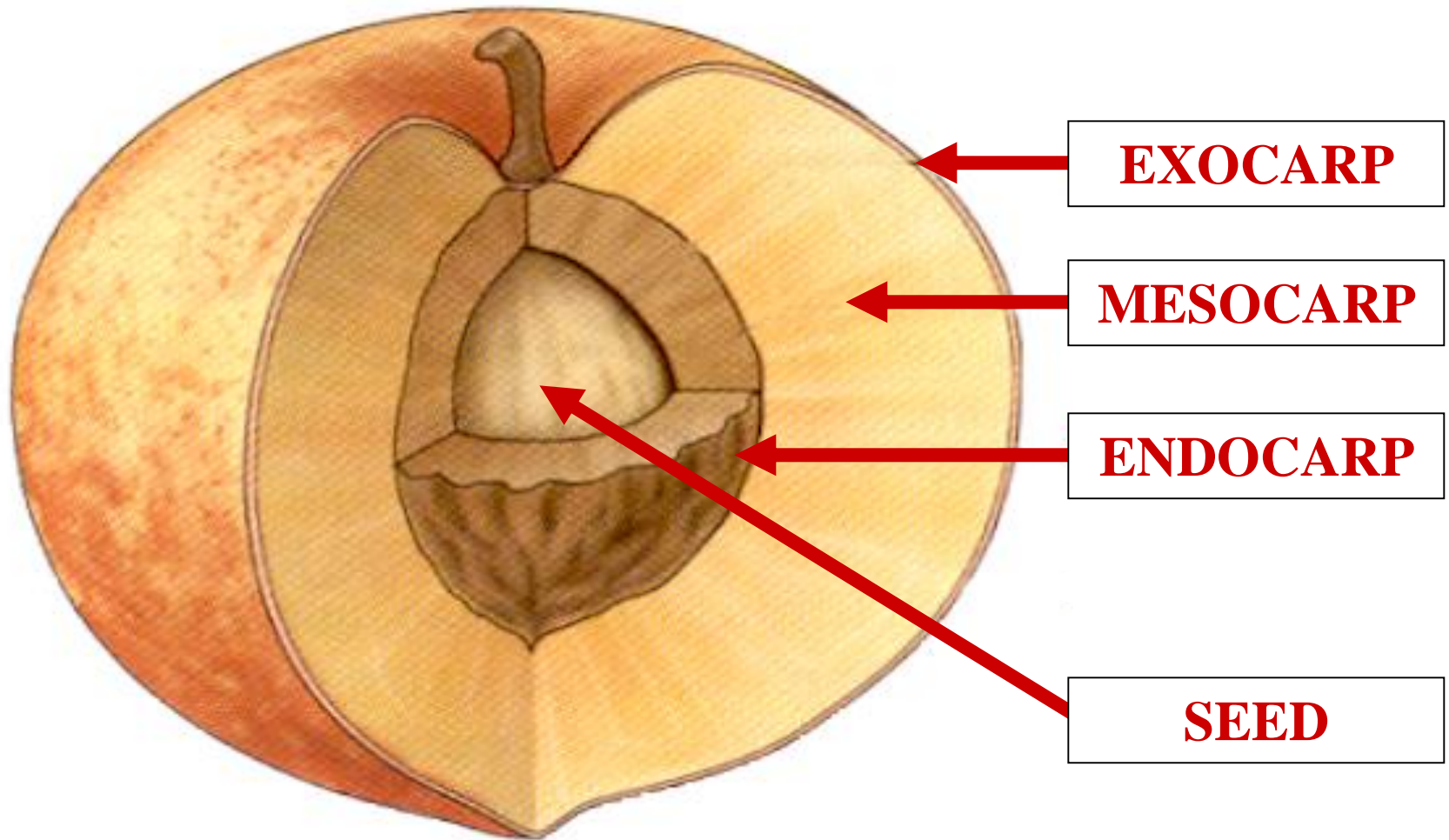
EXOCARP

MESOCARP

ENDOCARP

PERICARP

ANGIOSPERM FRUIT



EXOCARP

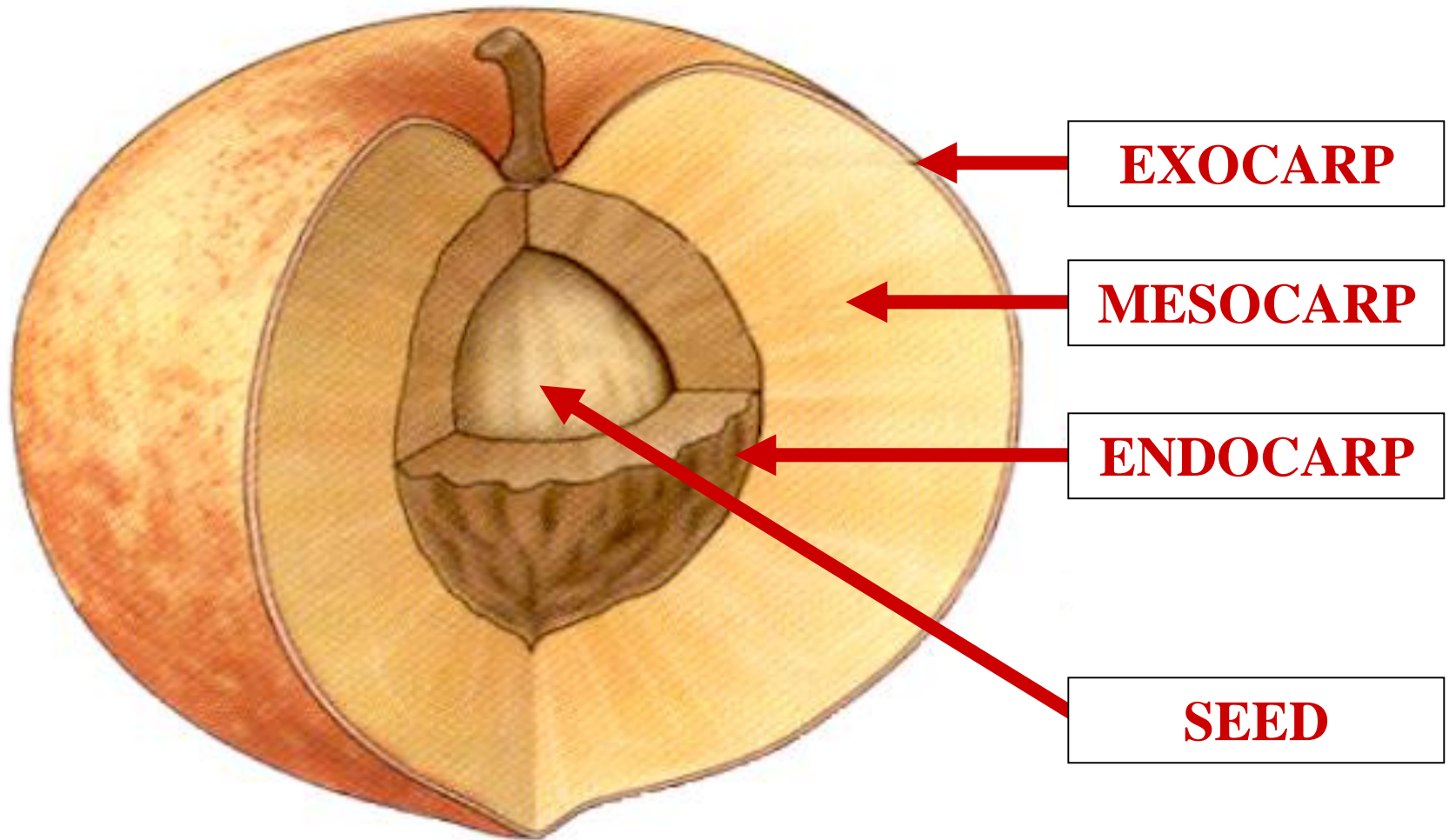
MESOCARP

ENDOCARP

SEED

PERICARP

ANGIOSPERM FRUIT



**PREICARP LAYERS
NOT ALWAYS DISCERNIBLE**



GENERAL FRUIT TERMS

FLESHY FRUIT
VS
DRY FRUIT



FLESHY FRUIT



^

D



DRY FRUIT



DEHISCENT FRUIT

VS

INDEHISCENT FRUIT



DEHISCENT FRUIT





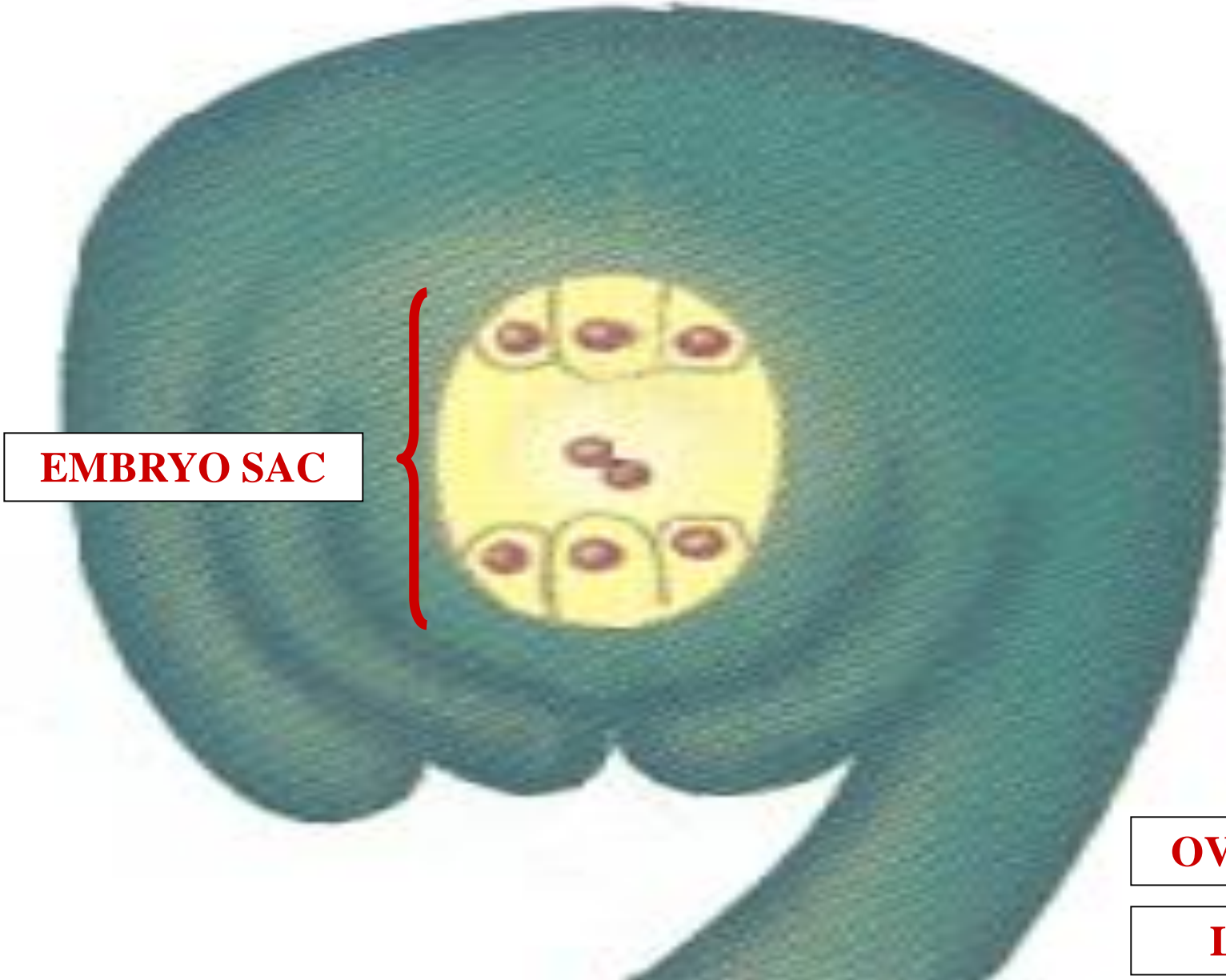
INDEHISCENT FRUIT





POLYGONUM
EMBRYO SAC

POLYGONUM EMBRYO SAC



EMBRYO SAC

OVULE

L.S.

POLYGONUM EMBRYO SAC

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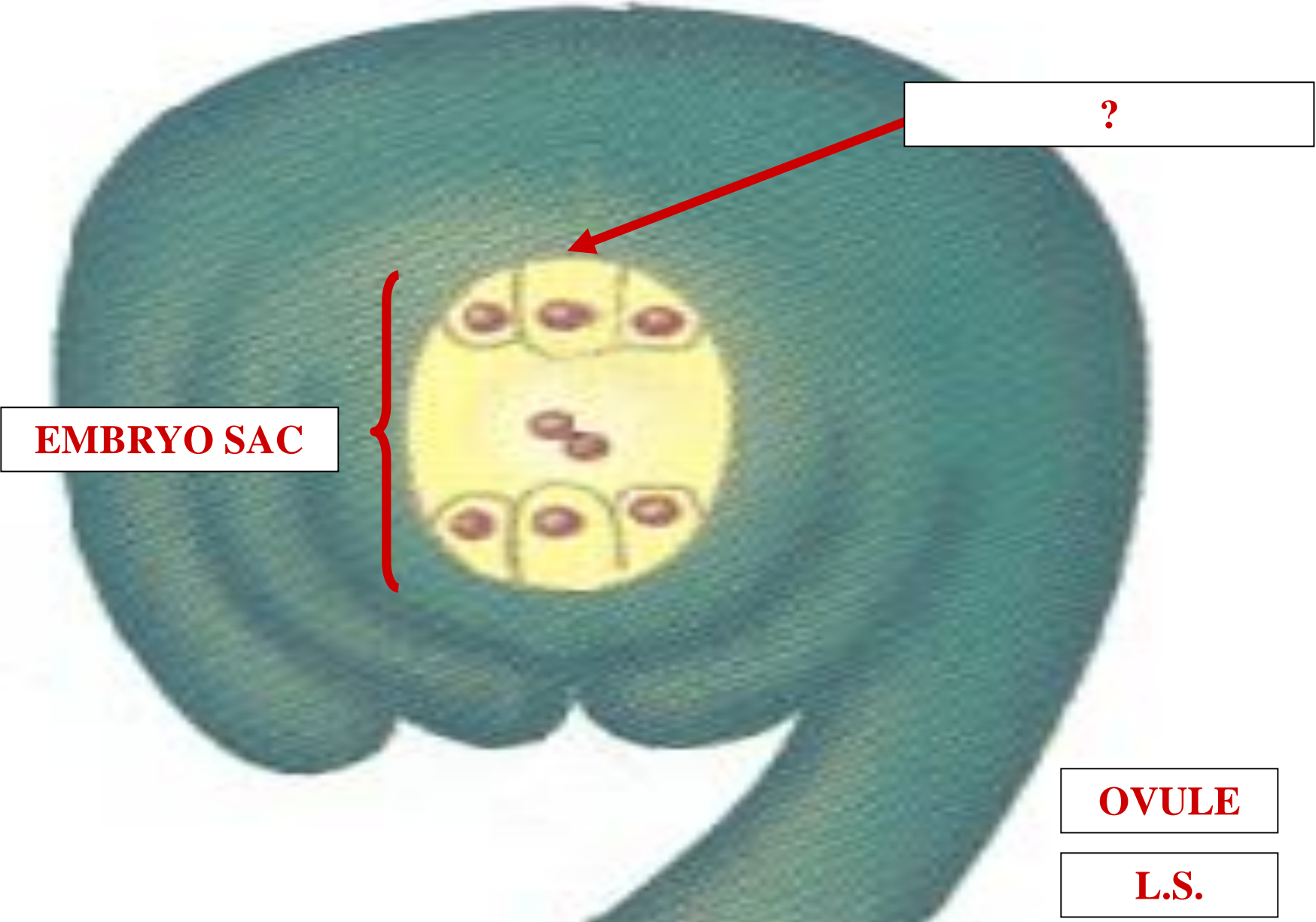
EMBRYO SAC
7 CELLS
8 NUCLEI



OVULE

L.S.

POLYGONUM EMBRYO SAC



?

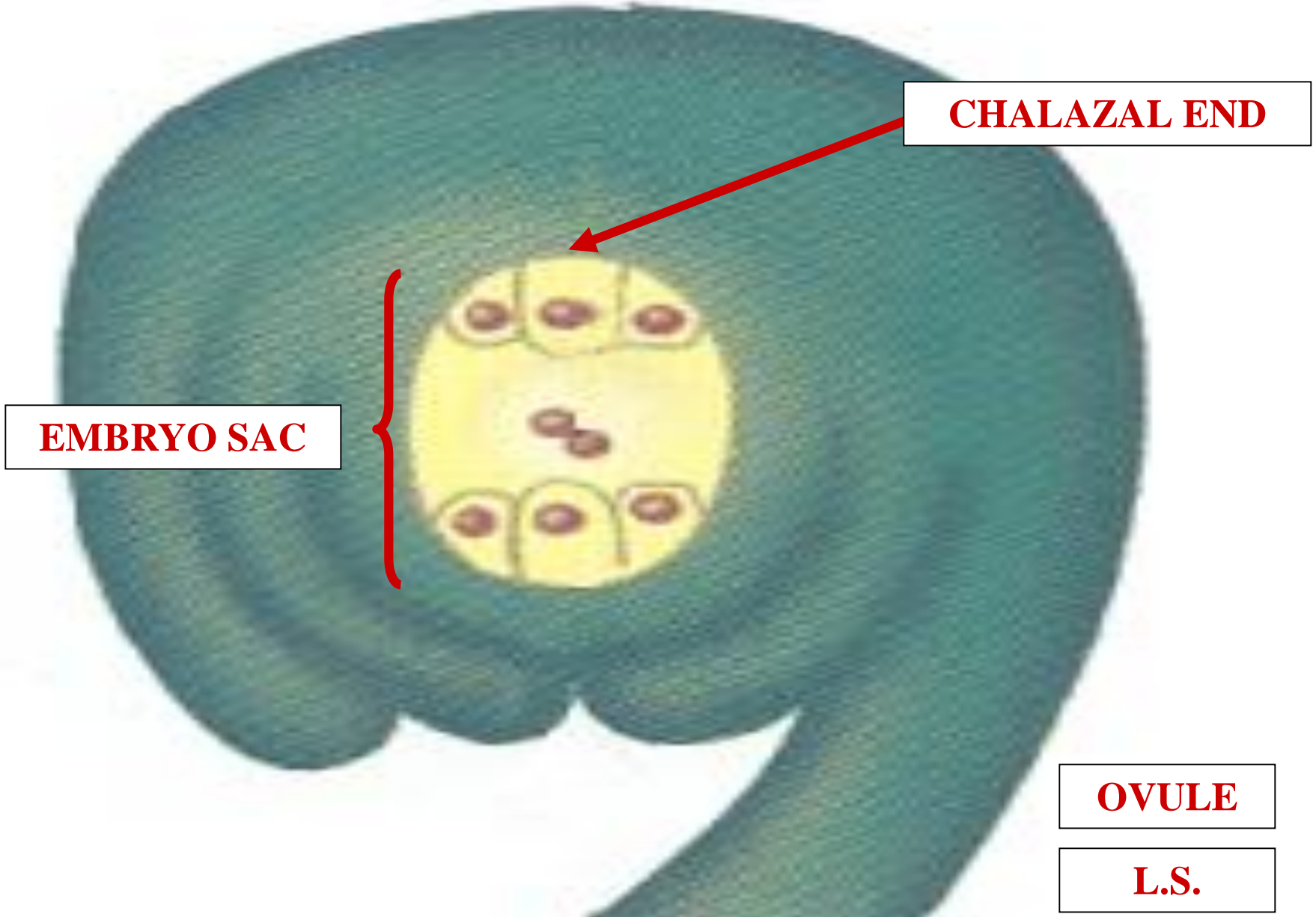
EMBRYO SAC

OVULE

L.S.

POLYGONUM EMBRYO SAC

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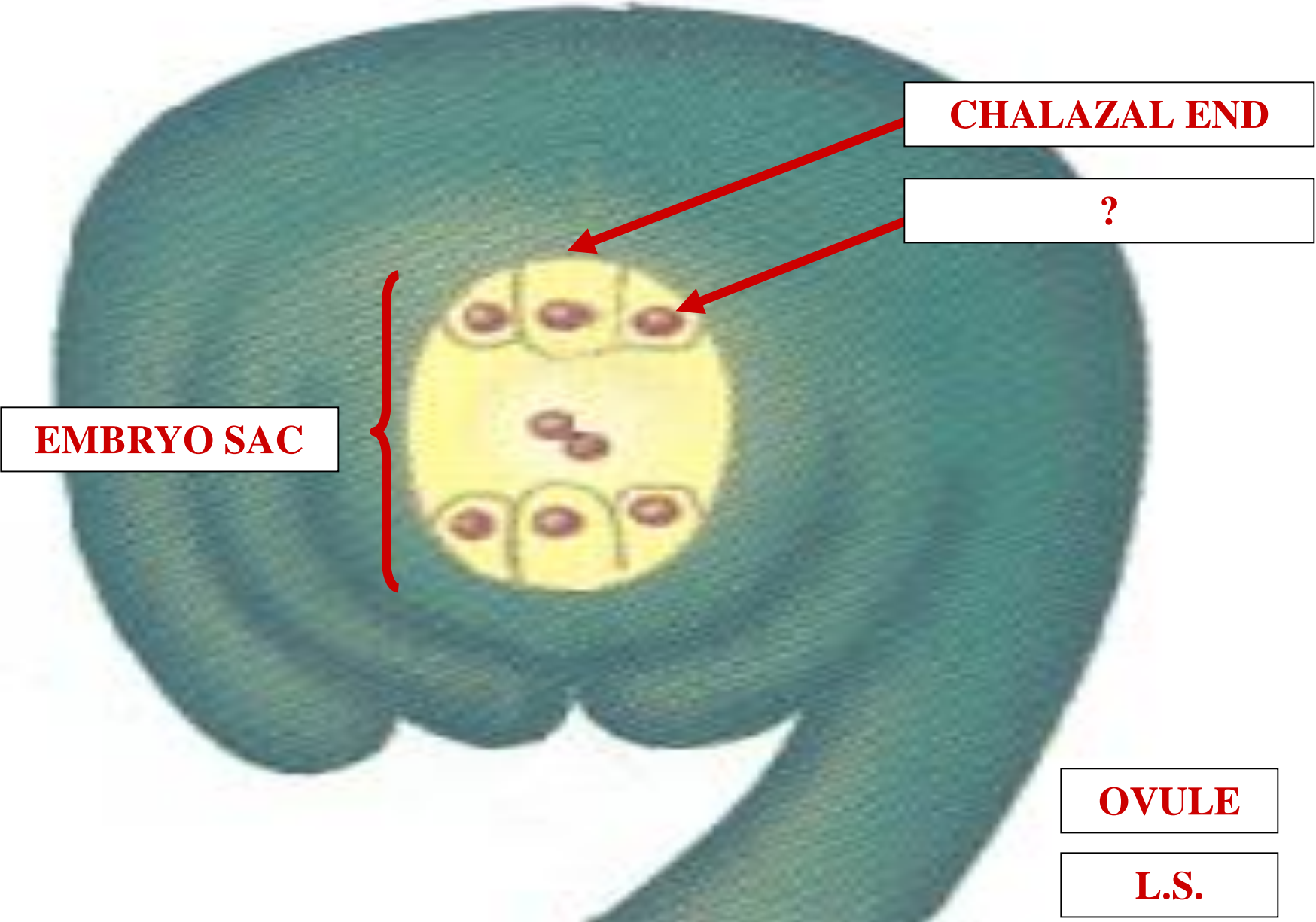
CHALAZAL END

EMBRYO SAC

OVULE

L.S.

POLYGONUM EMBRYO SAC



CHALAZAL END

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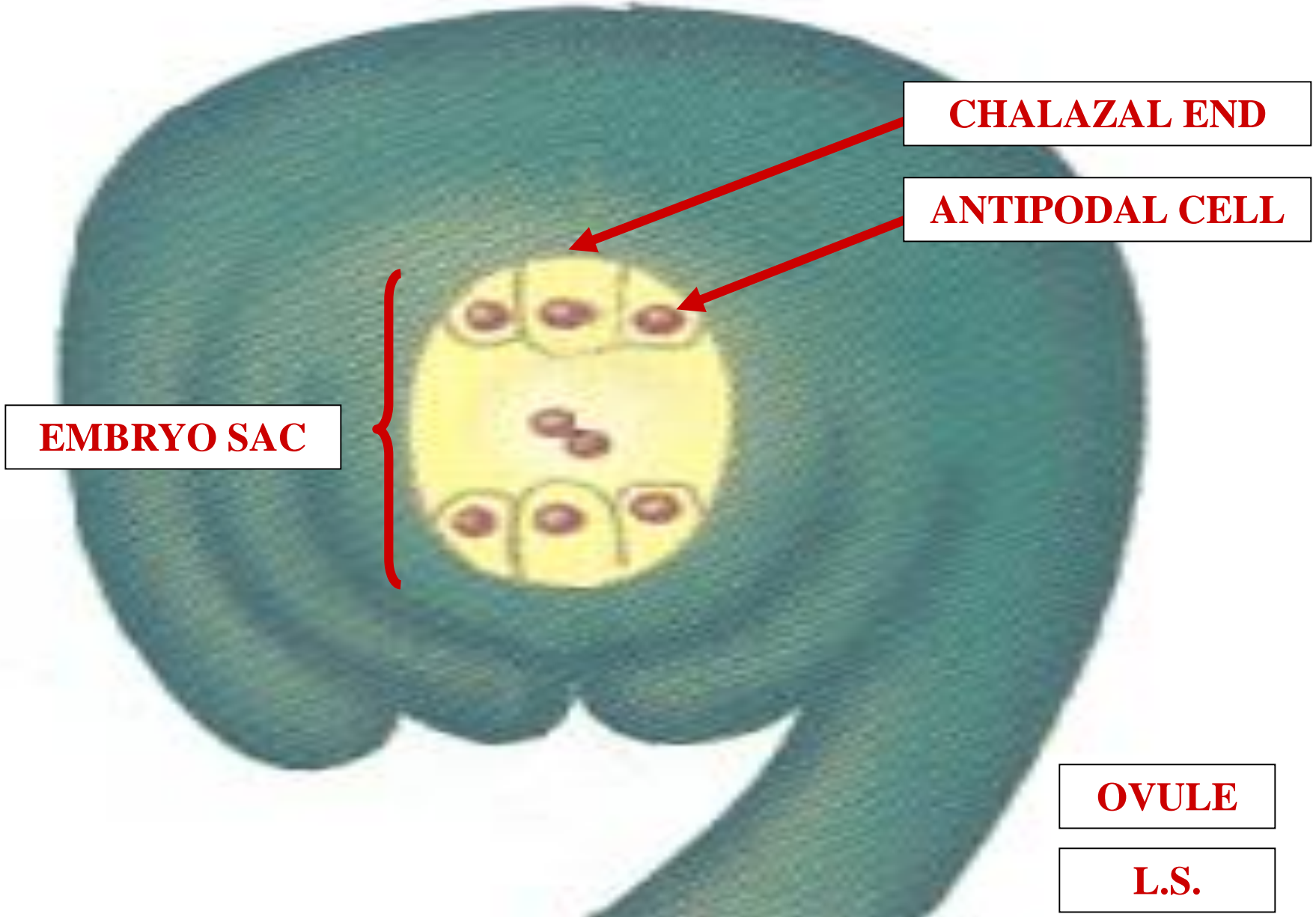
EMBRYO SAC

OVULE

L.S.

POLYGONUM EMBRYO SAC

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CHALAZAL END

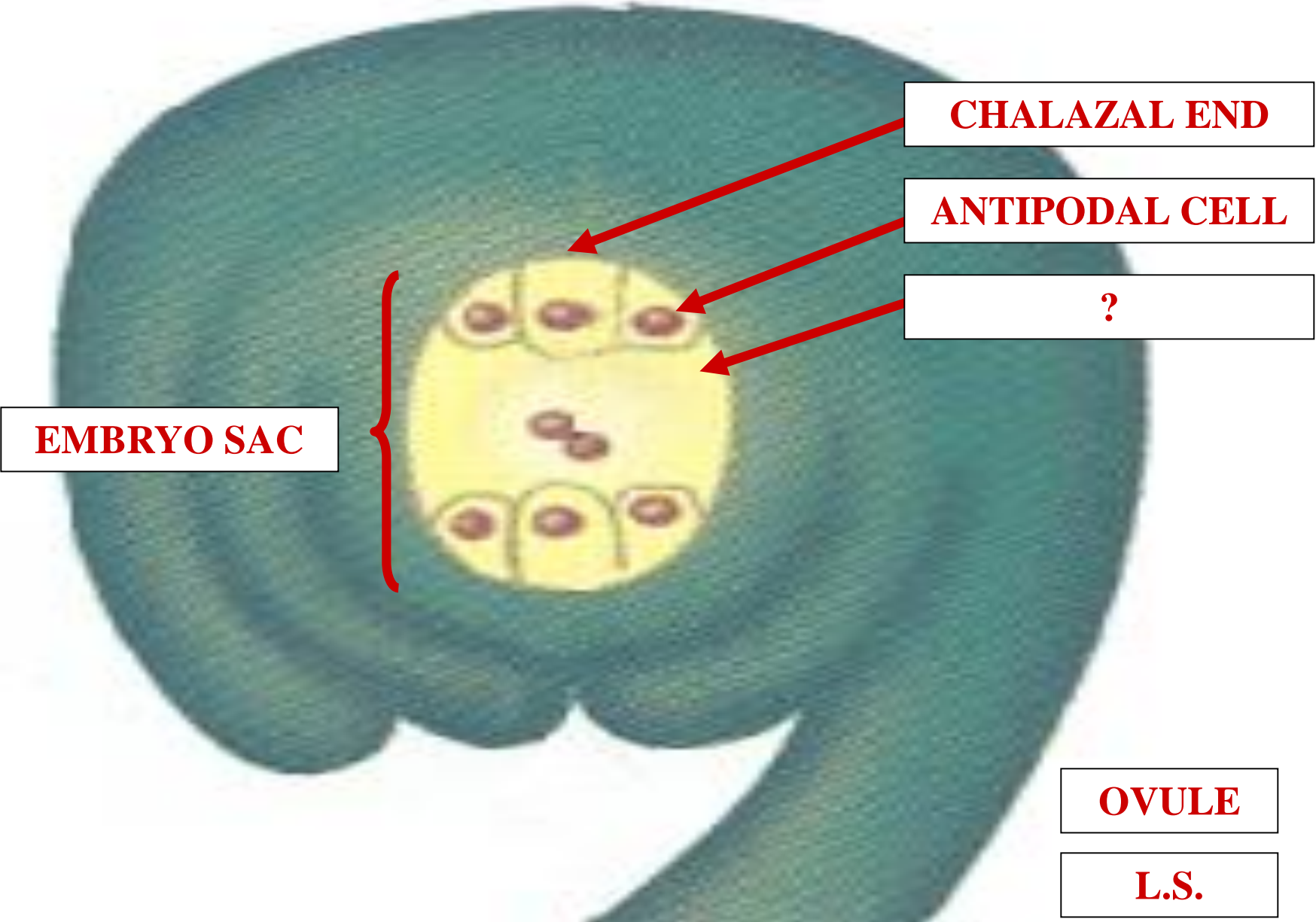
ANTIPODAL CELL

EMBRYO SAC

OVULE

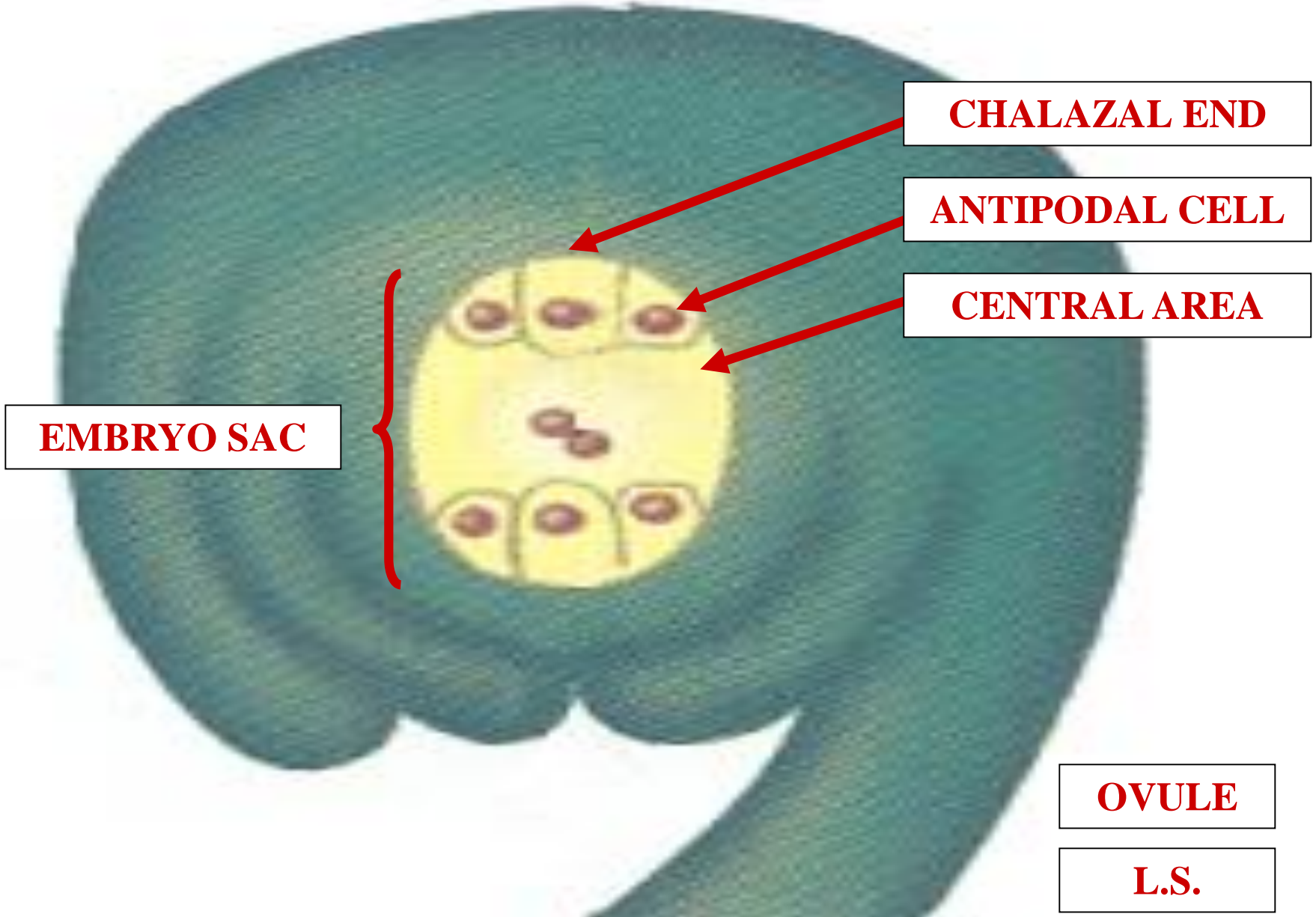
L.S.

POLYGONUM EMBRYO SAC

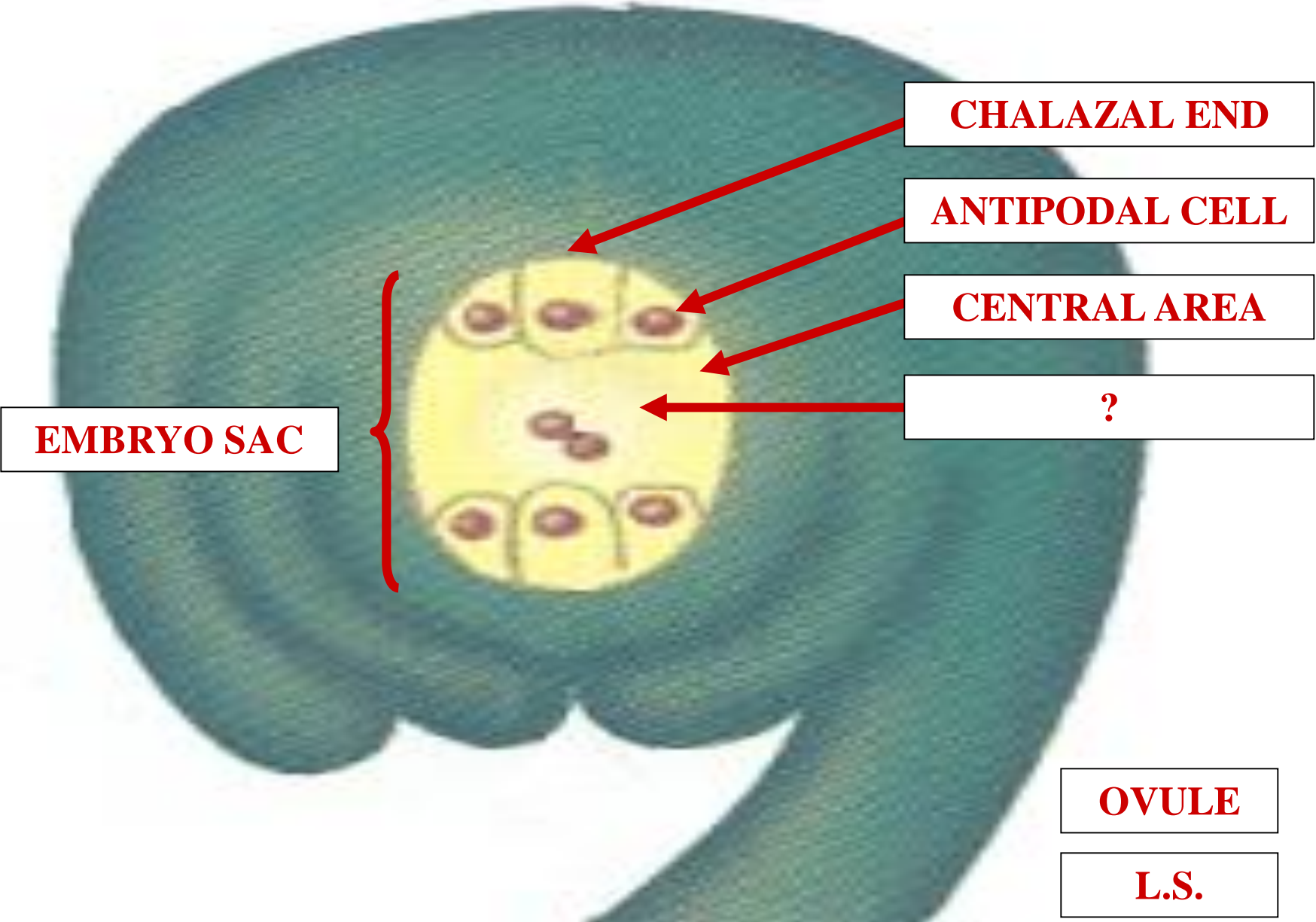


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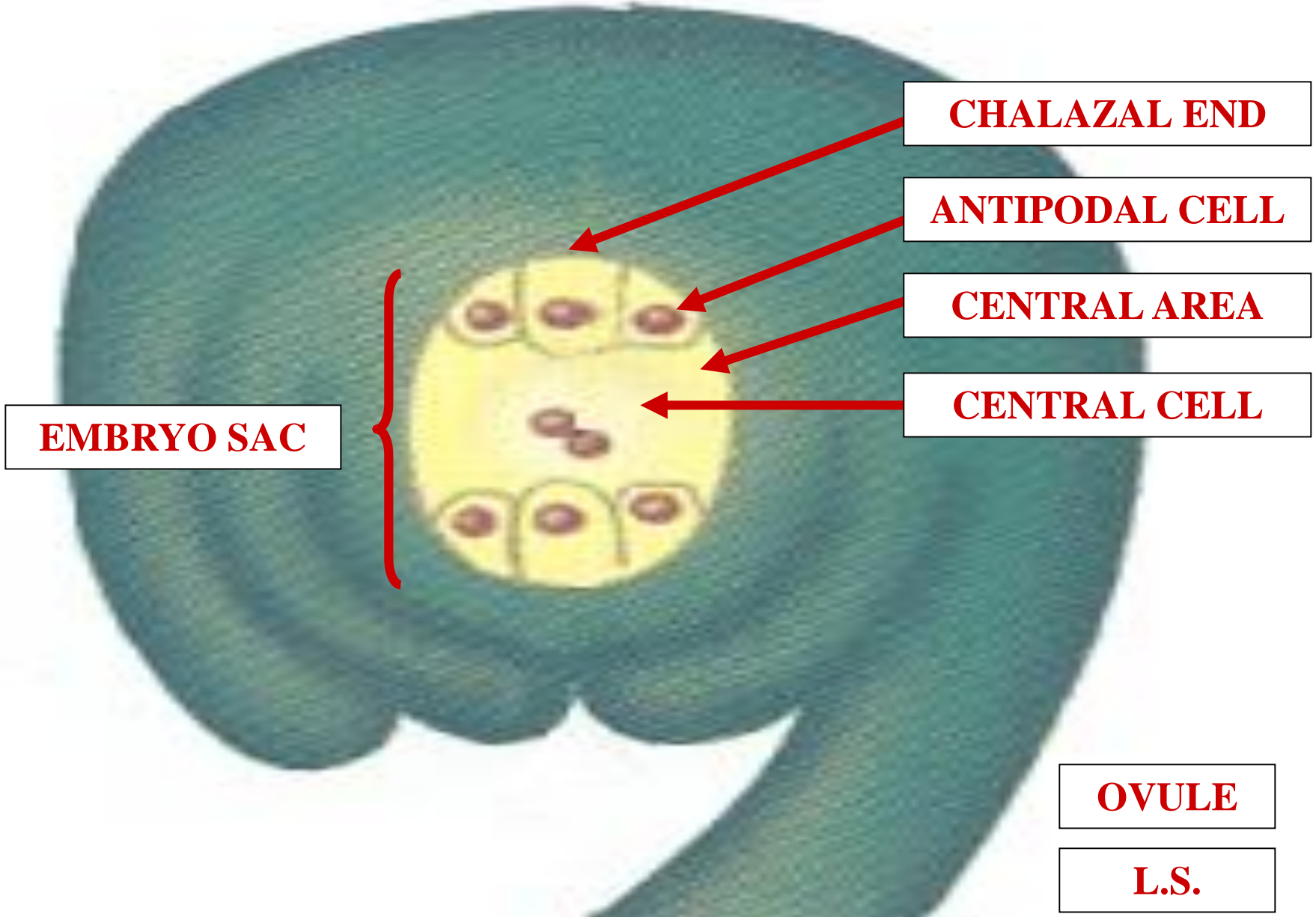


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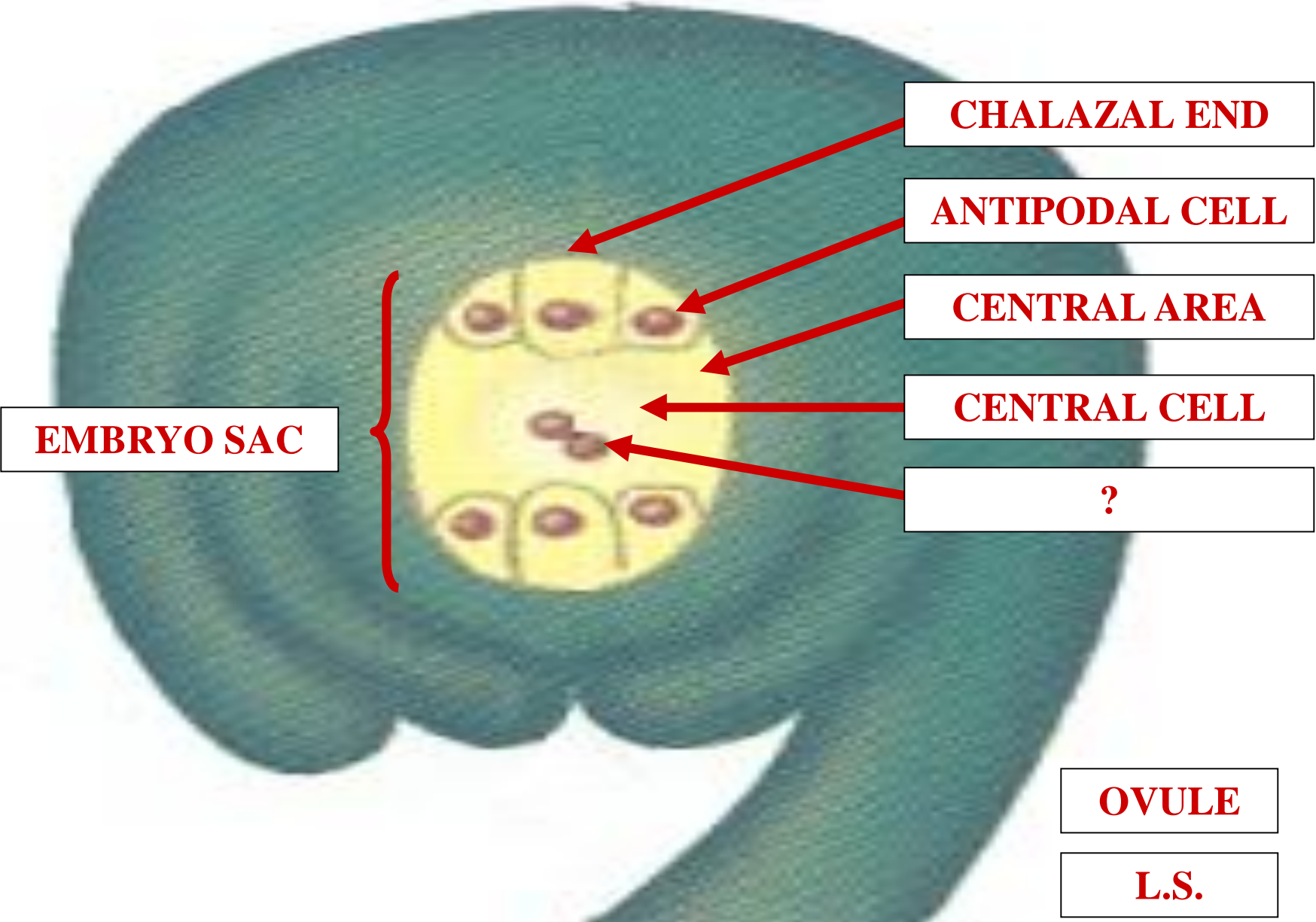


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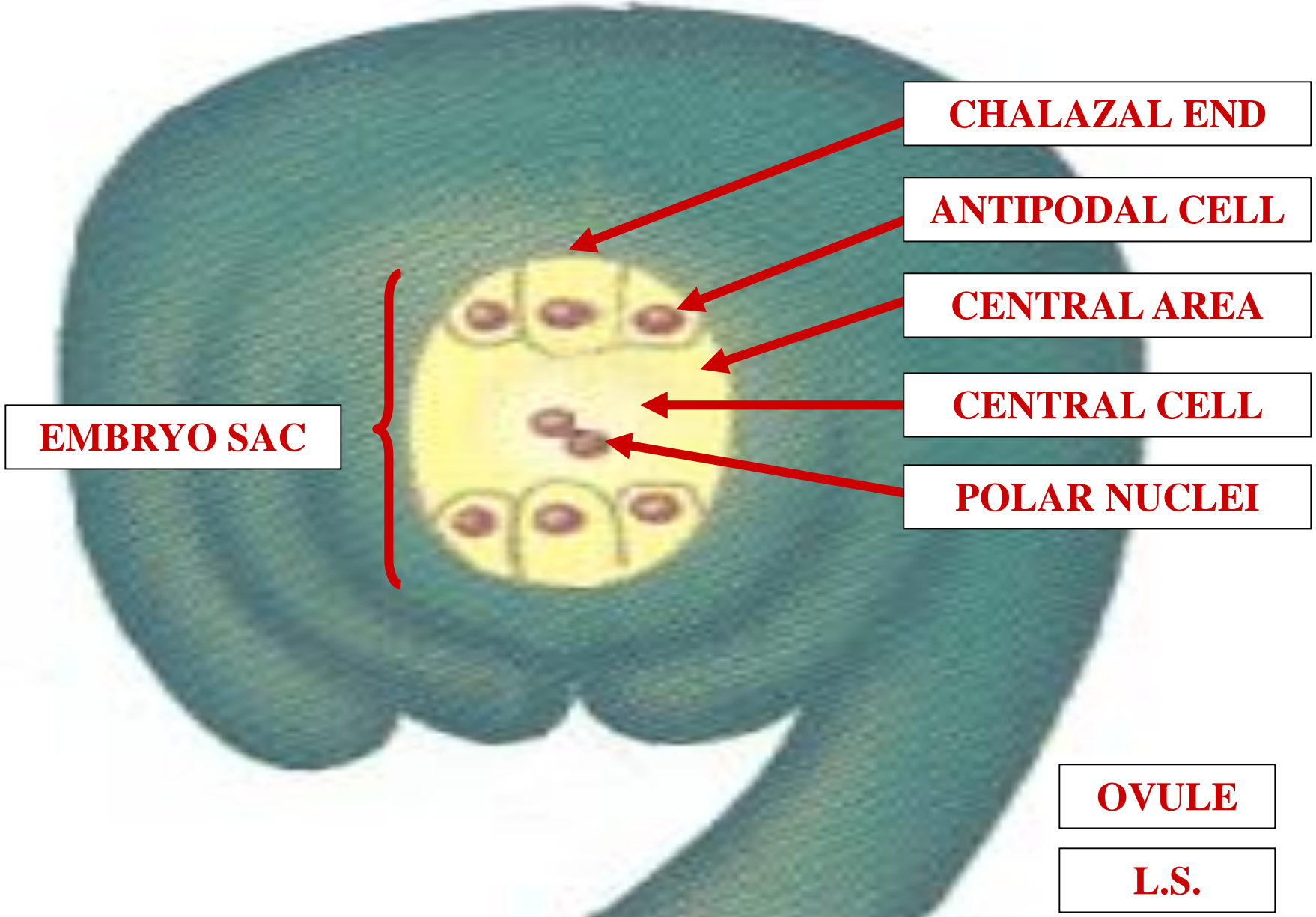


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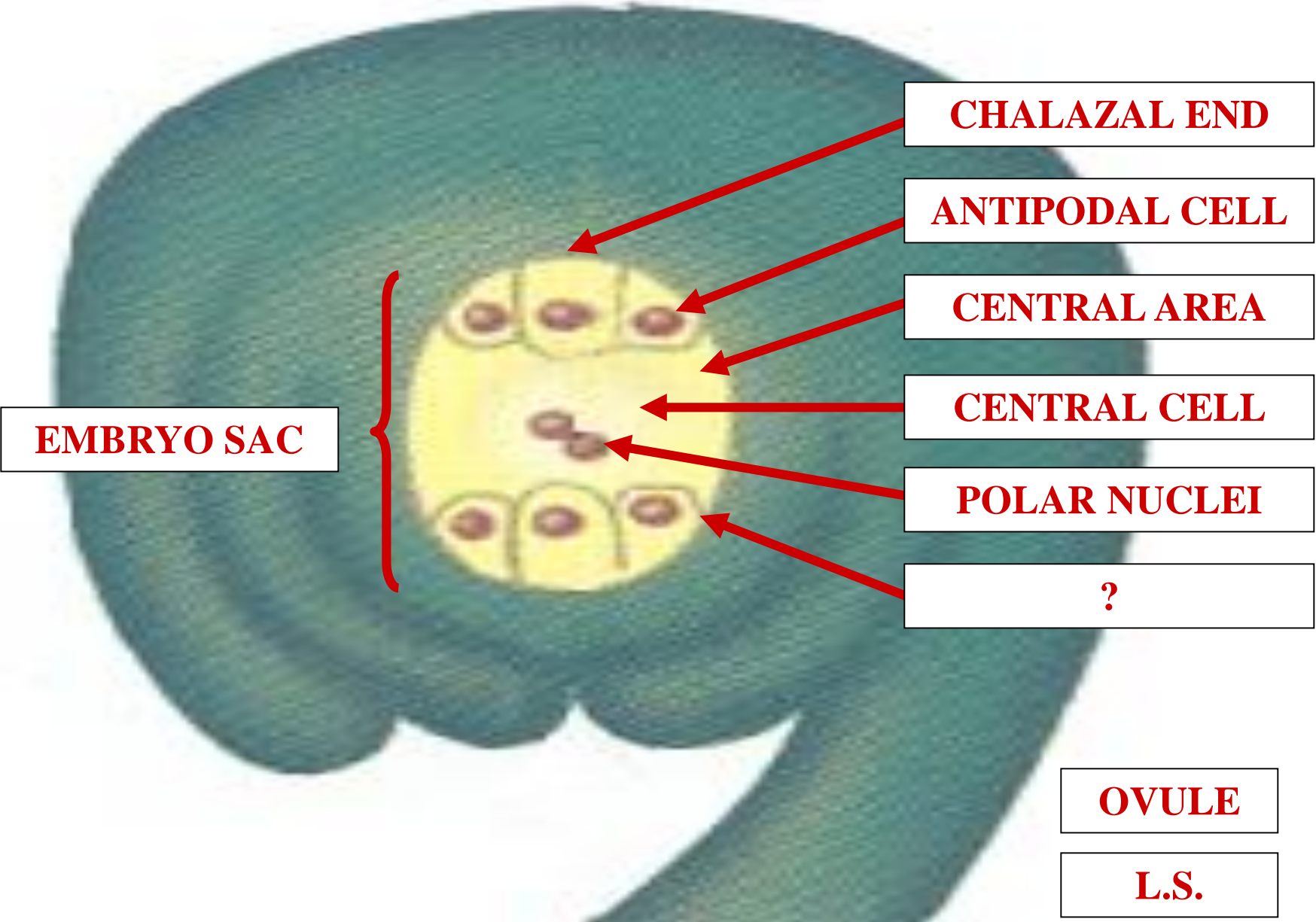


POLYGONUM EMBRYO SAC

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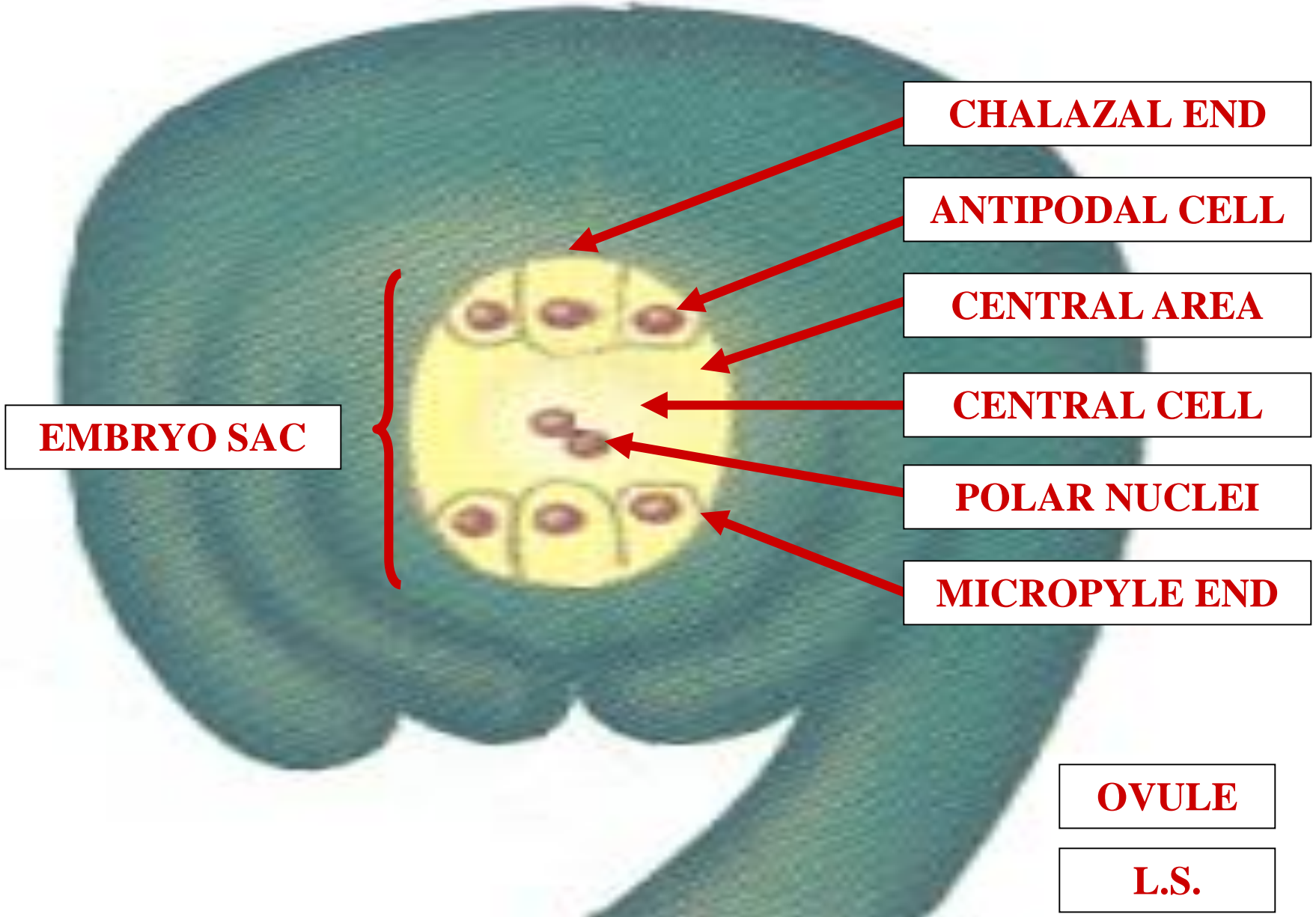


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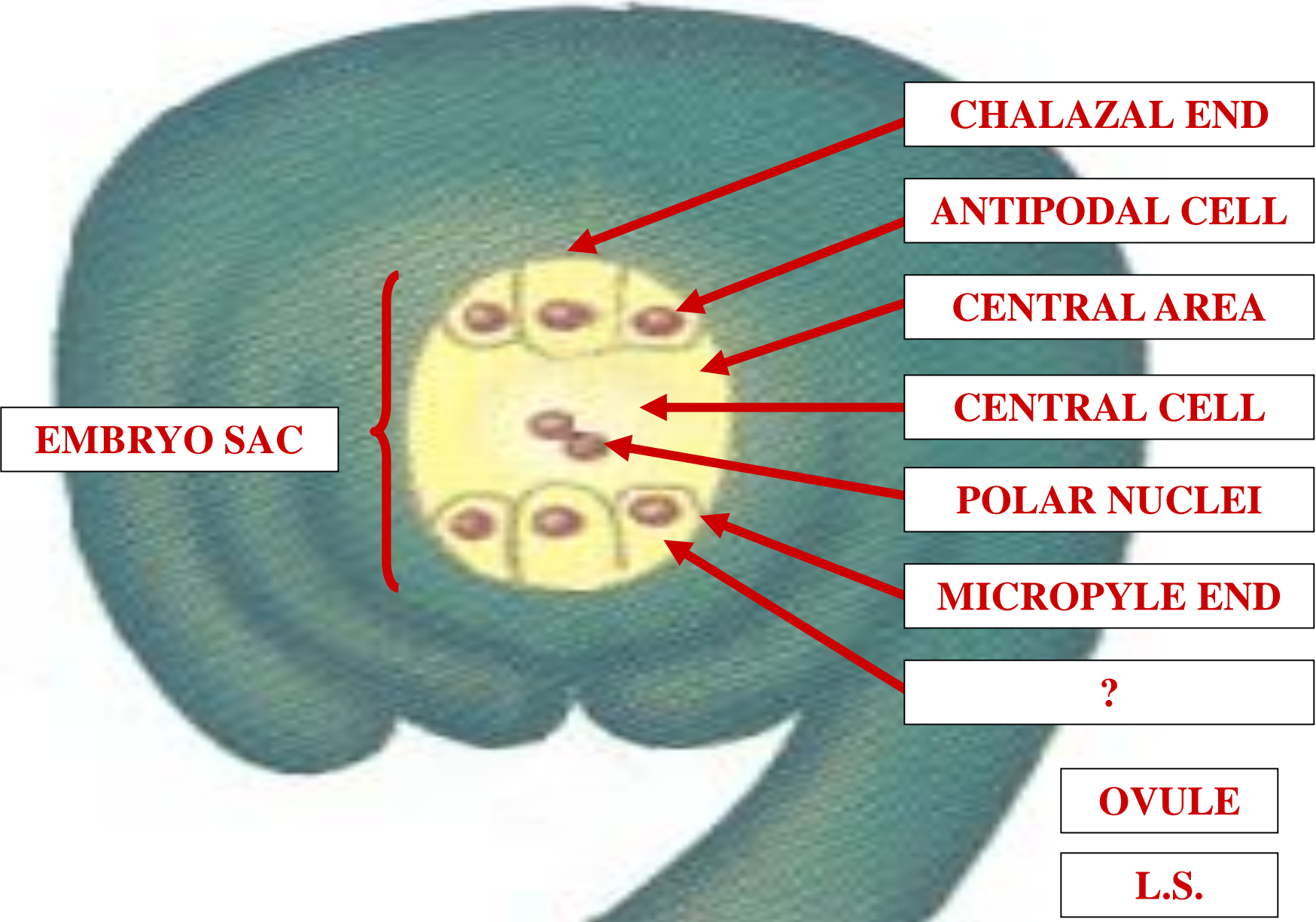


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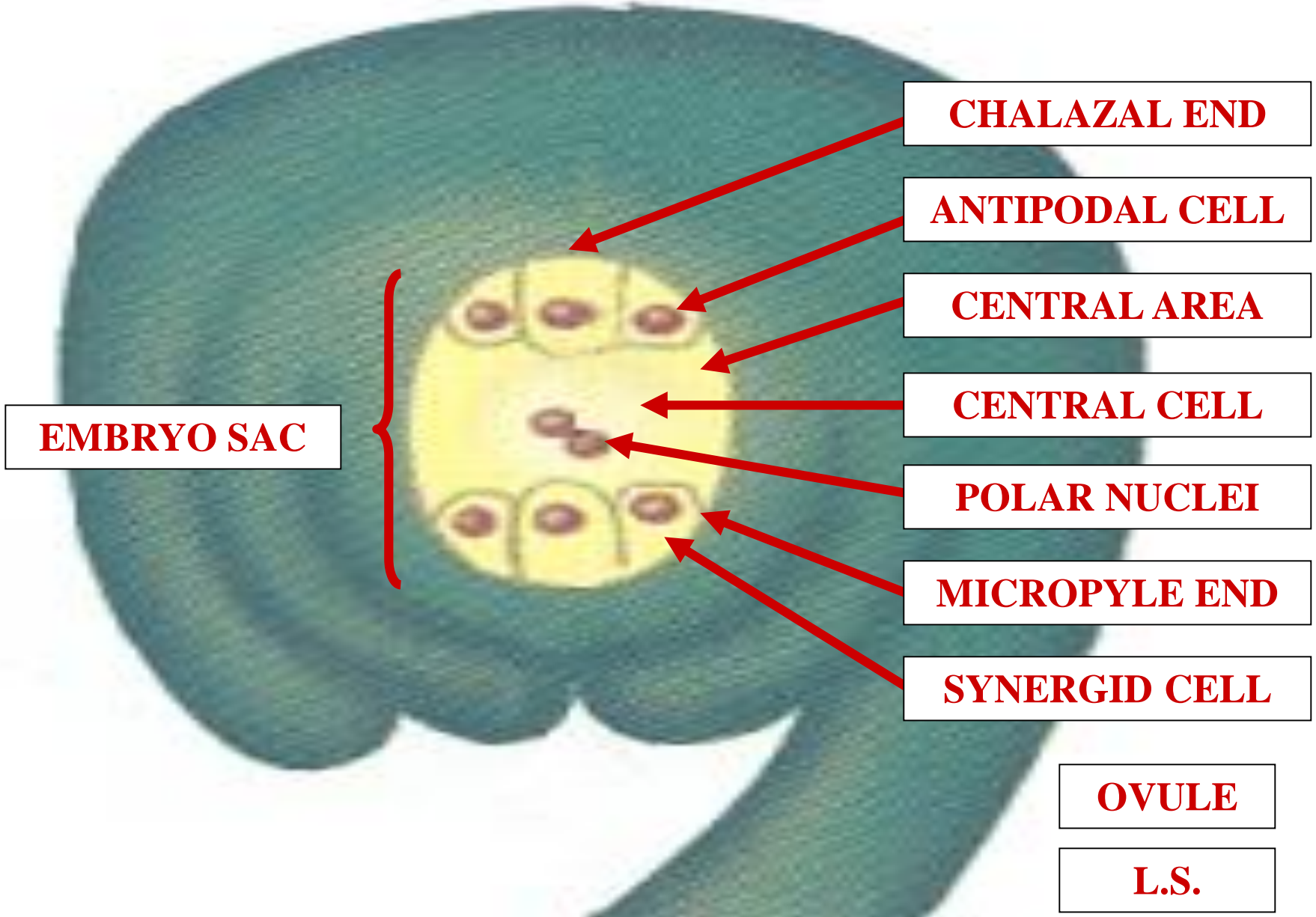


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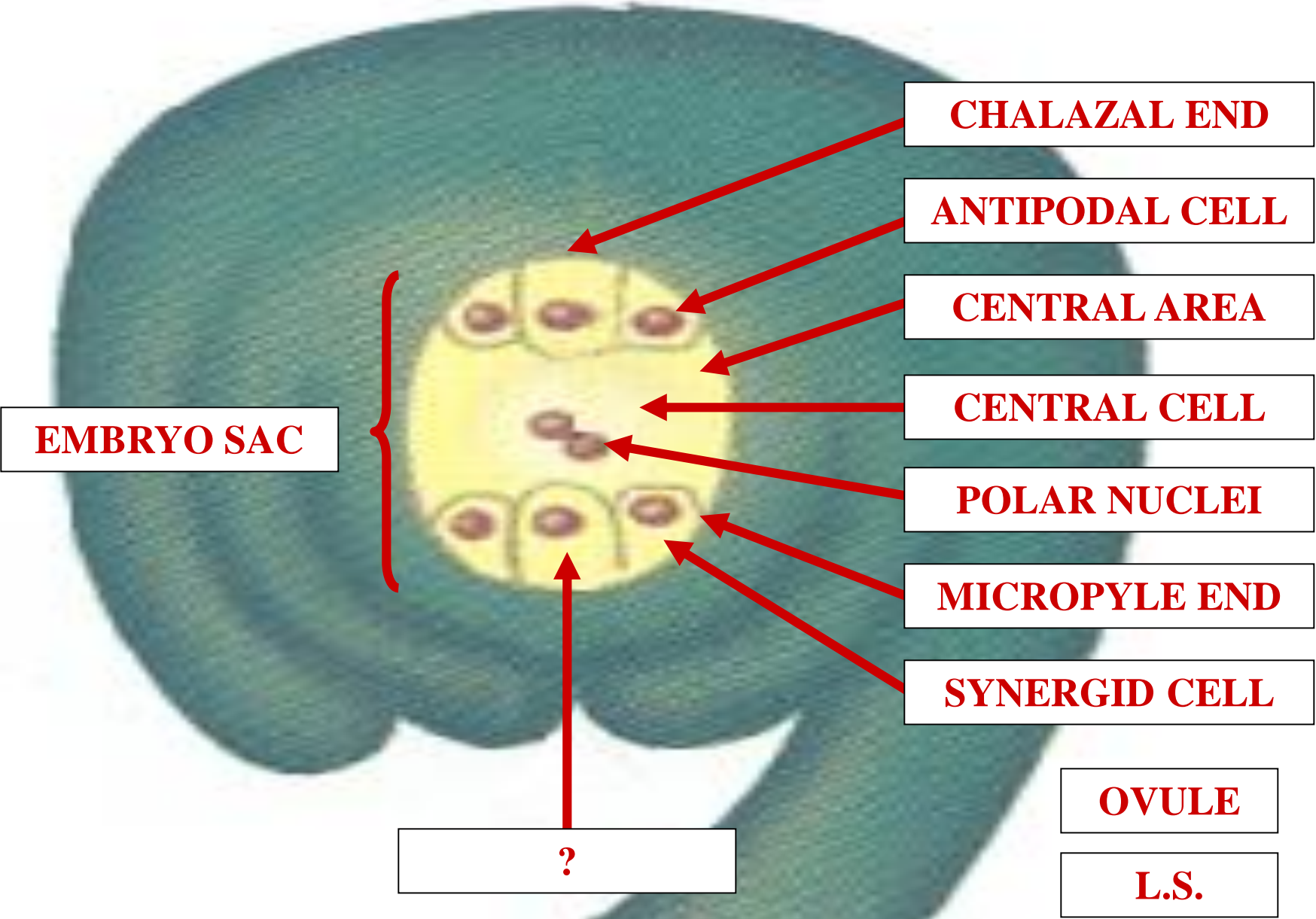


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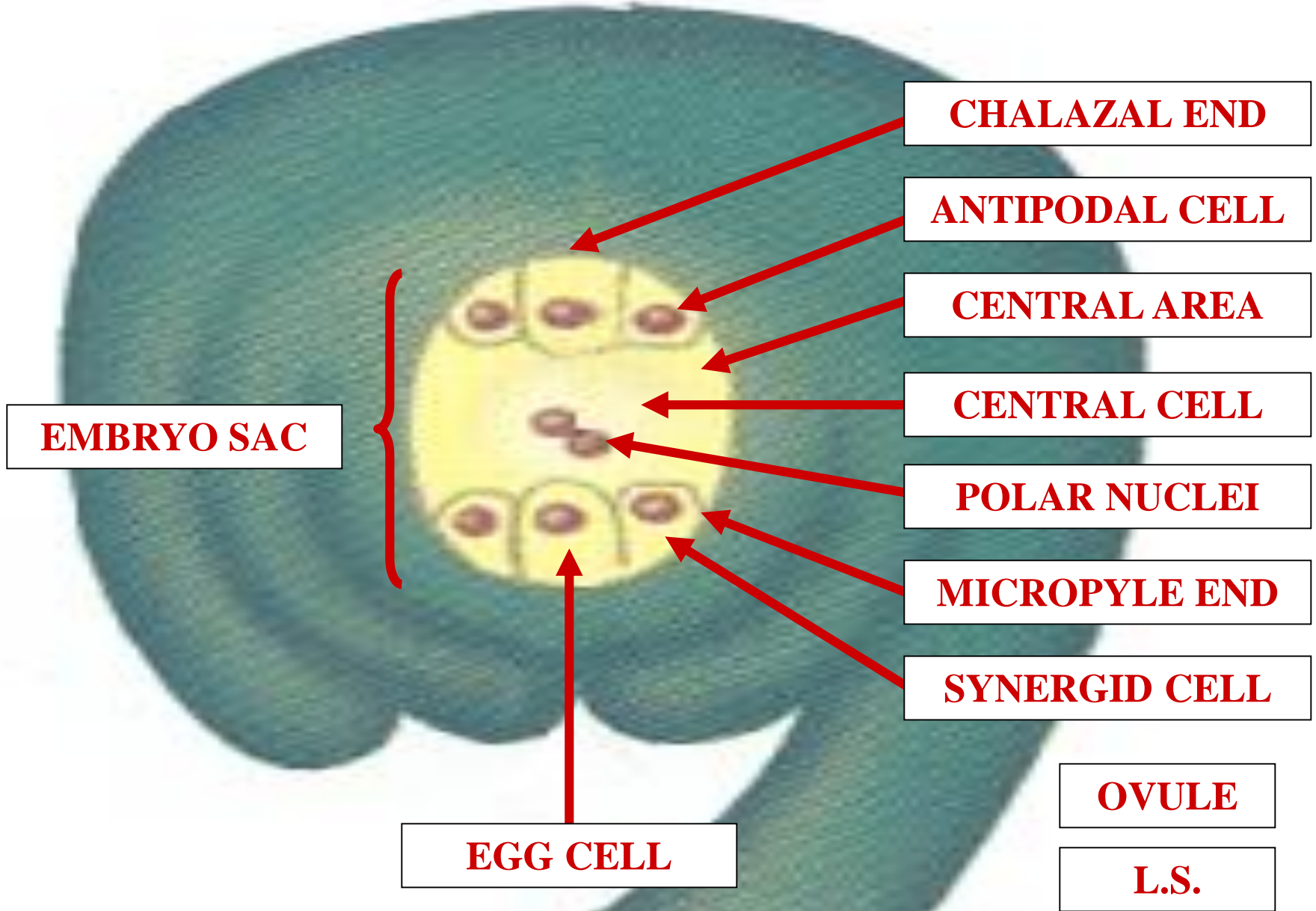
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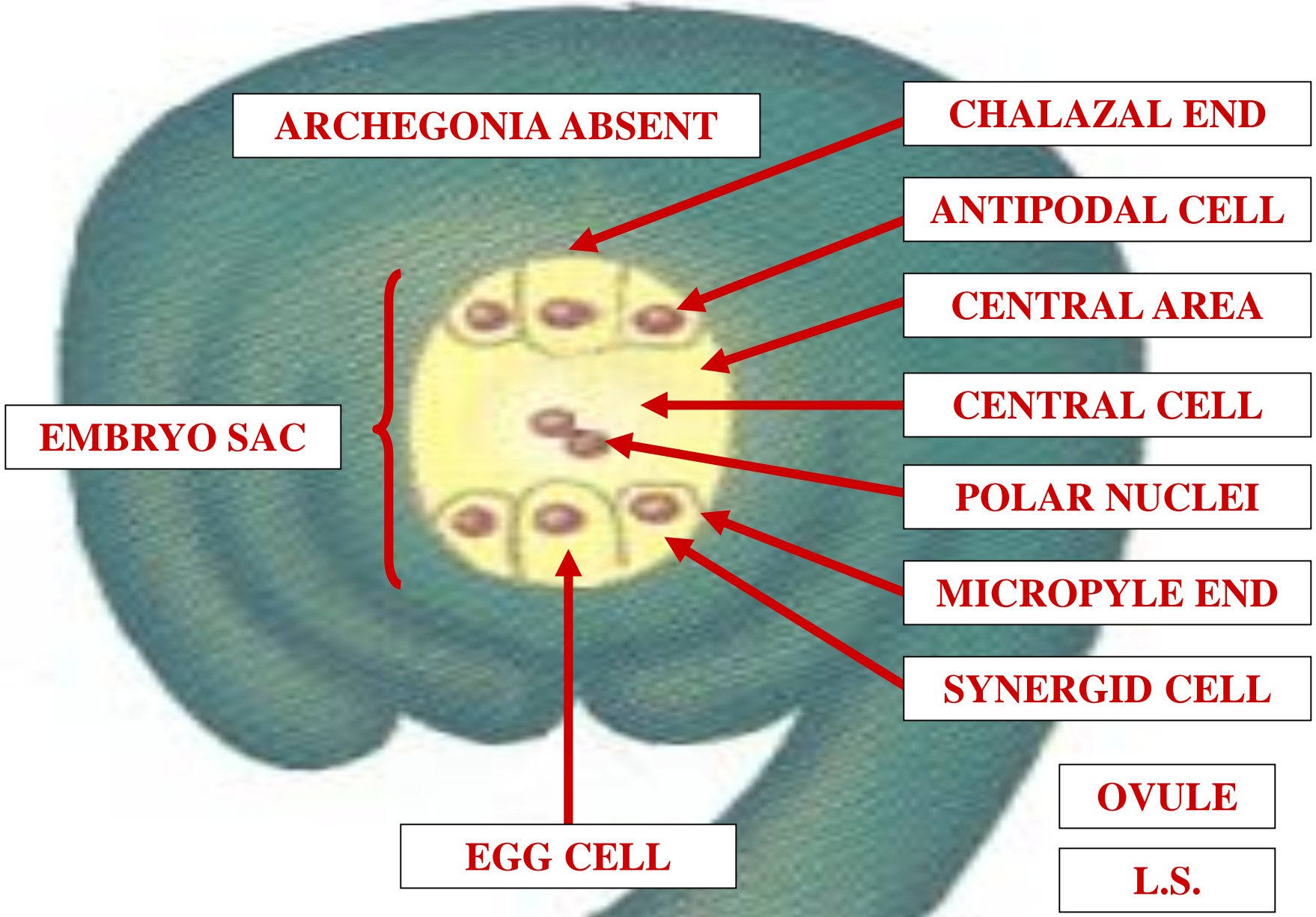
POLYGONUM EMBRYO SAC

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POLYGONUM EMBRYO SAC





ATTENTION STUDENTS 



REQUIRED MATERIAL

LAB EXAM #5

&

FINAL EXAM