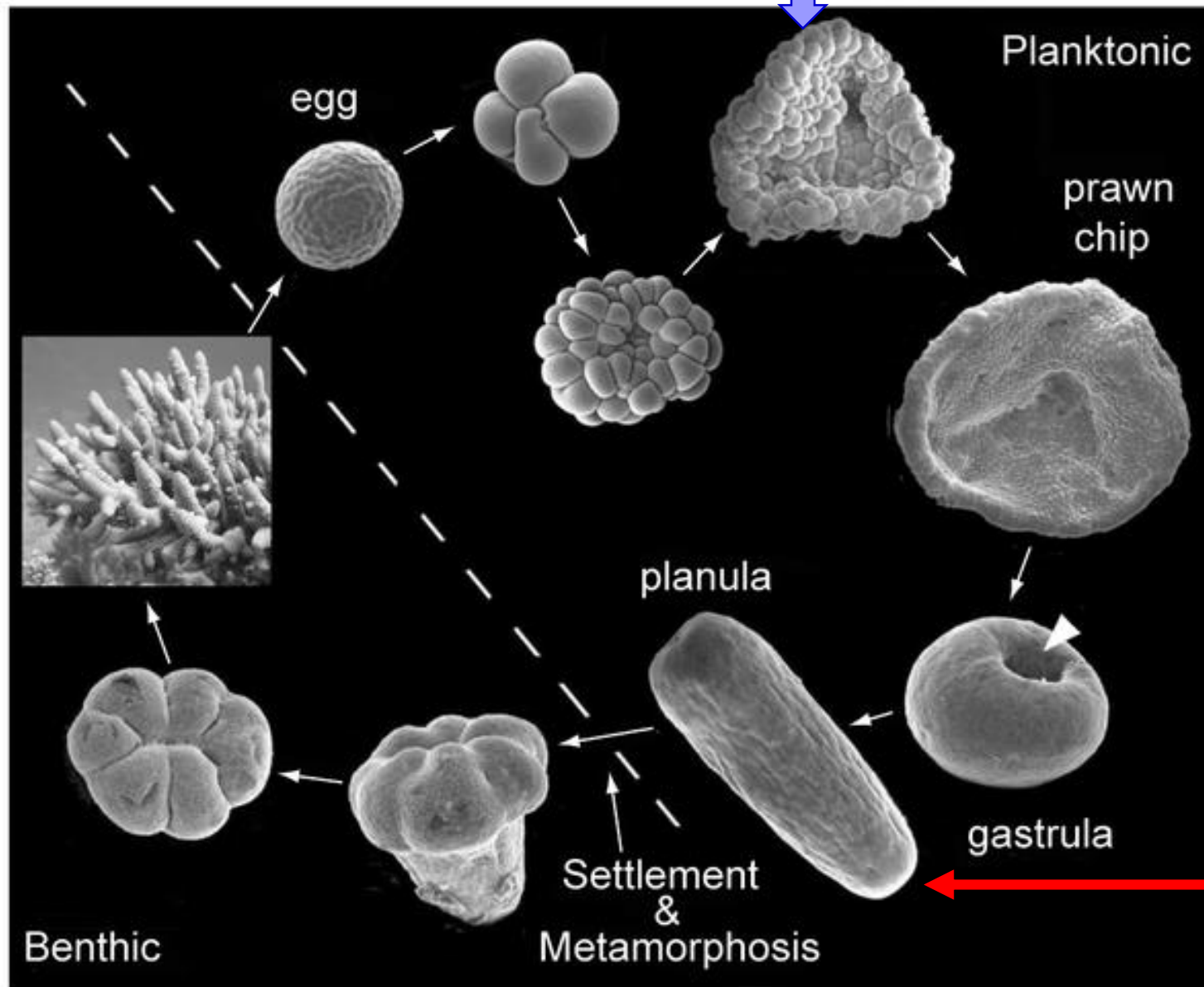


# Gastrulación



Diblásticos

mórula



blástula

gástrula

Larva plánula



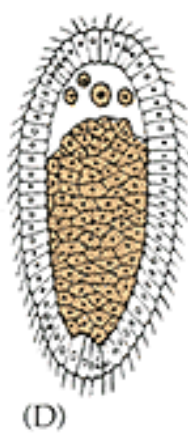
# Diblásticos

# Gastrulación

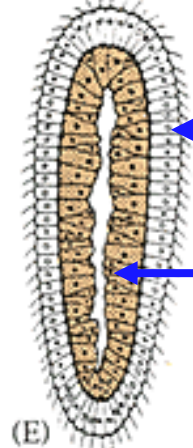
blástula



(A) *Aequoria forskalea*

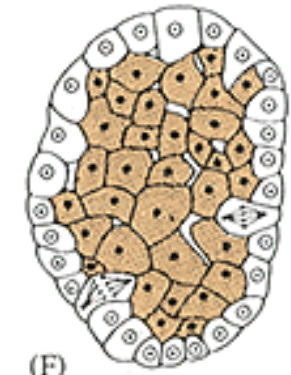


gástrula

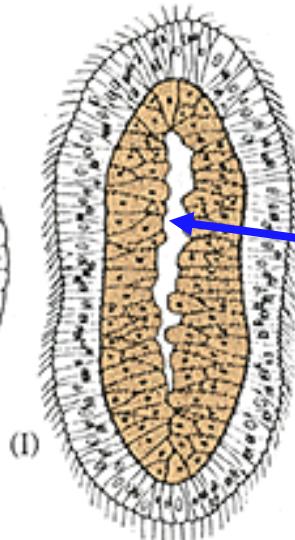
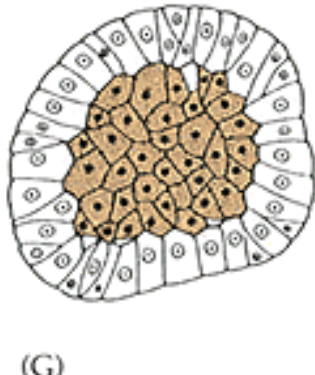


ectodermo

endodermo



(F) *Clava squamata*



arquenterón

Cnidarios

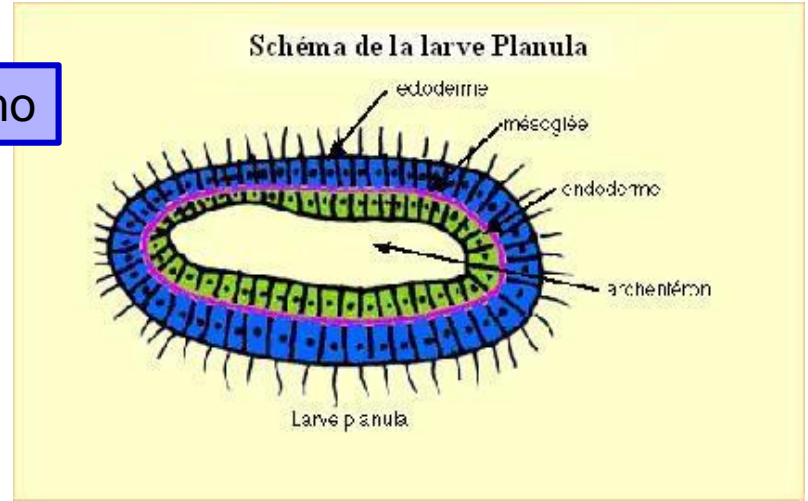


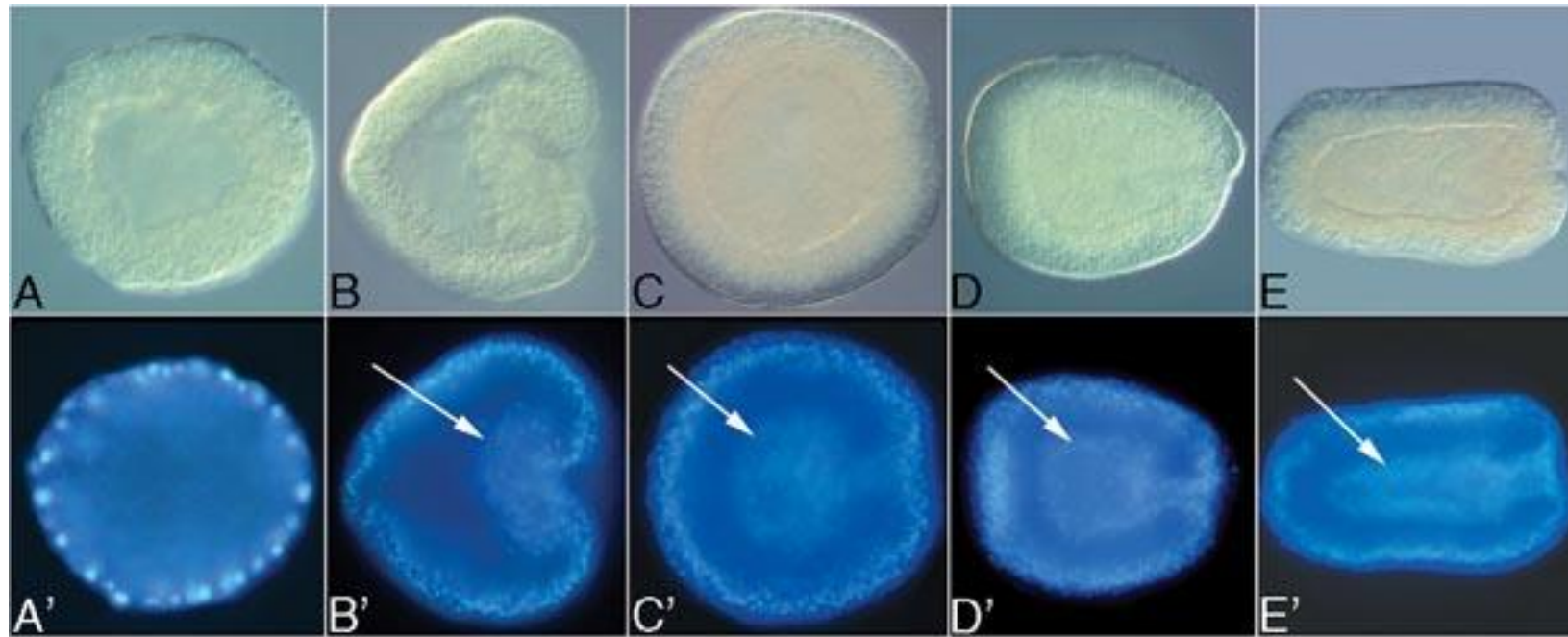
Schéma de la larve Planula

Larve planula

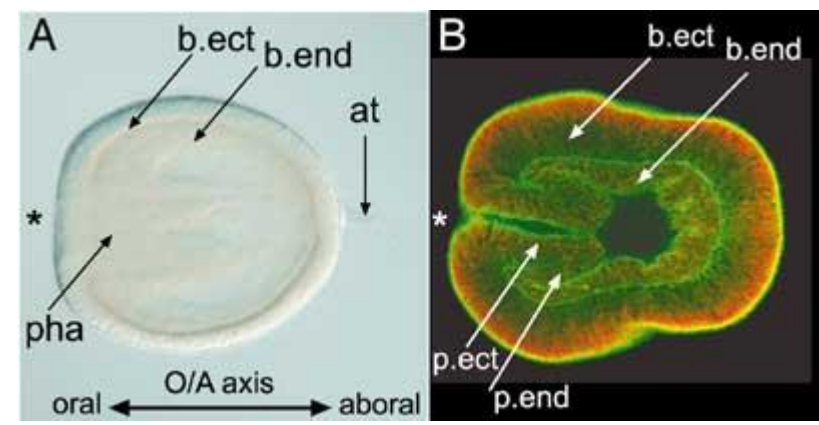
Larva plánula



## Diblásticos



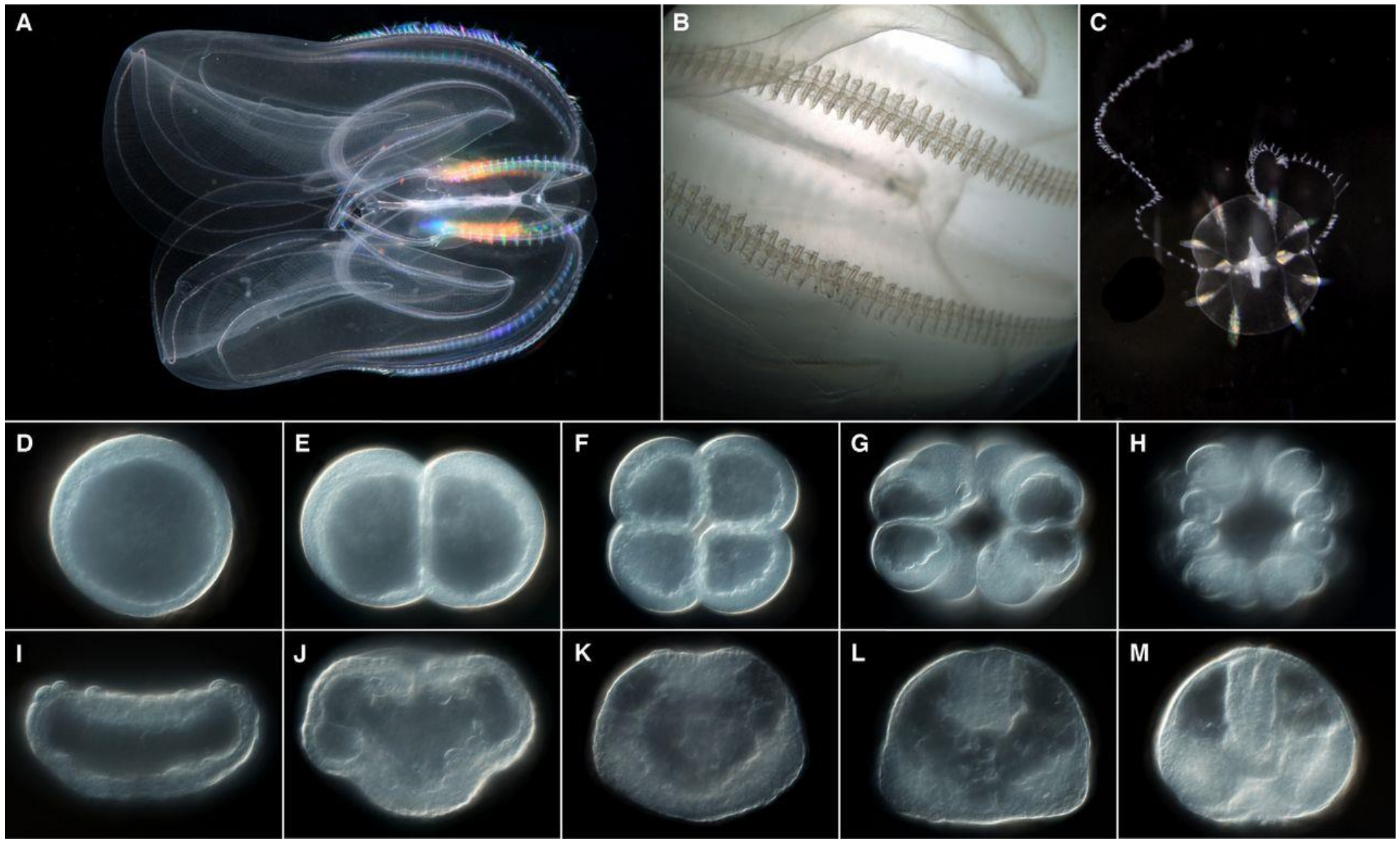
Además de obtenerse los dos tejidos embrionarios, la forma del embrión cambia, se elonga.  
La flecha está señalando el ingreso de las células que formarán el endodermo



Larva plánula



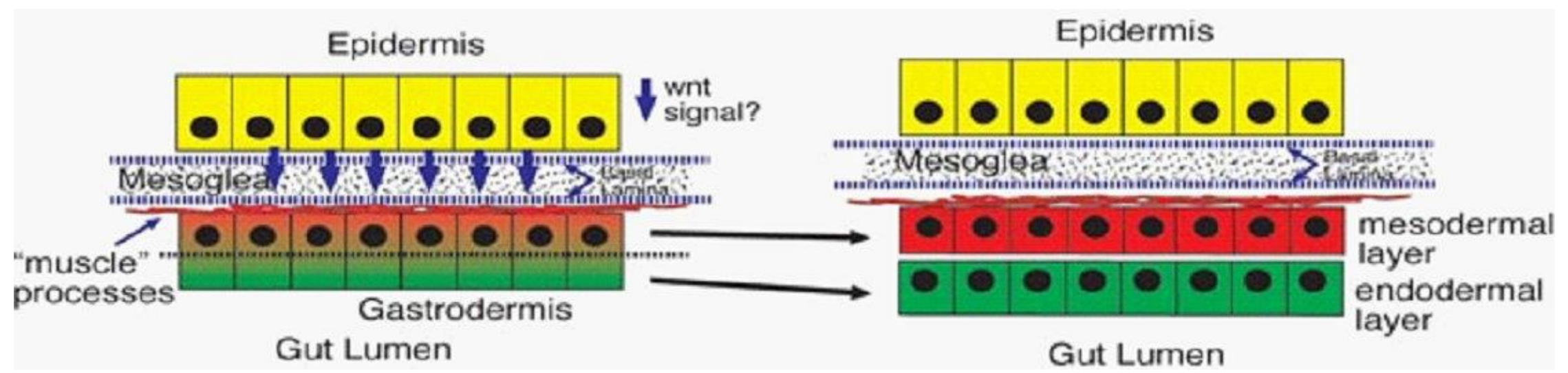
Ctenophoros



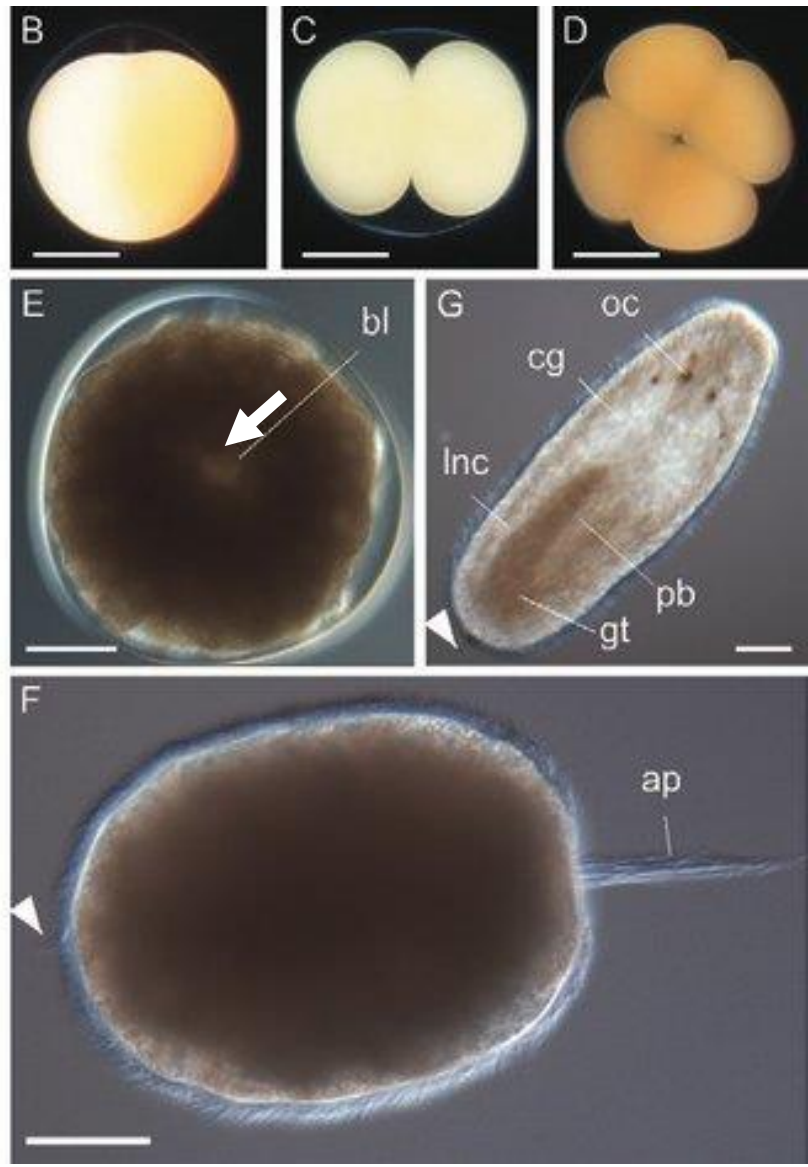
Diblásticos a triblásticos

Cnidarios

Ctenophoros



Triblásticos acelomados



gástrula →

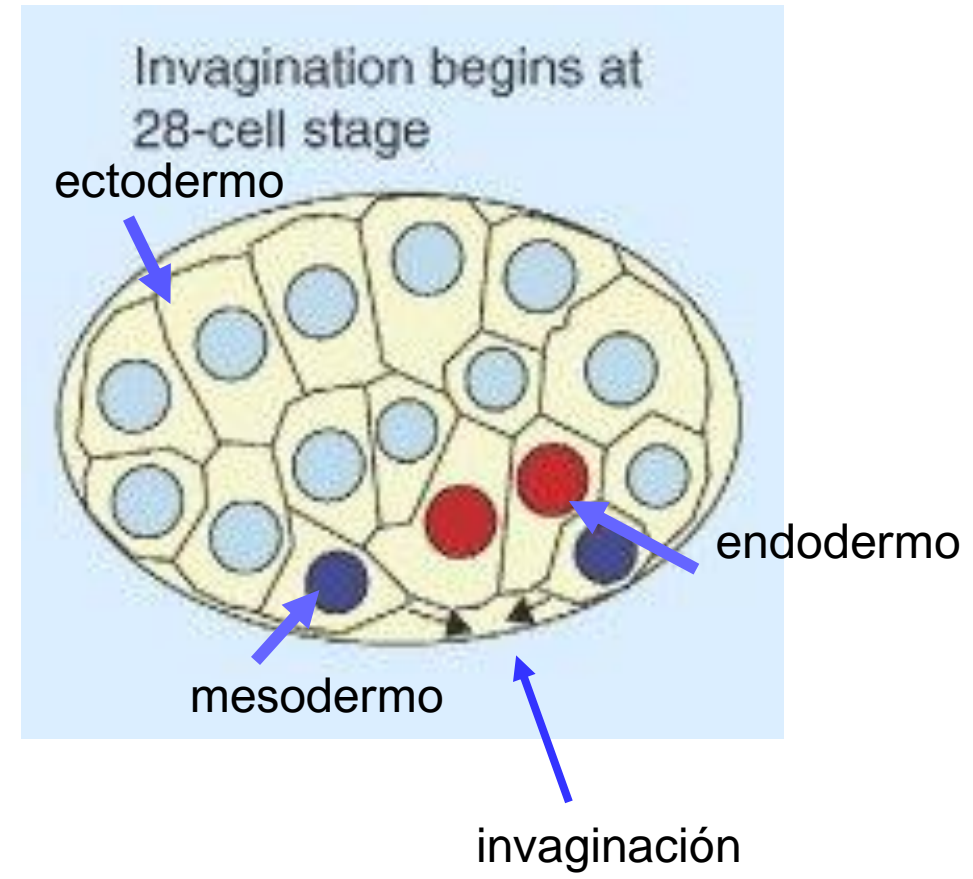
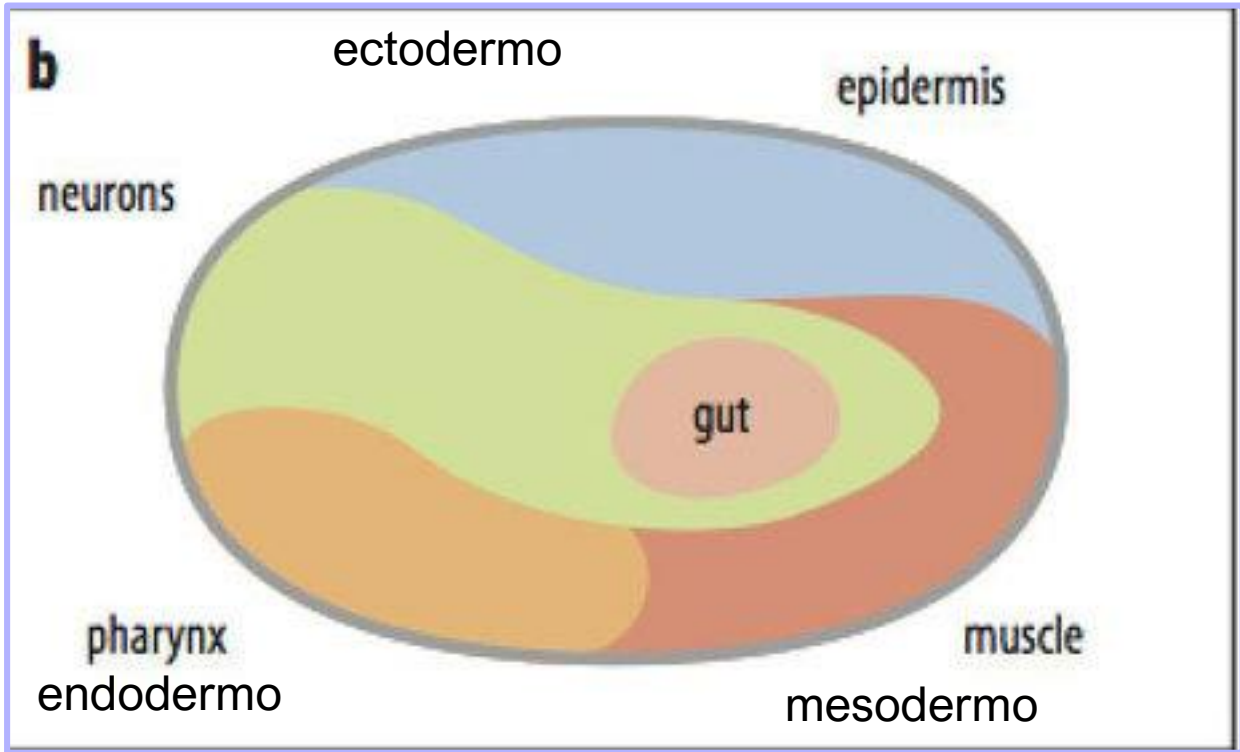
← Juvenil

← Larva planuliforme triblástica

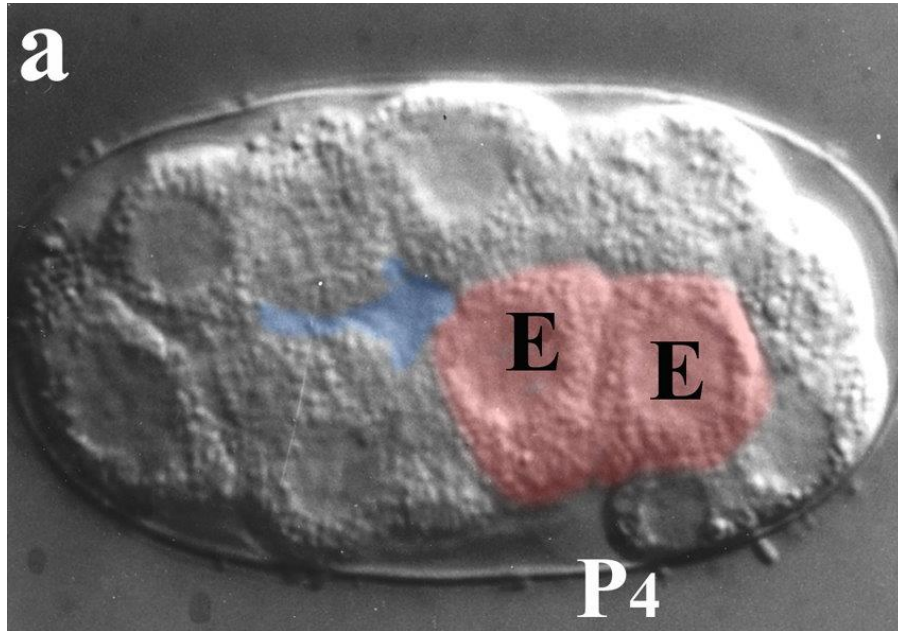


Triblásticos pseudocelomados

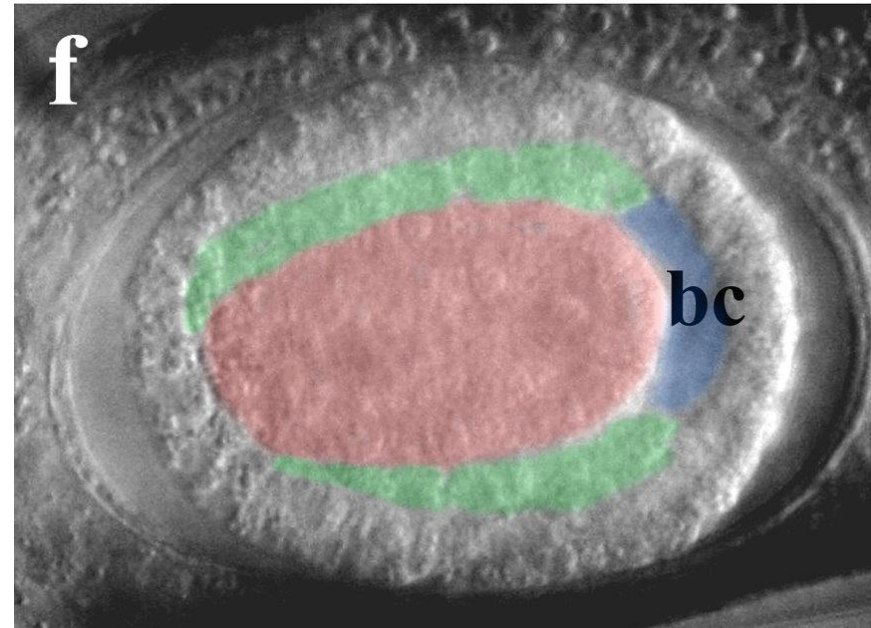
Nemátodos

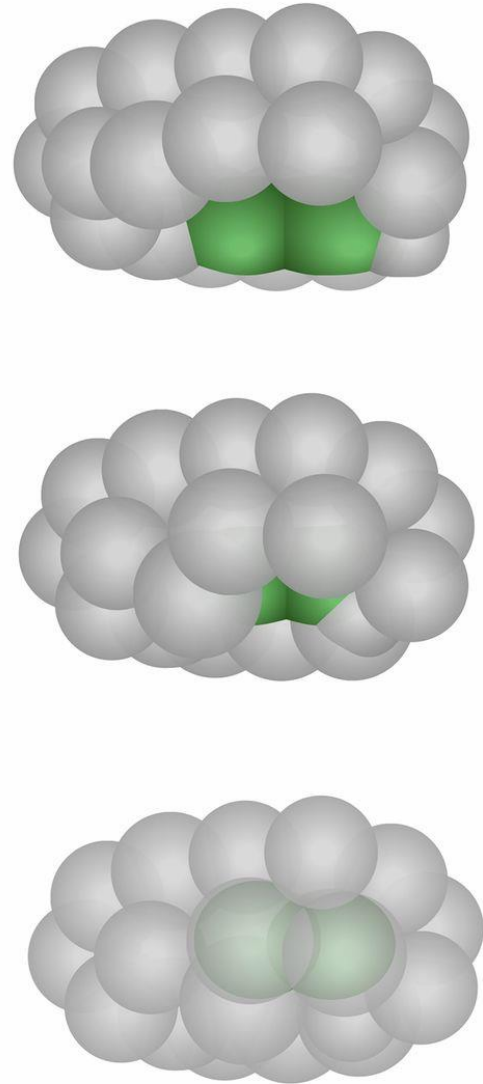
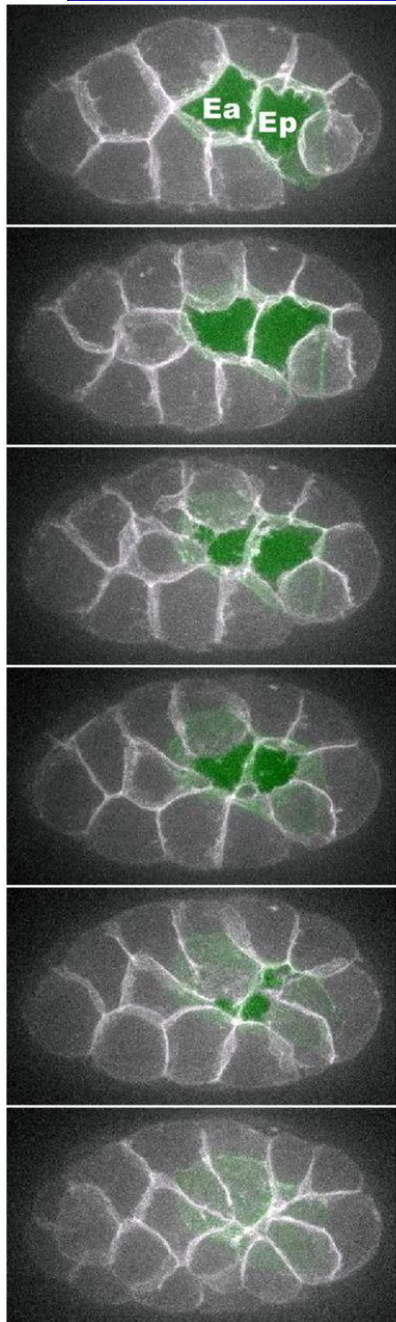




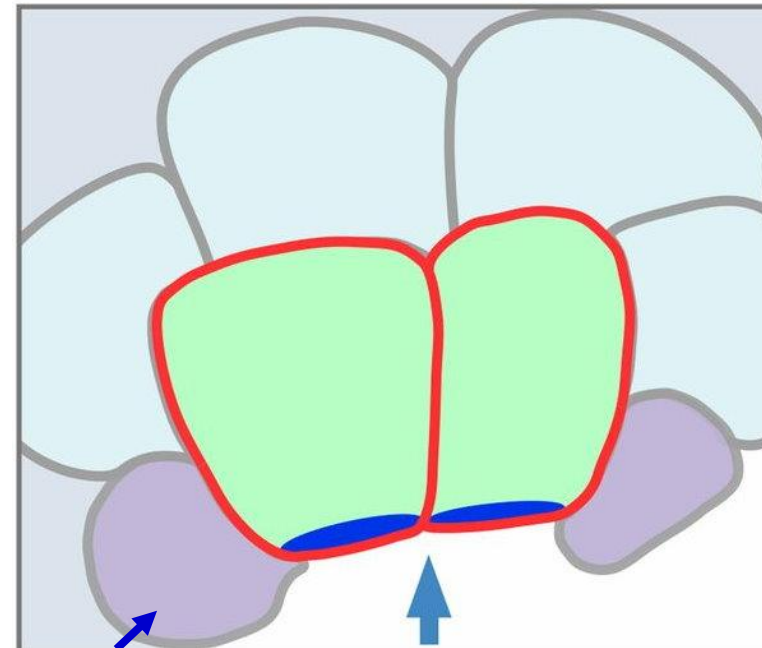
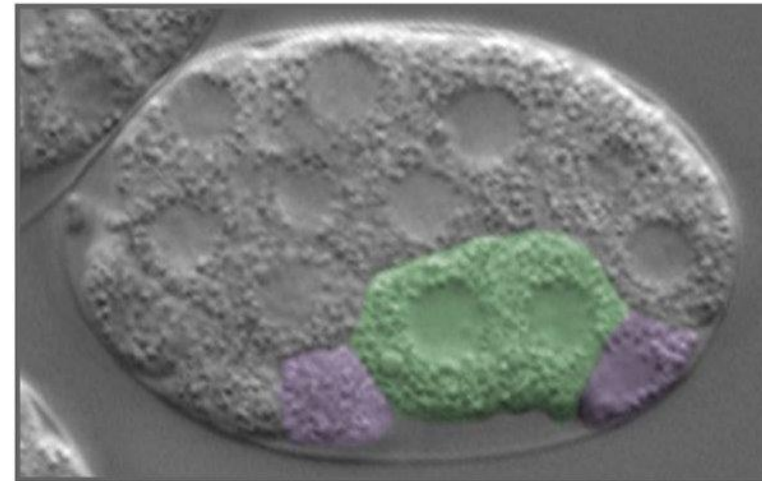


↑  
PGc





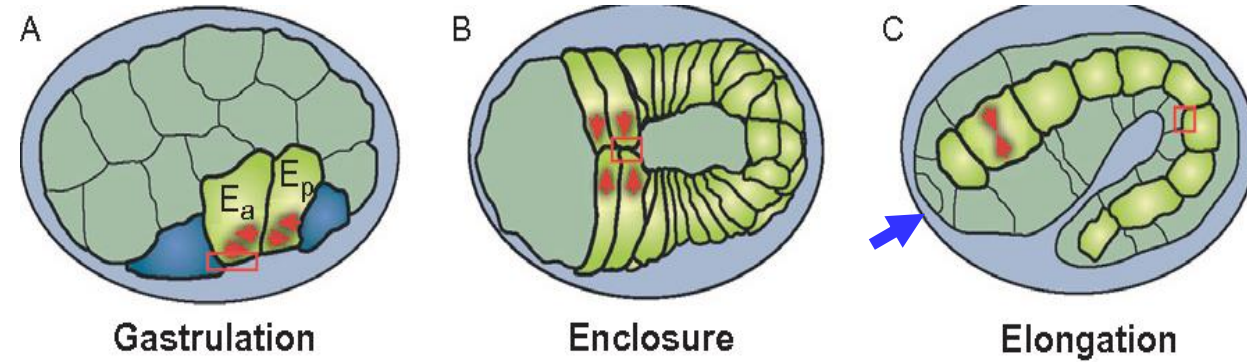
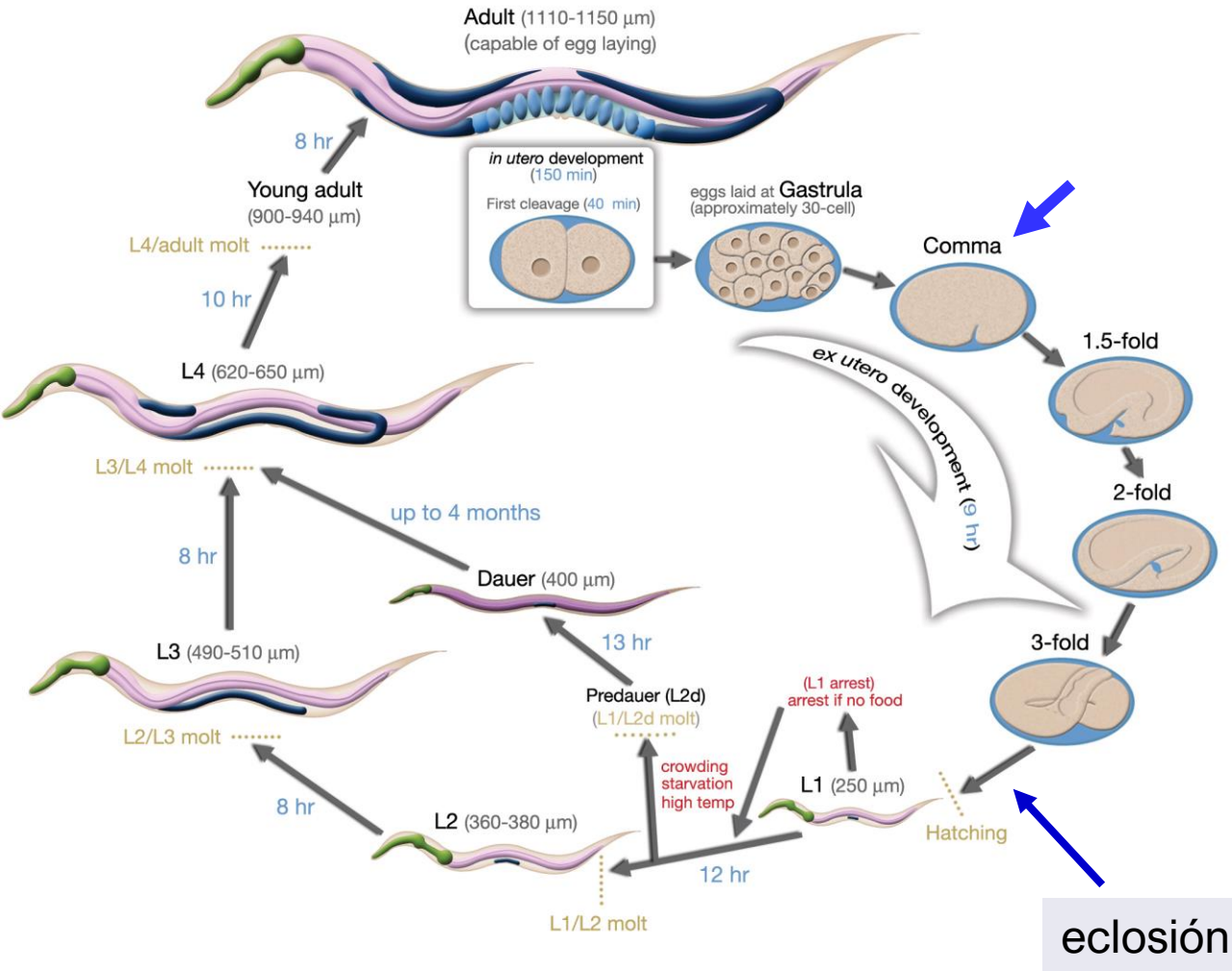
*C. elegans* gastrulation



mesodermo





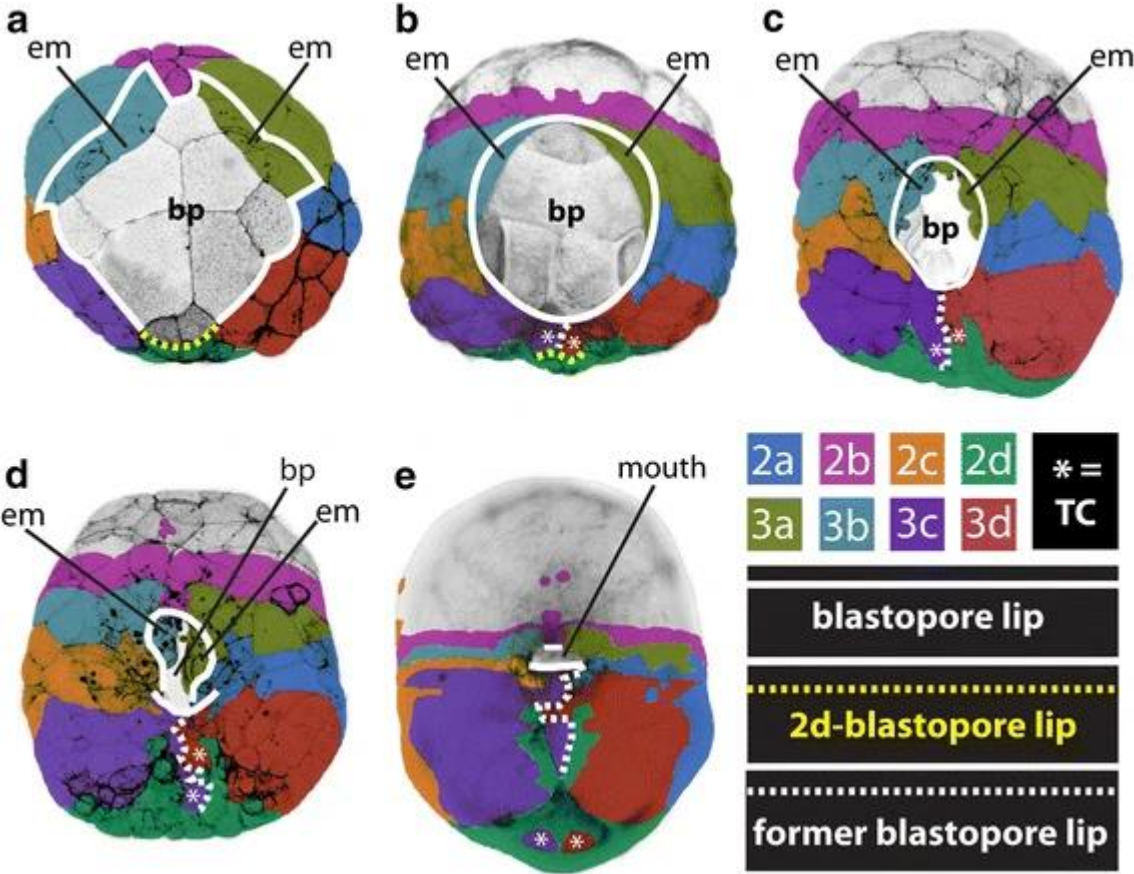


Verde ectodermo  
Verde-amarillo endodermo  
Azul mesodermo

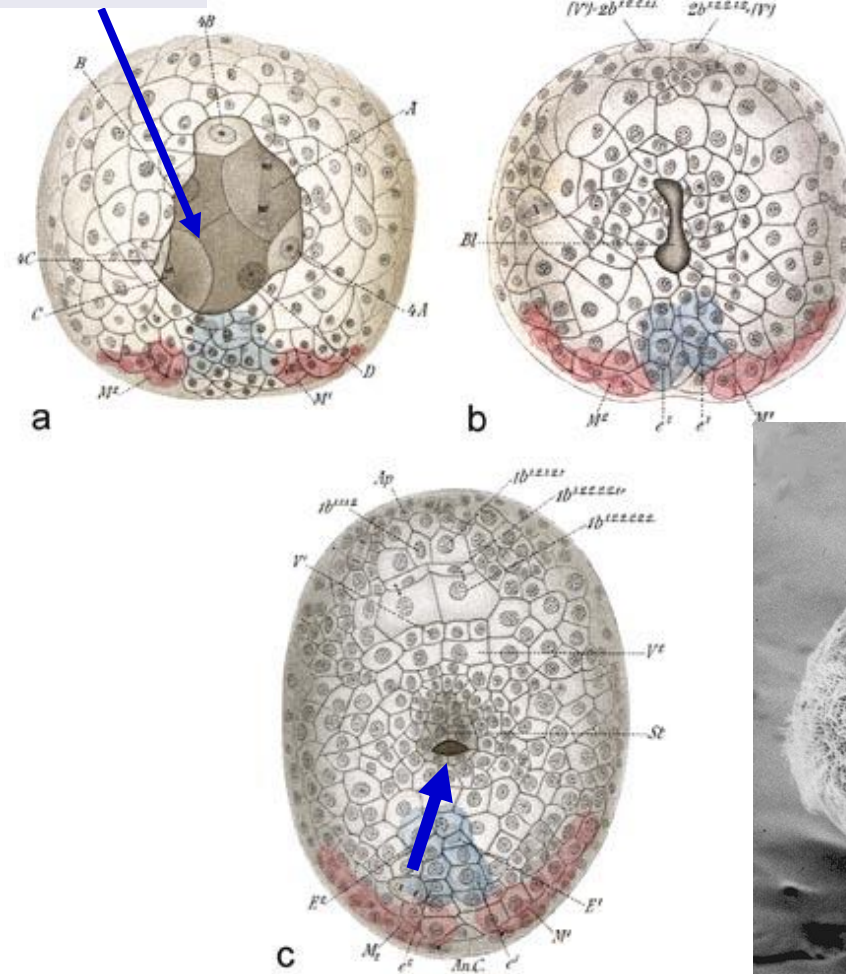
eclosión



blastoporo

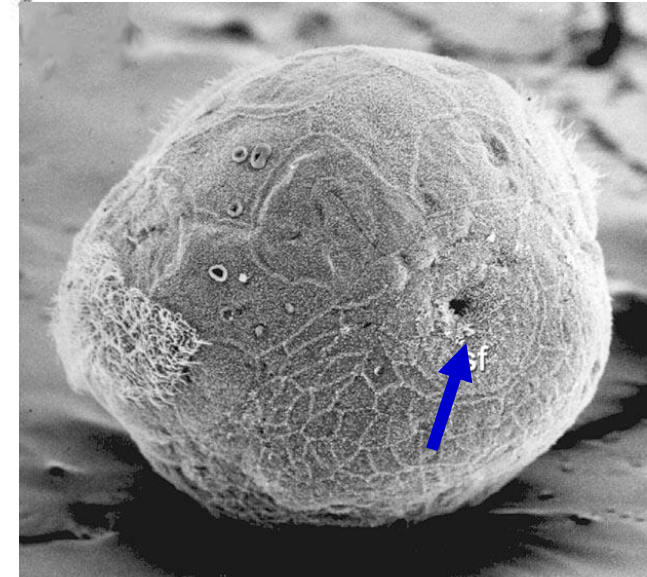


Epibolia de micrómeros sobre macrómeros



E.G. Conklin (1897)  
 From *Gastrulation: From Cells to Embryo*  
 © 2004 Cold Spring Harbor Laboratory Press  
 Chapter 5, Figure 14

Vistas desde el polo vegetal

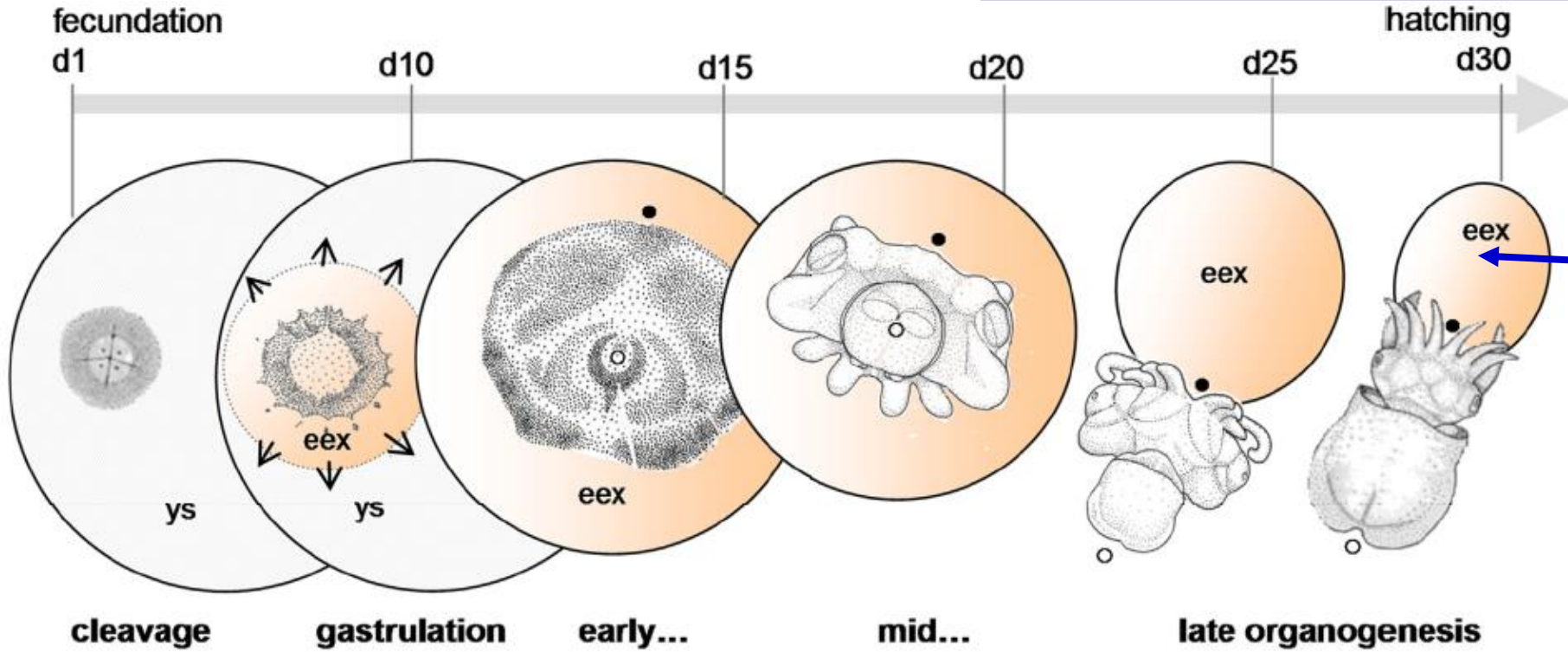


Gástrula con su blastoporo que se cerrará



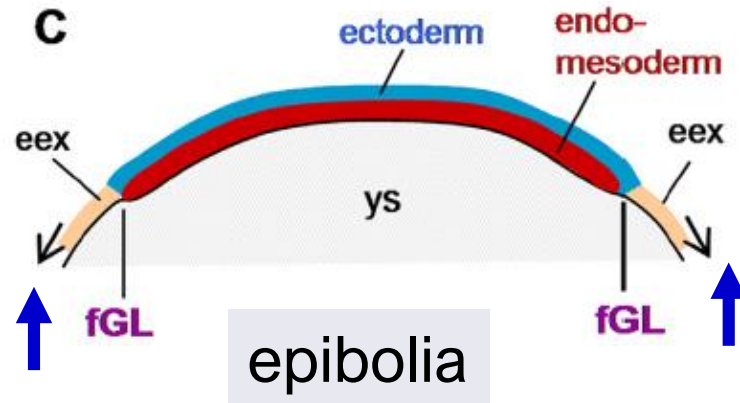
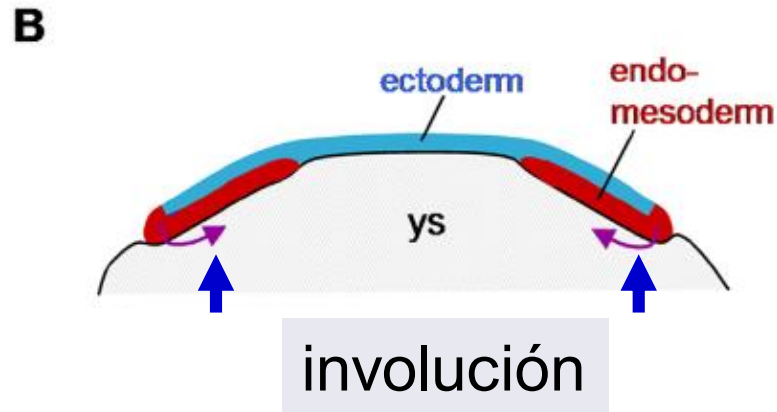
Main Developmental Steps

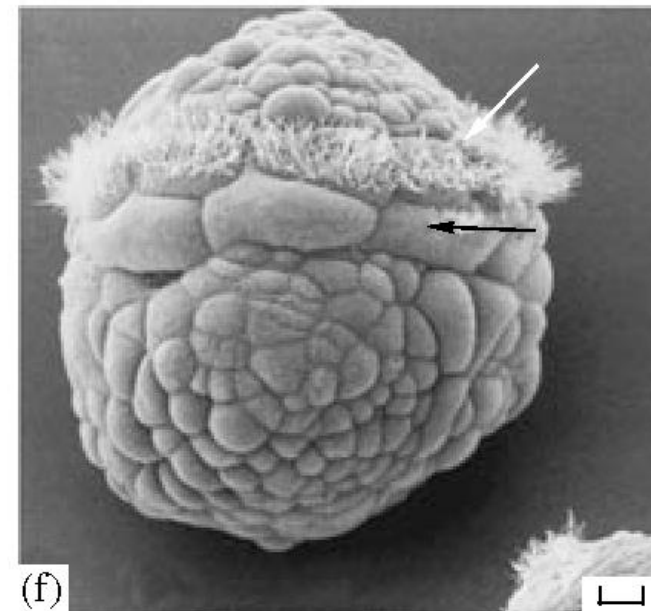
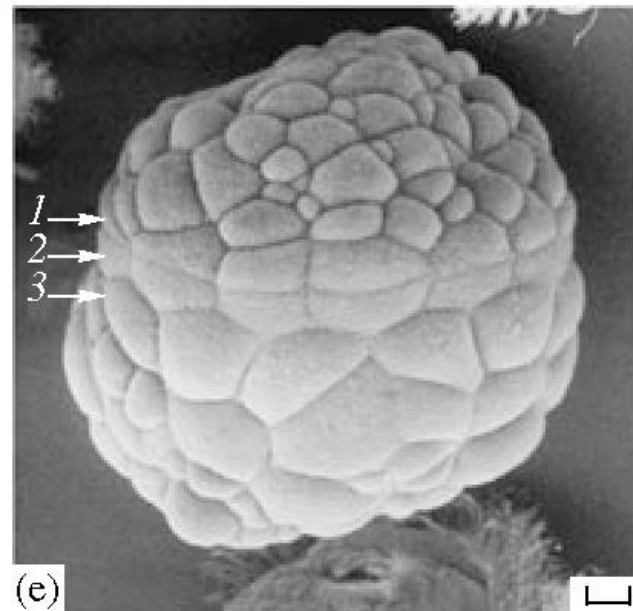
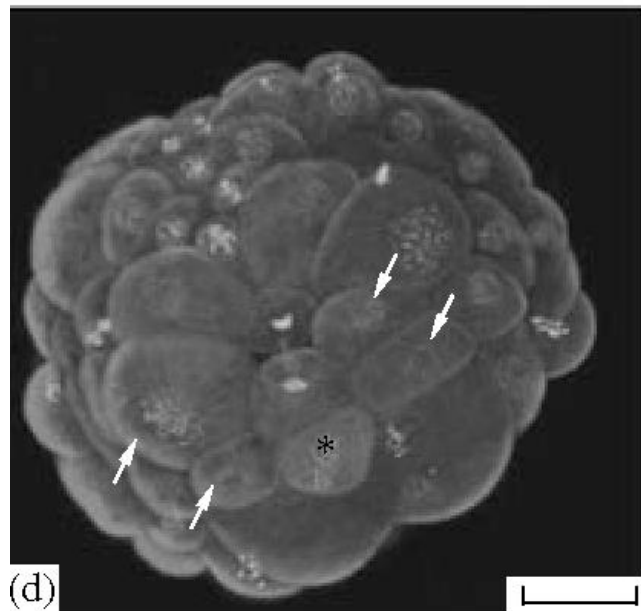
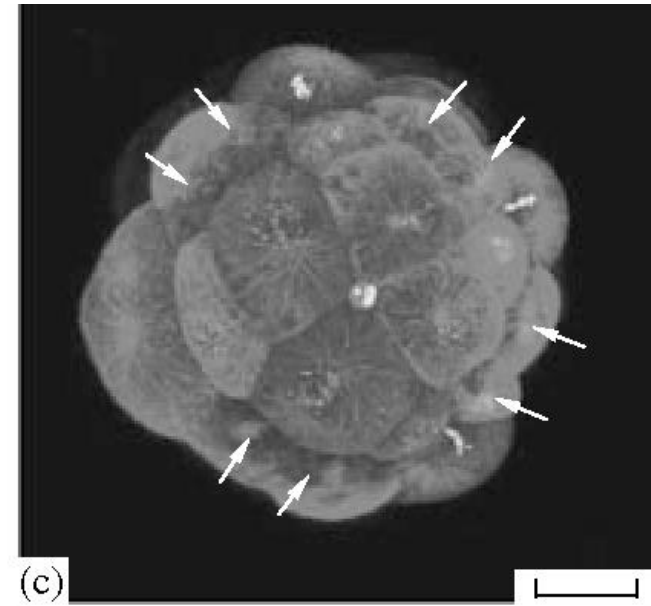
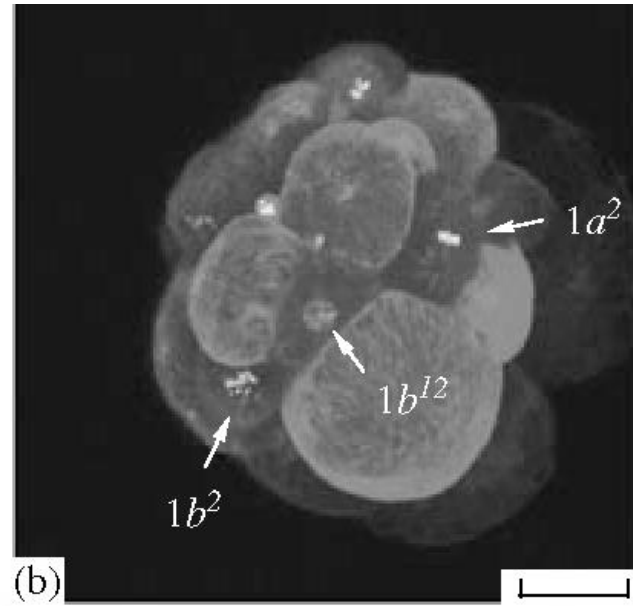
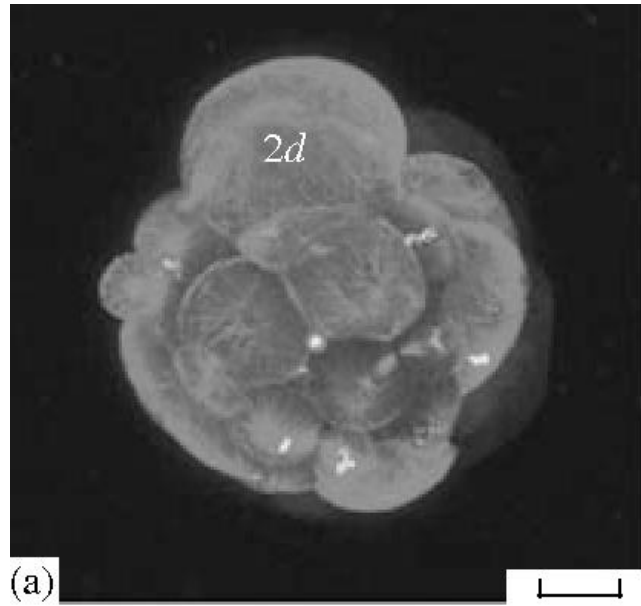
Gastrulation

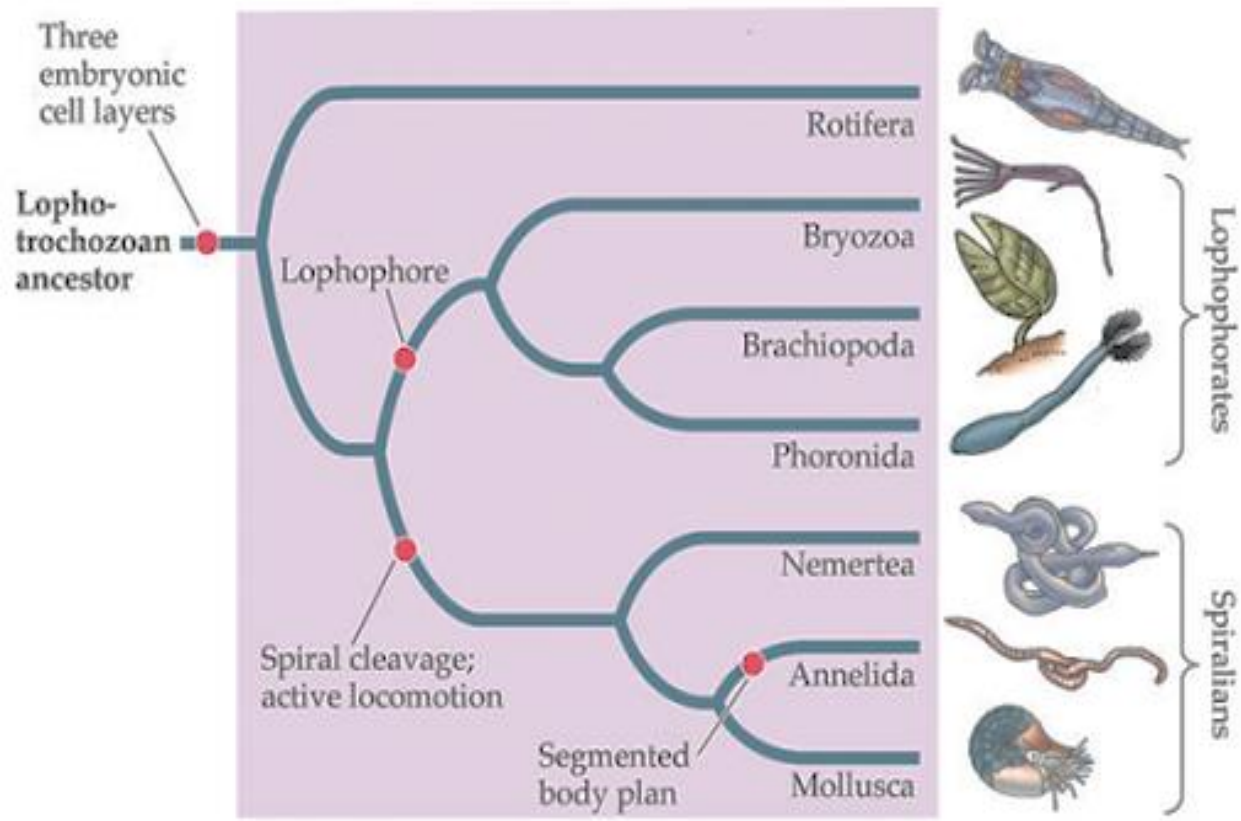


Yema recubierta por ectodermo extra-embriónico

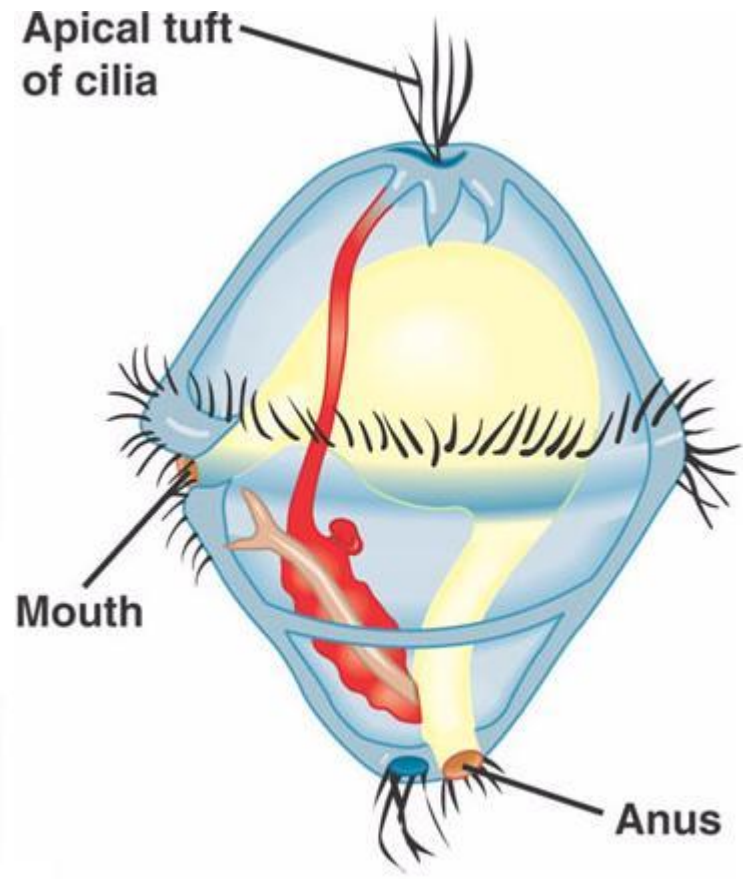
Cuerpo del embrión



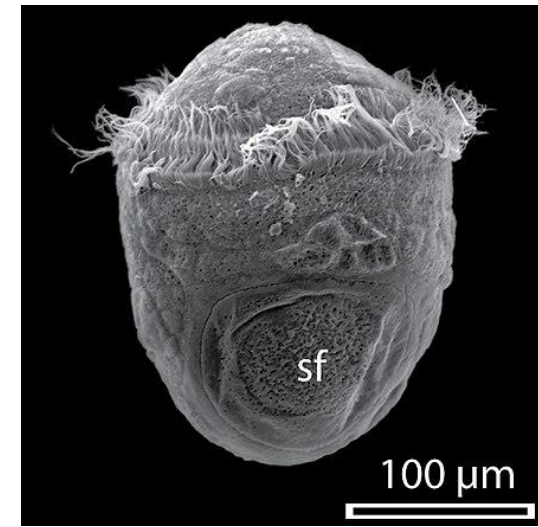




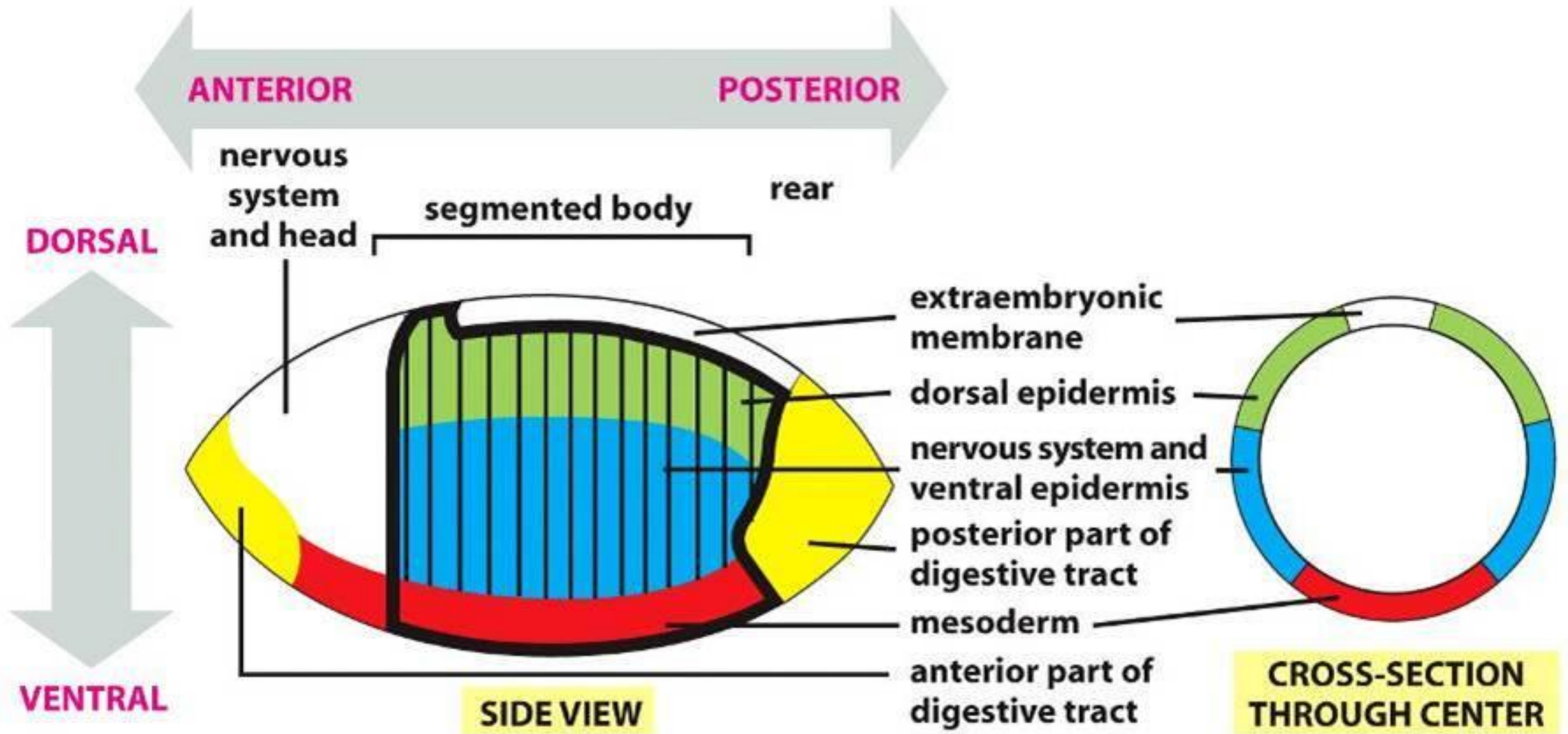
LIFE: THE SCIENCE OF BIOLOGY, Seventh Edition, Figure 32.14 A Current Phylogeny of Lophotrochozoans  
© 2004 Sinauer Associates, Inc. and W. H. Freeman & Co.

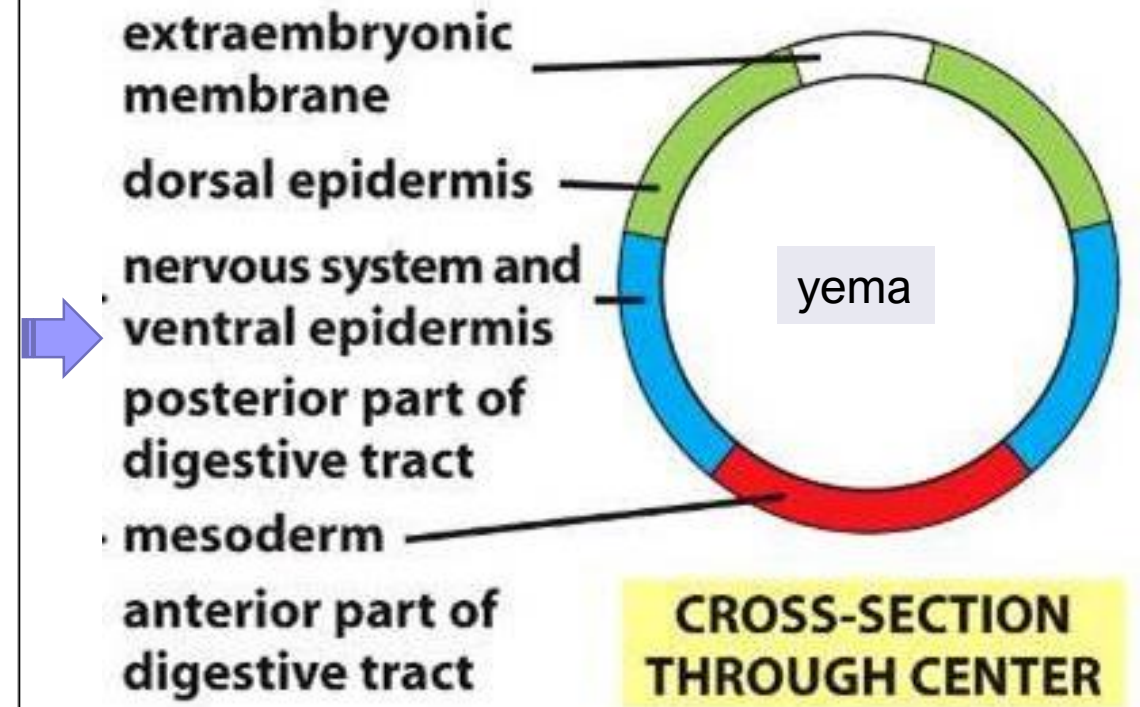
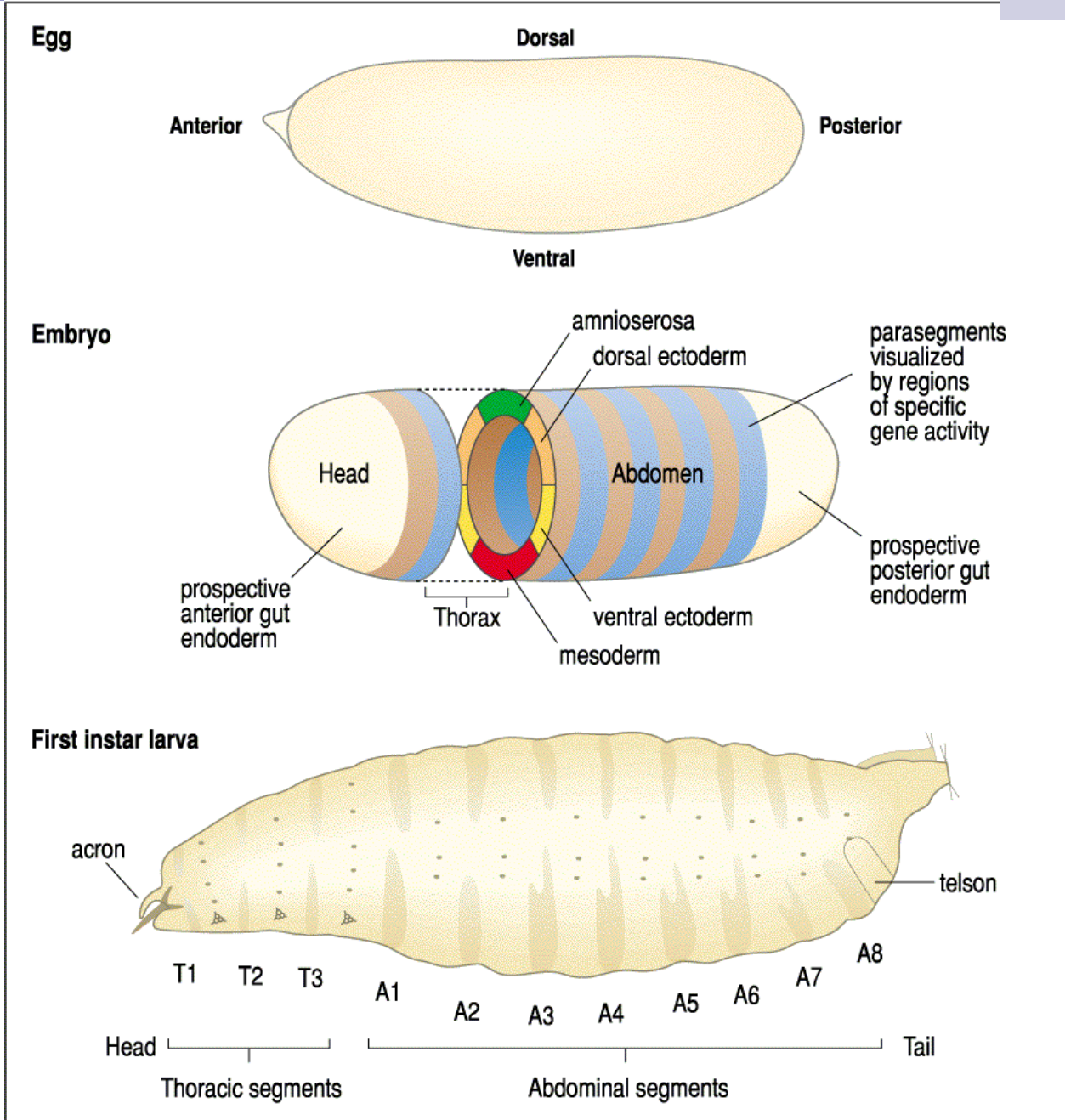


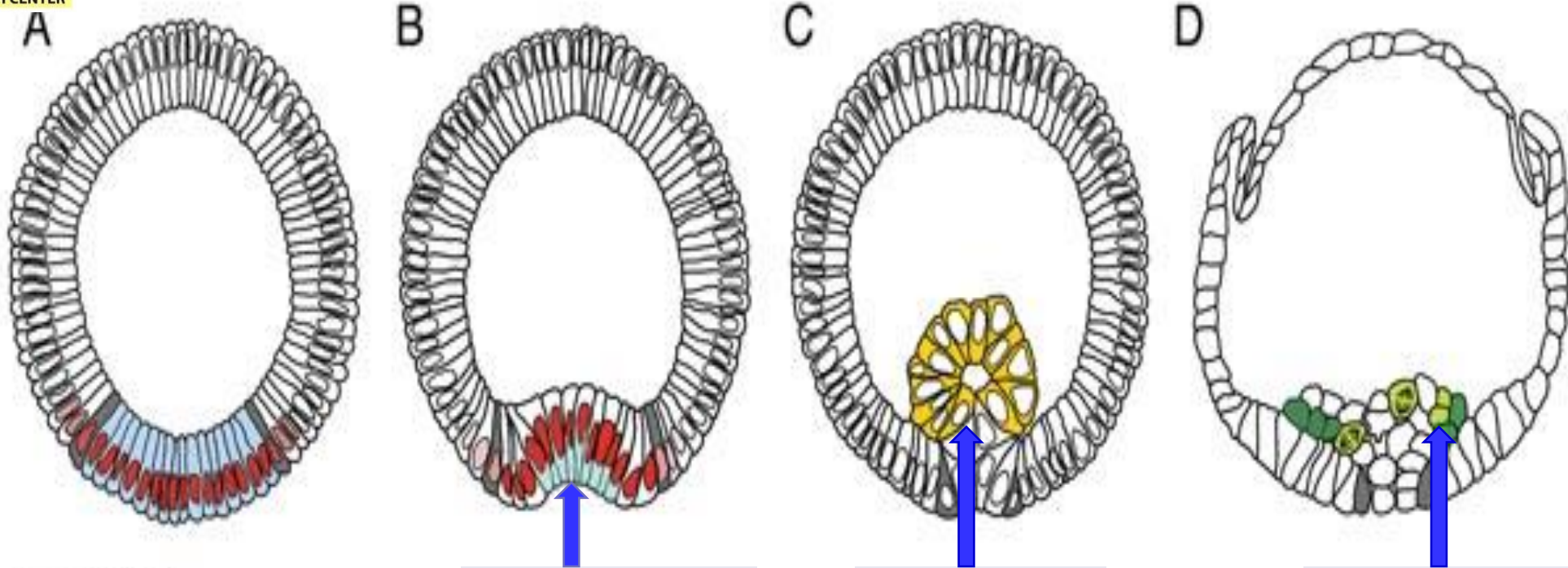
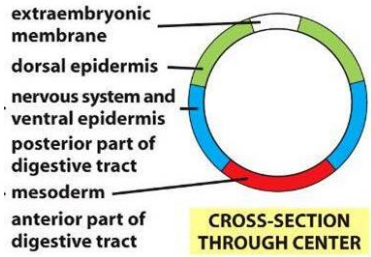
Structure of trochophore larva











Surco ventral

Tubo ventral

Mesénquima

© Maria Leptin  
From Gastrulation: From Cells to Embryo  
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Chapter 7, Figure 2



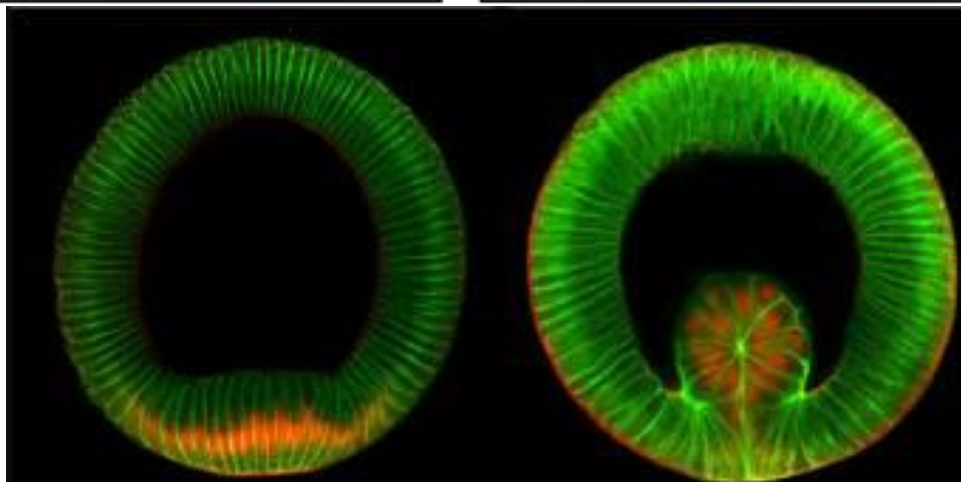
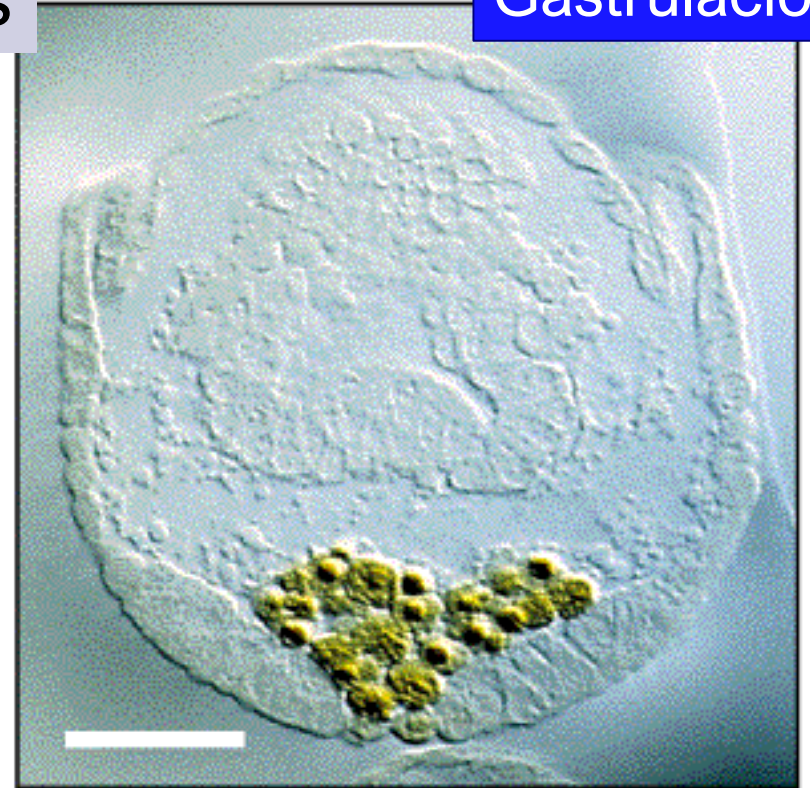
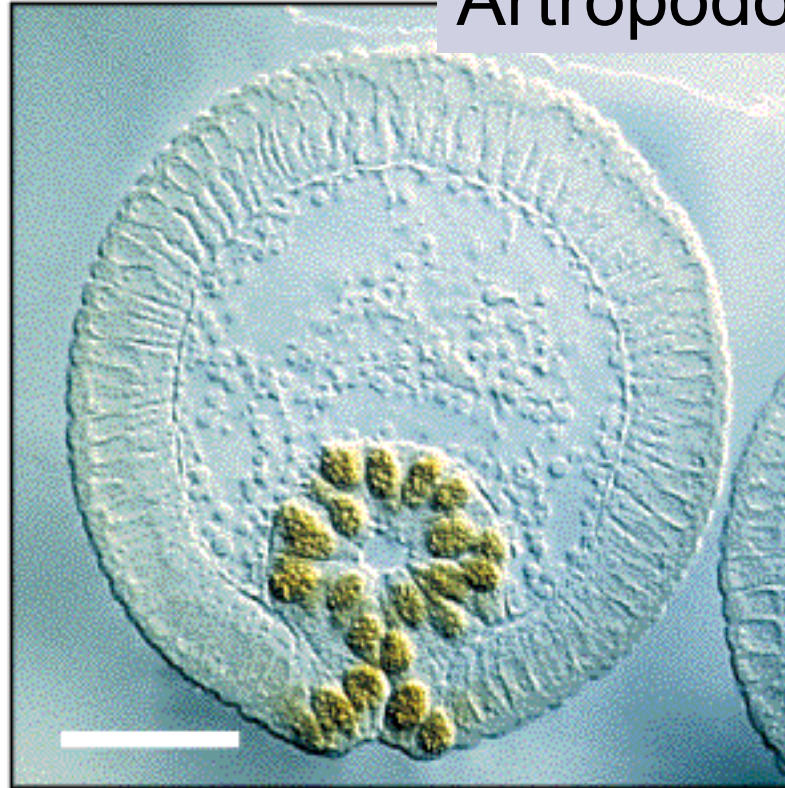
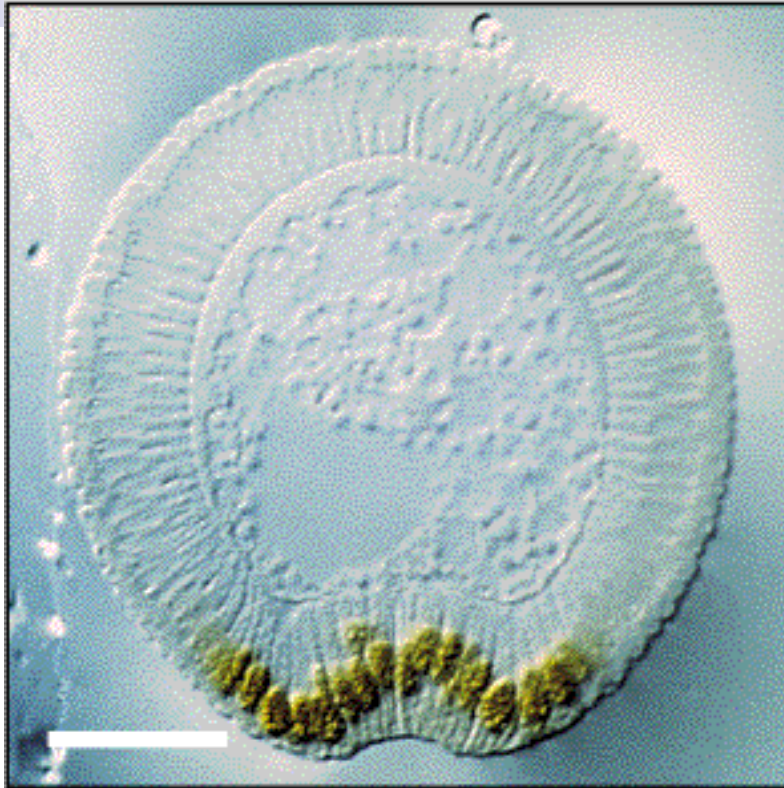
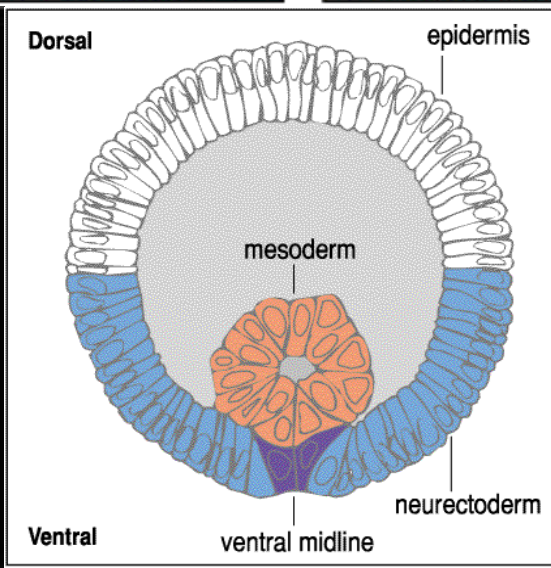
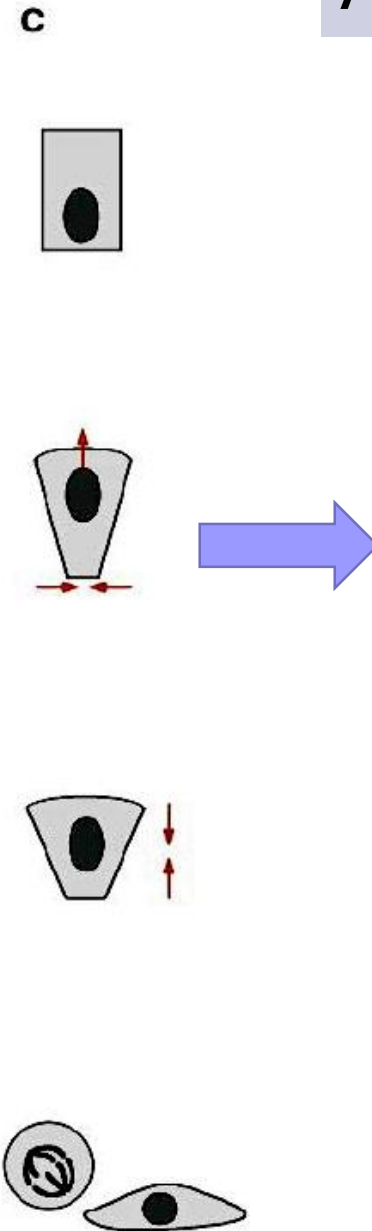
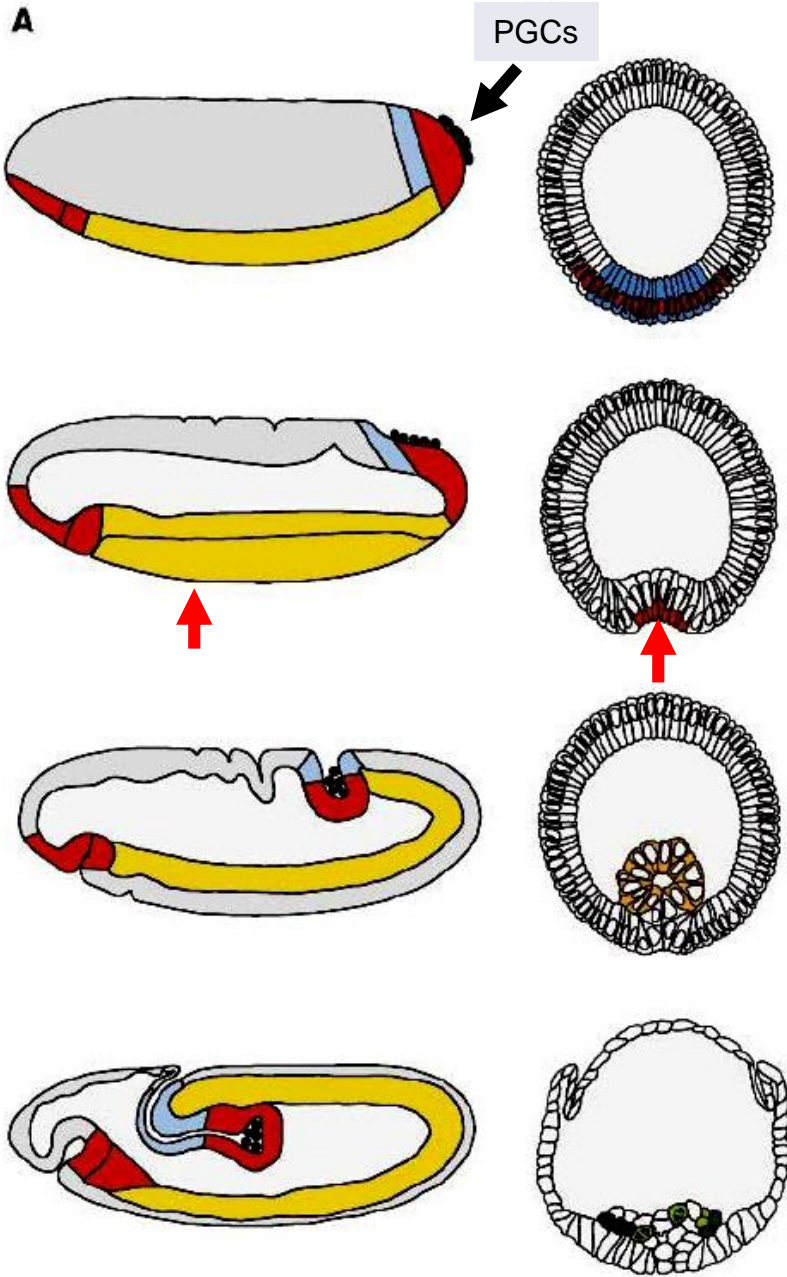


Figure 1: Prospective mesoderm cells (red) are internalised during *Drosophila* gastrulation

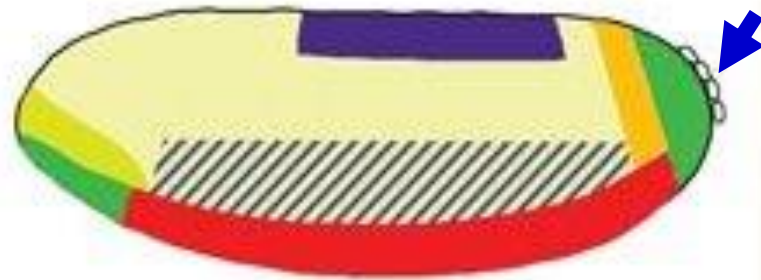




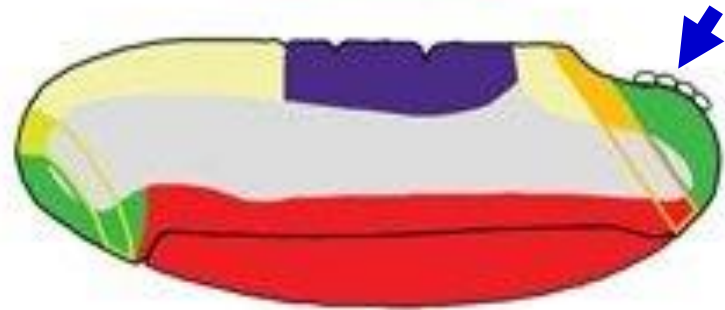
Ventral

dorsal

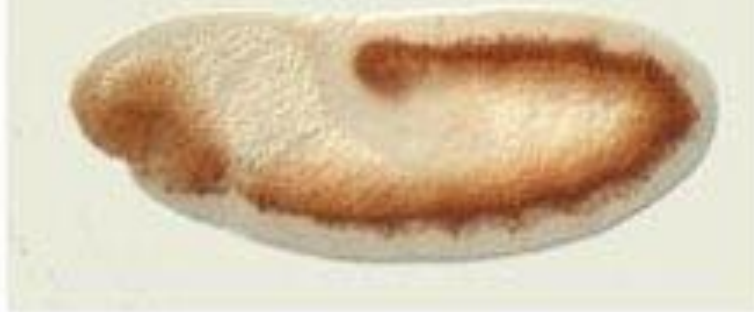
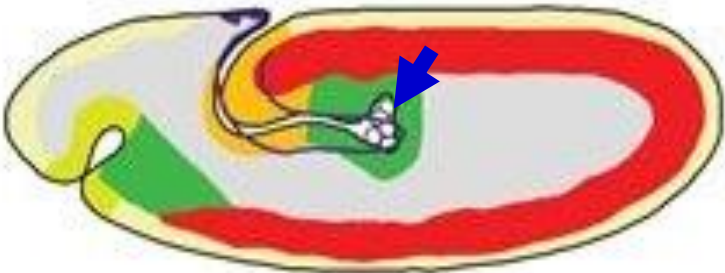




Estado de banda germinal



Extensión de la banda germinal e inicio de invaginación del endodermo en la región anterior y posterior



Interiorización del endodermo y del mesodermo por cerramiento del tubo mesodérmico

neural ectoderm  
ectoderm  
esophagus  
hindgut

midgut  
mesoderm  
amnioserosa  
germ line cells

➡ Células germinales





Blástula



Elongación de banda germinal hacia el dorso



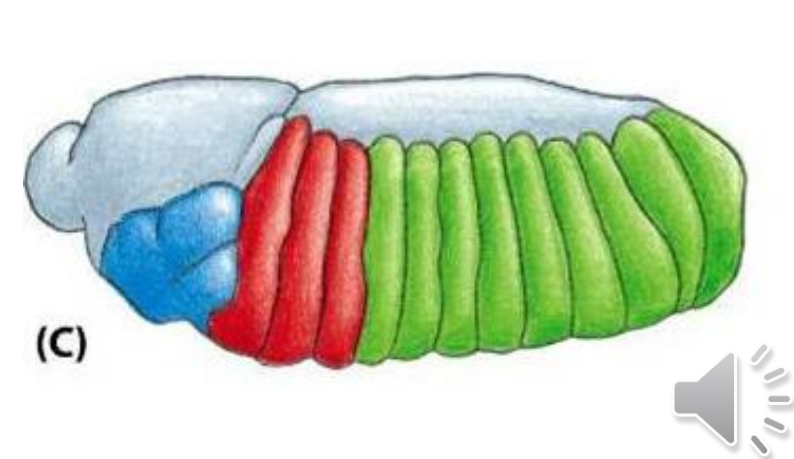
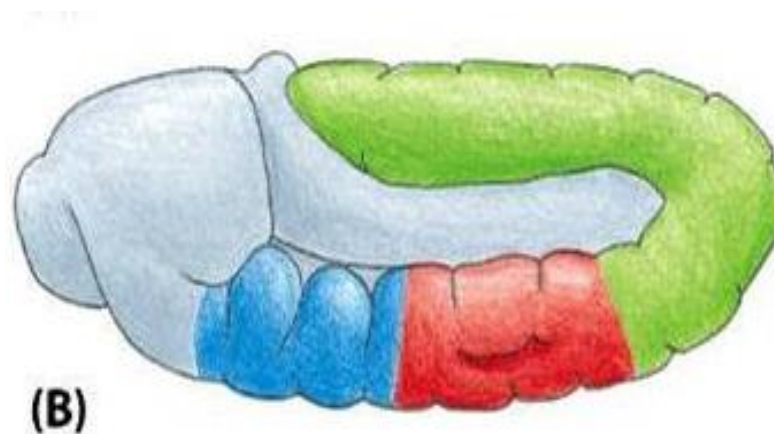
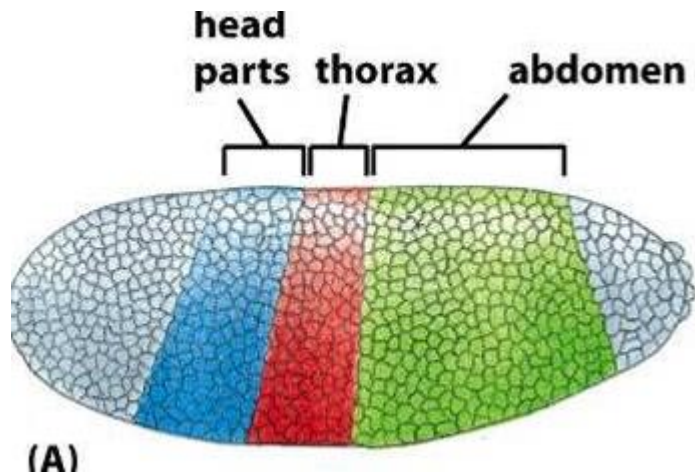
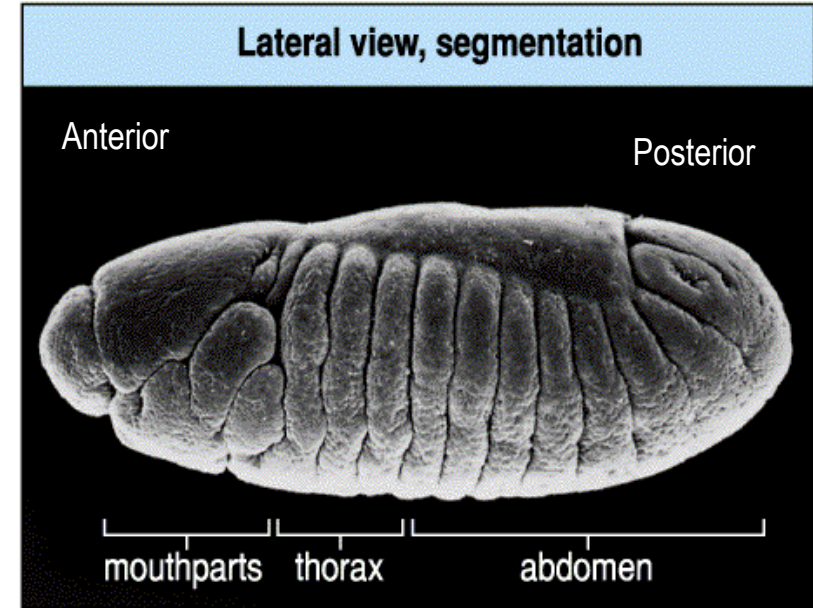
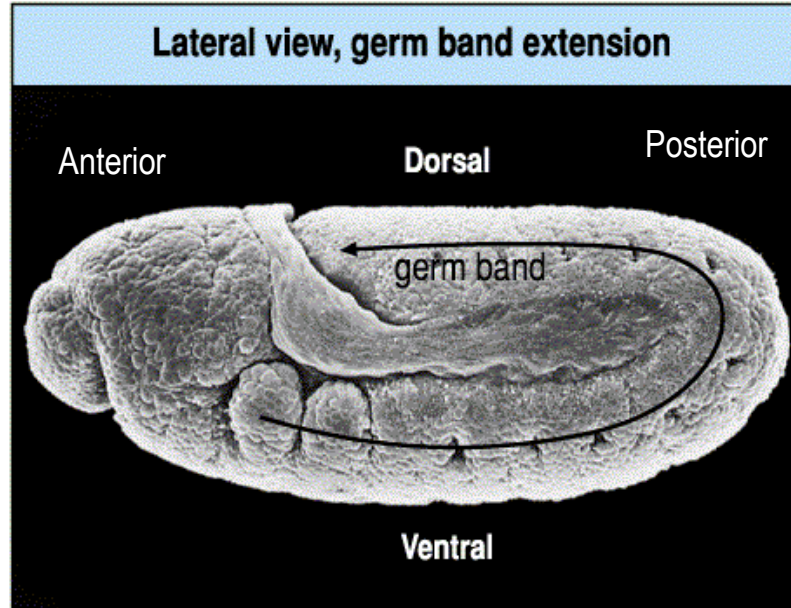
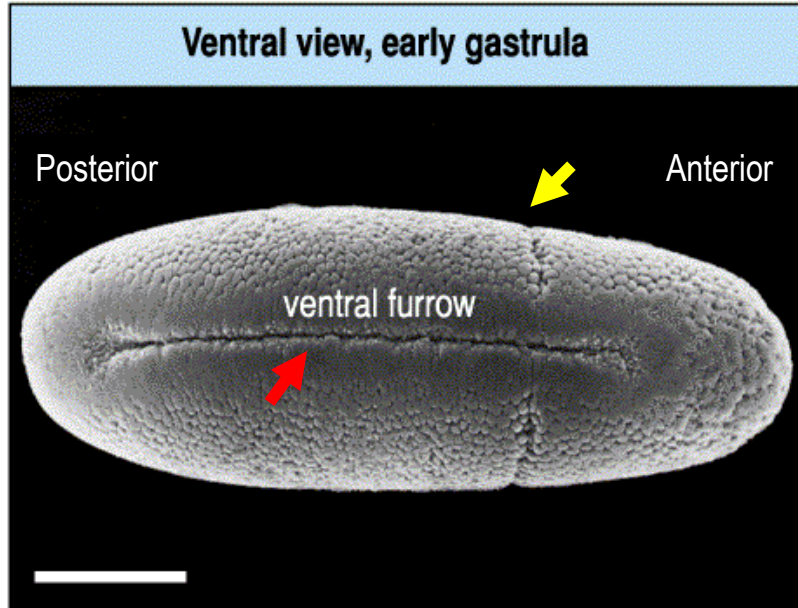
Interiorización del endodermo



Cierre del tubo mesodermal

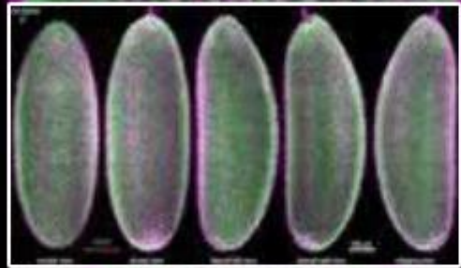
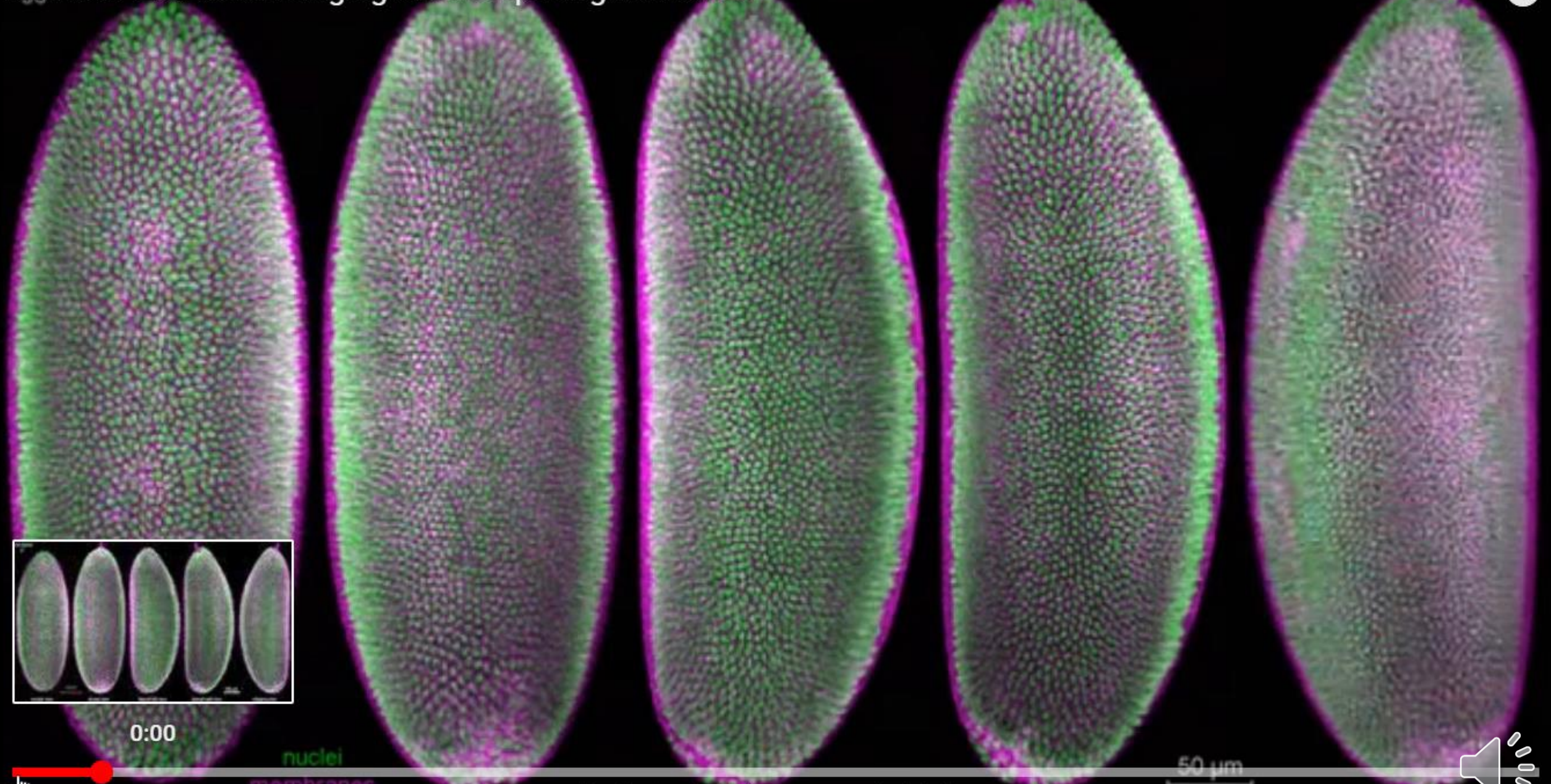
Gástrula







# IsoView: Two-color imaging of *Drosophila* gastrulation



0:00

nuclei  
membranes

50 μm



0:01 / 0:21

Desliza hacia abajo para ver más detalles

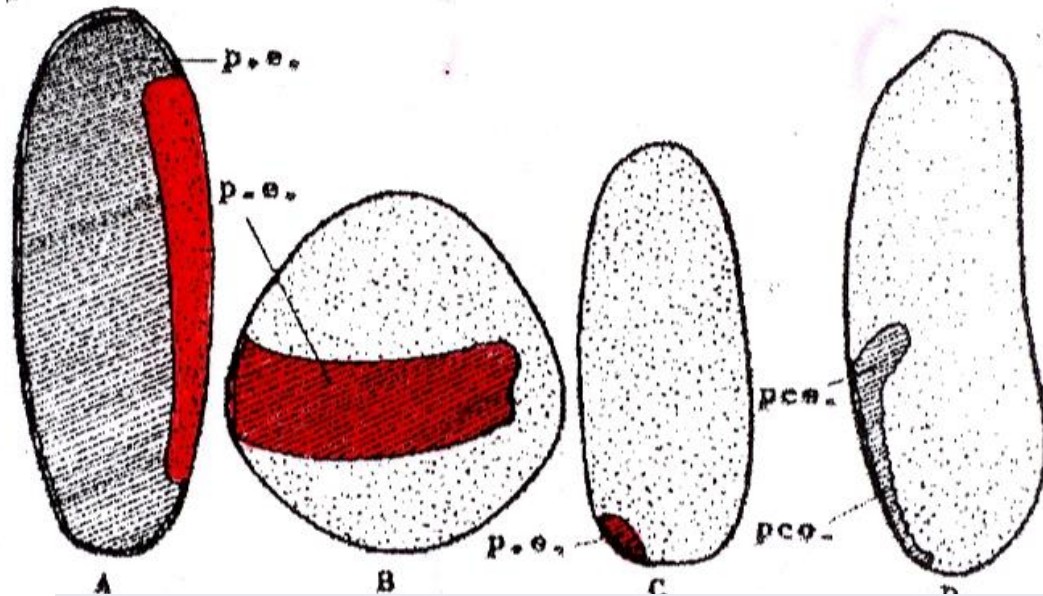
dorsal view

lateral-left view

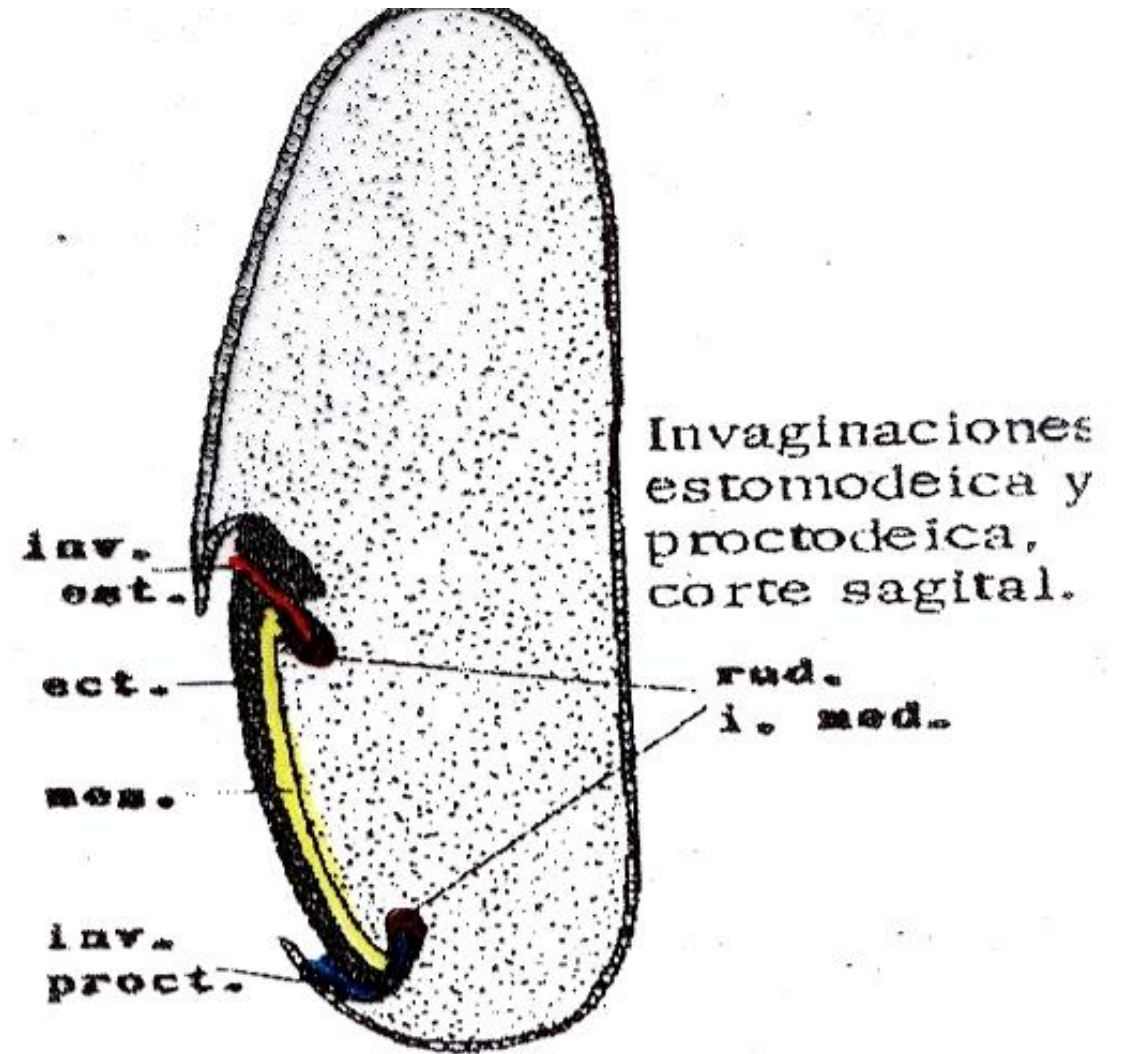
lateral-right view

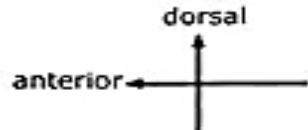
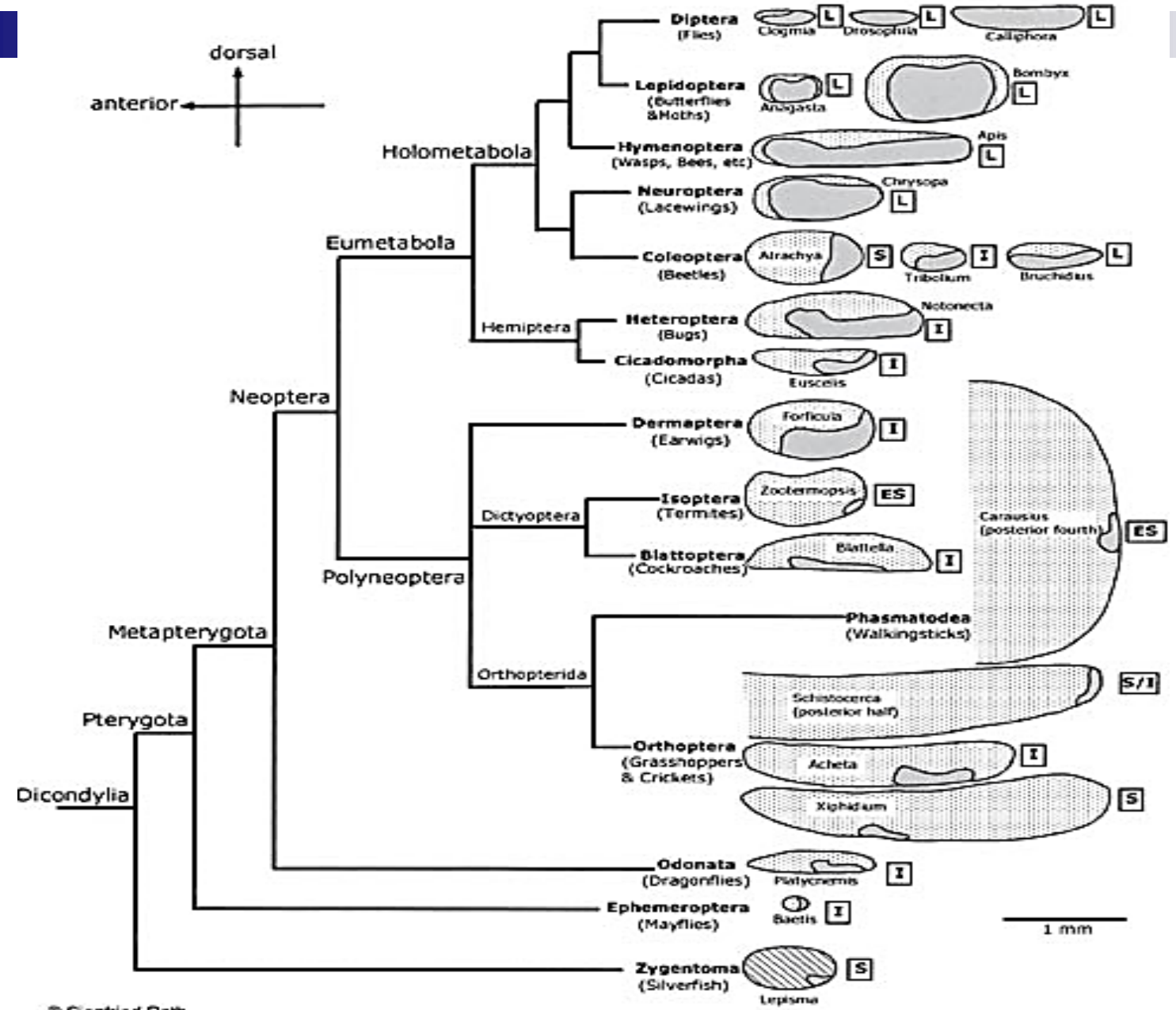
rotating view





Posición y dimensiones relativas de la banda germinal con respecto a la yema

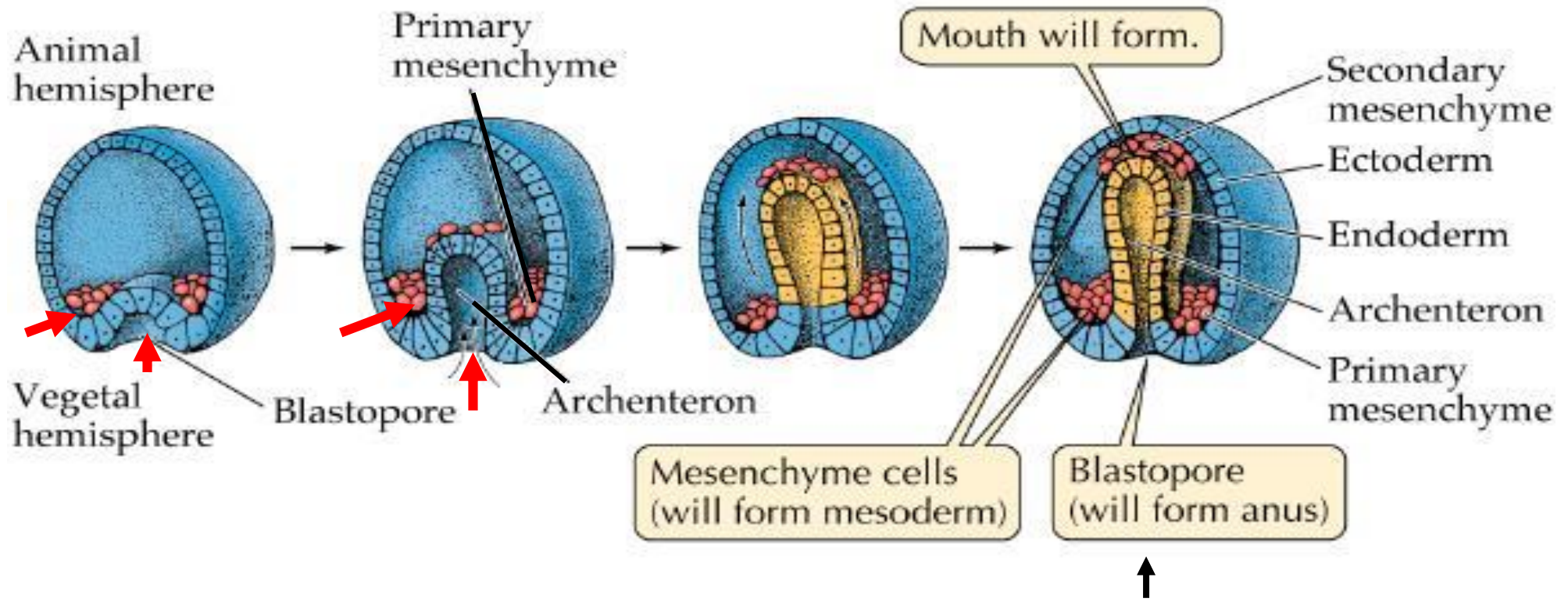




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 From *Gastrulation: From Cells to Embryo*  
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 Chapter 8, Figure 2



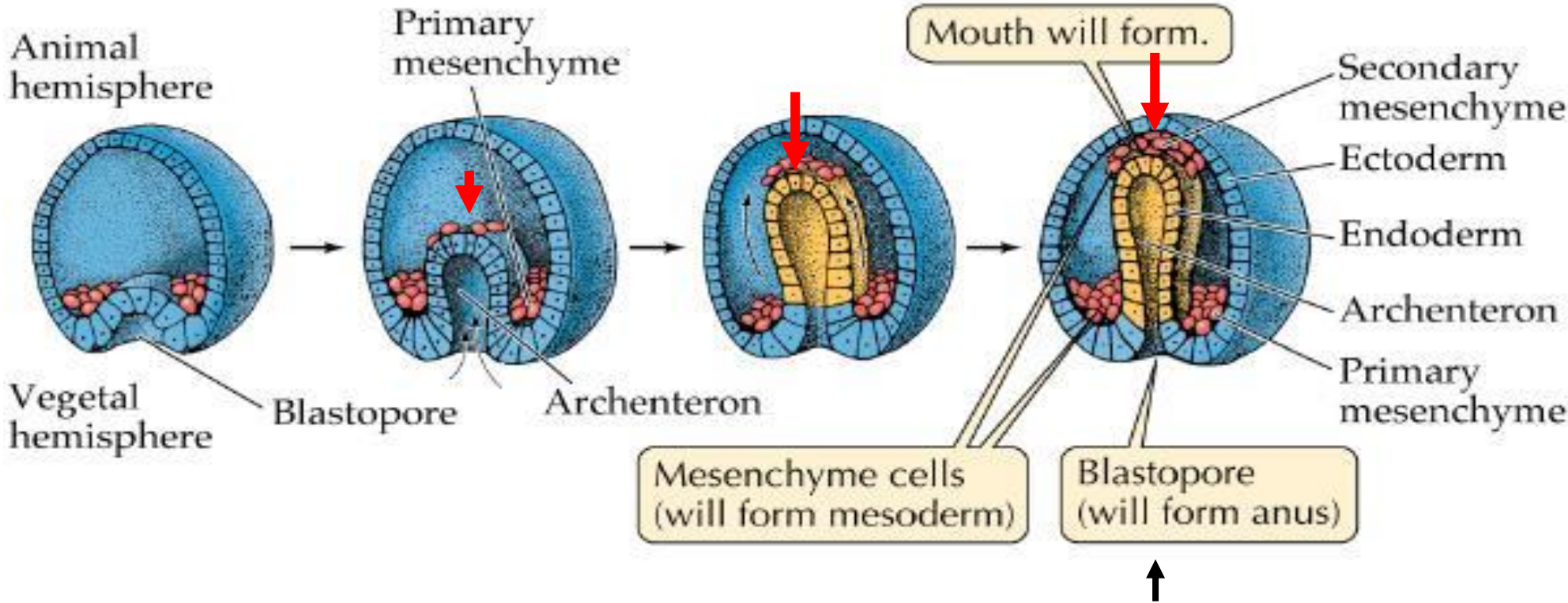
# Erizo de mar



Azul, ectodermo; amarillo, endodermo; rojo, mesodermo



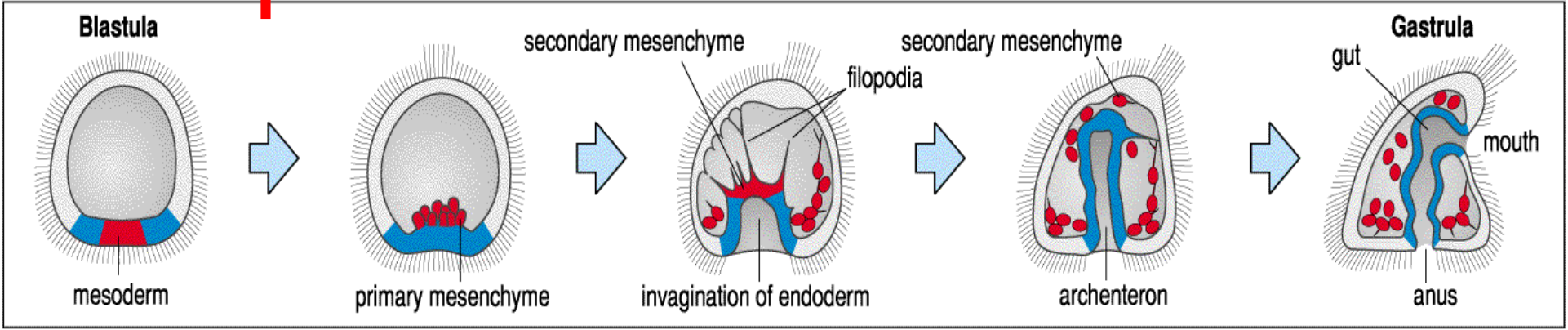
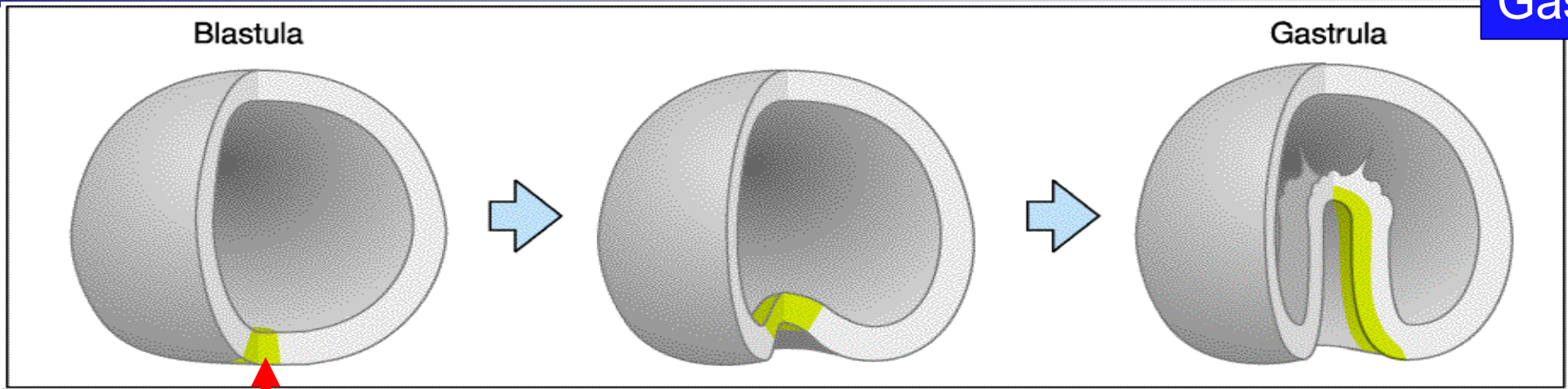
# Erizo de mar

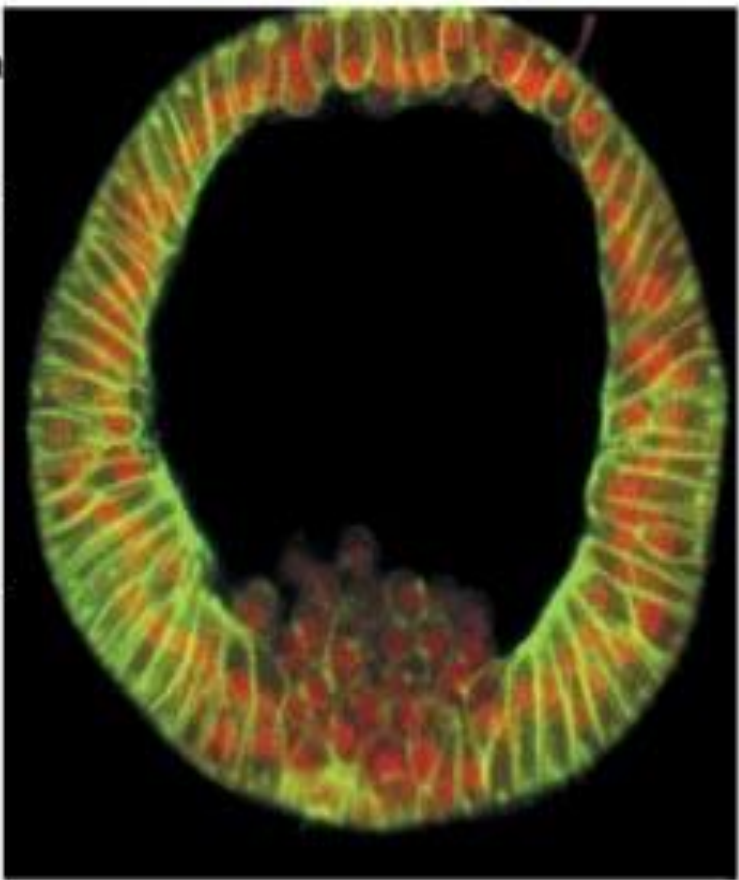
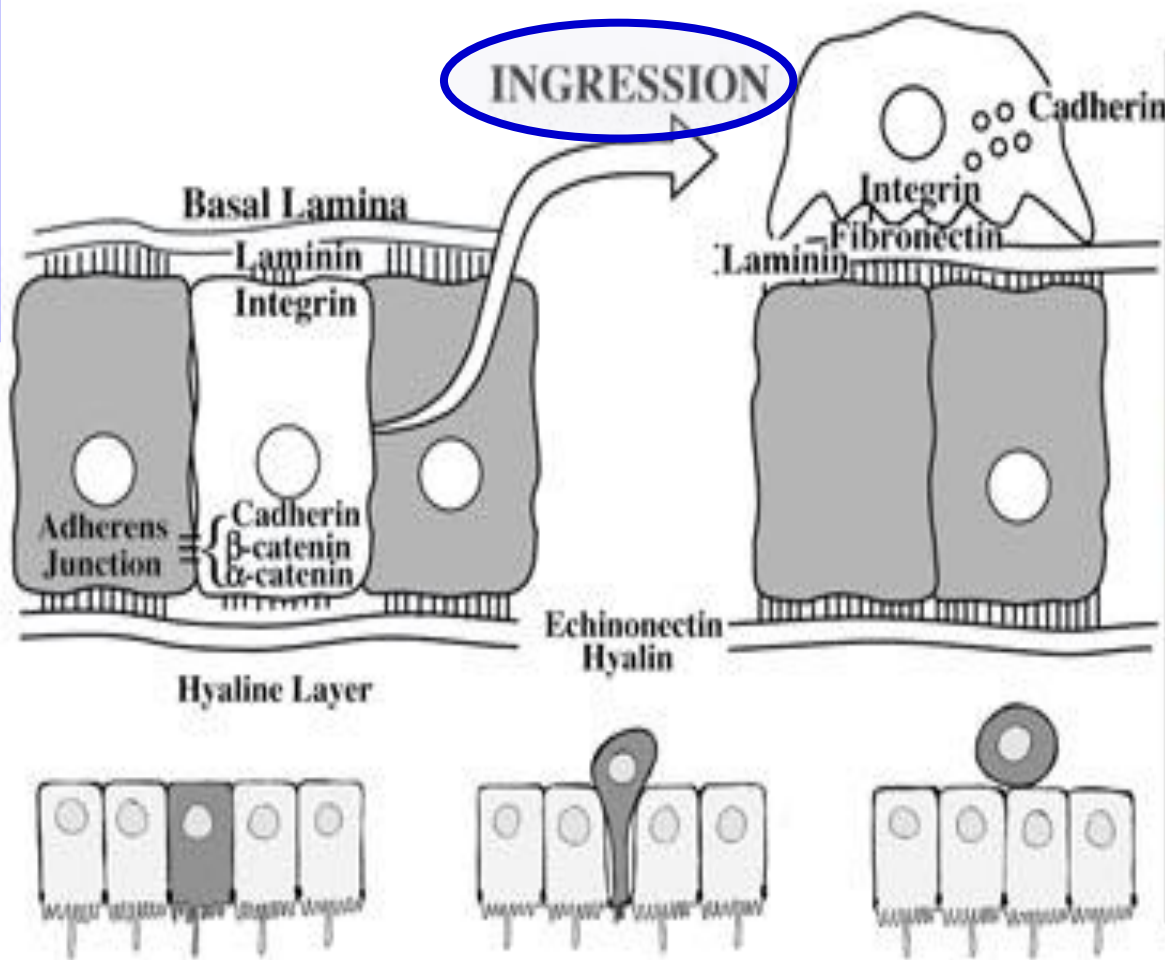


Azul, ectodermo; amarillo, endodermo; rojo, mesodermo



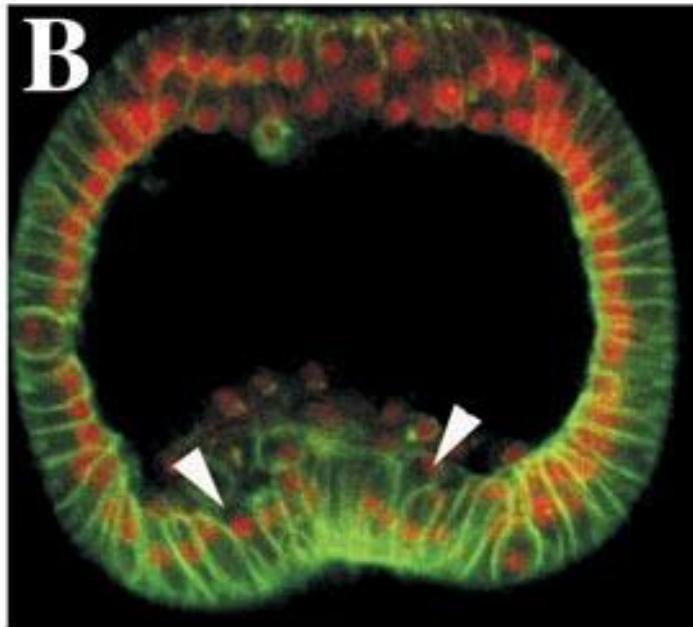
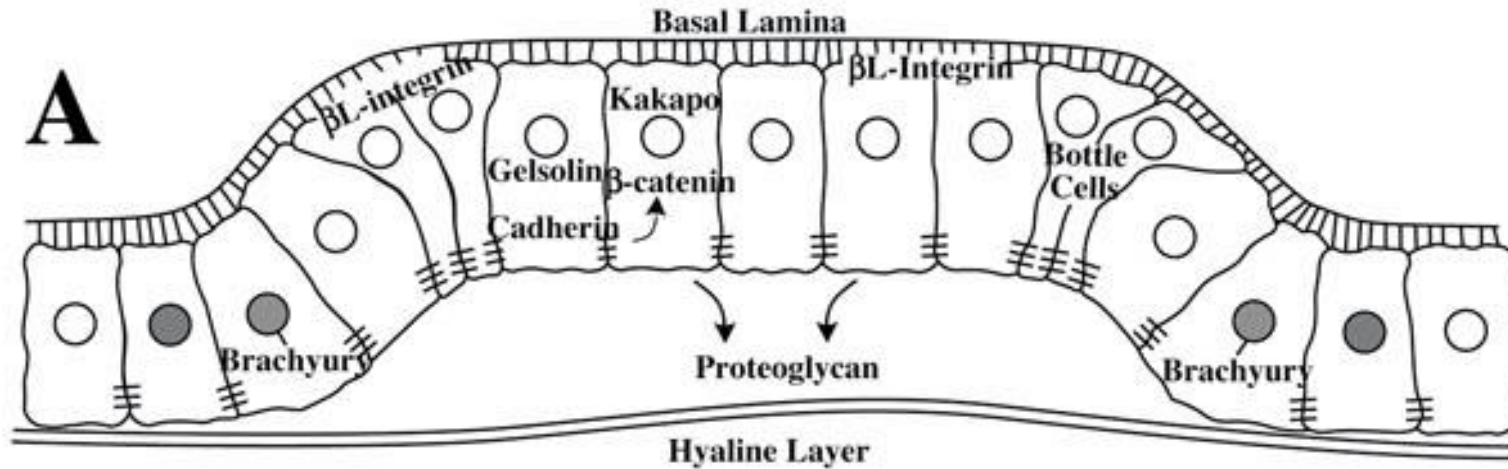
Erizo de mar





Ingresión de las células del mesodermo

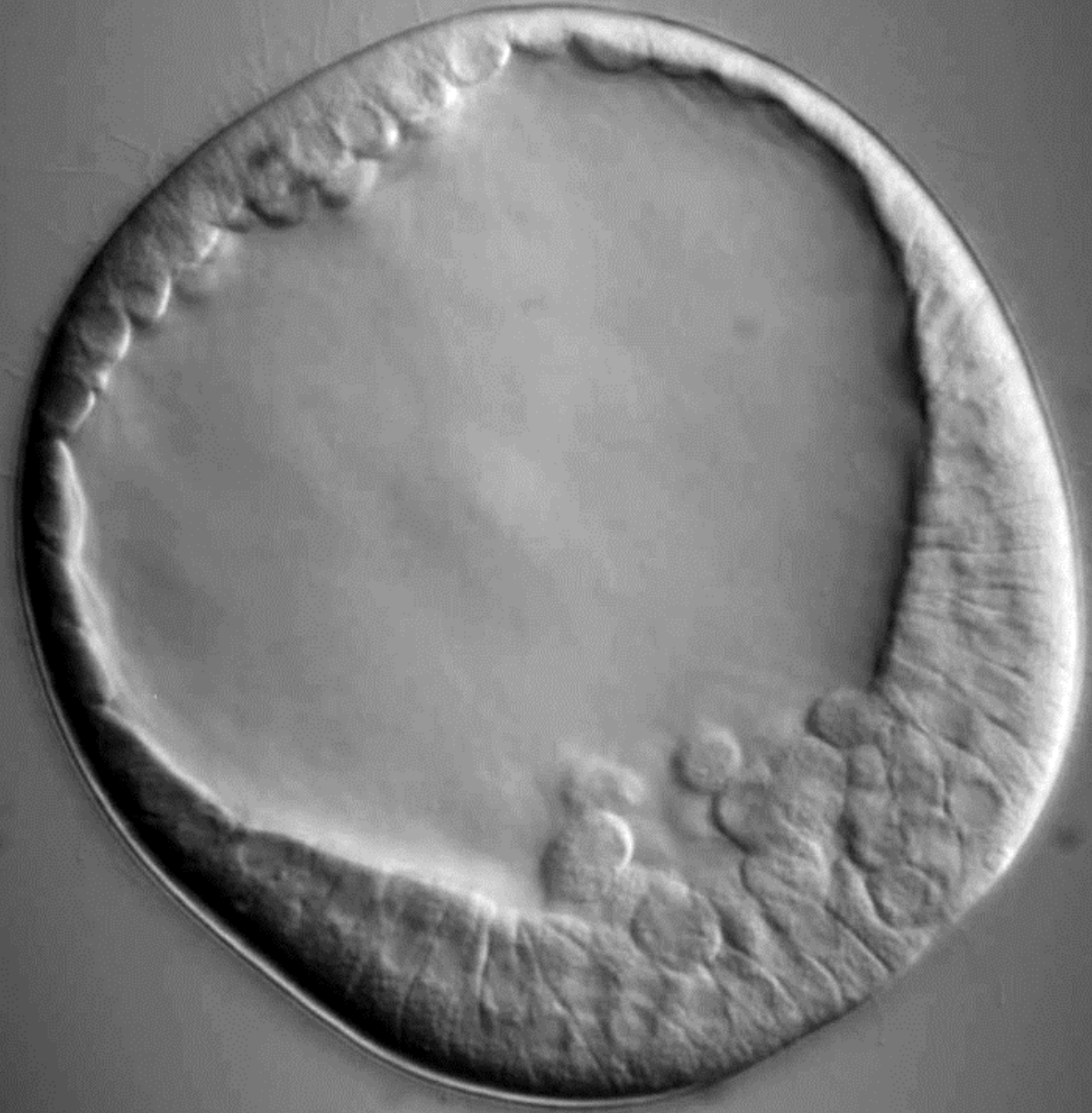




Invaginación de las  
células del endodermo





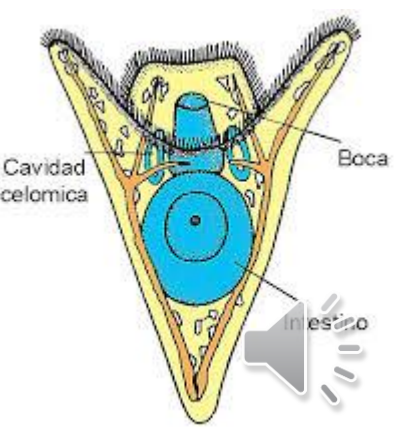
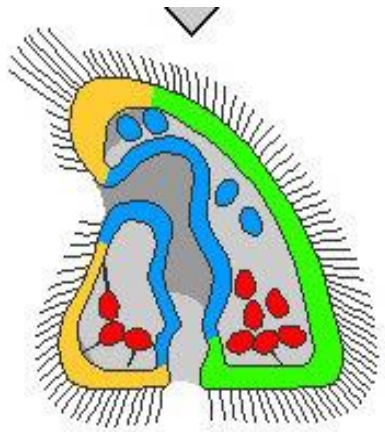
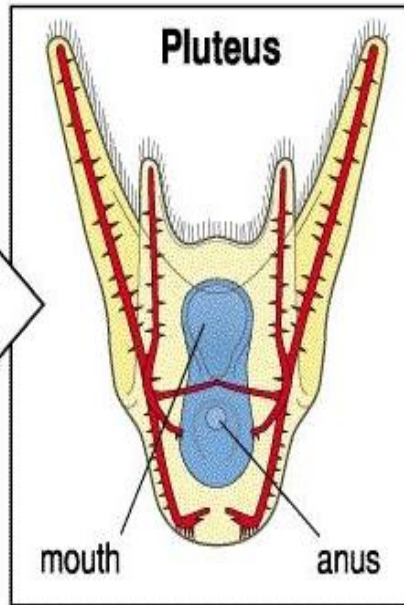
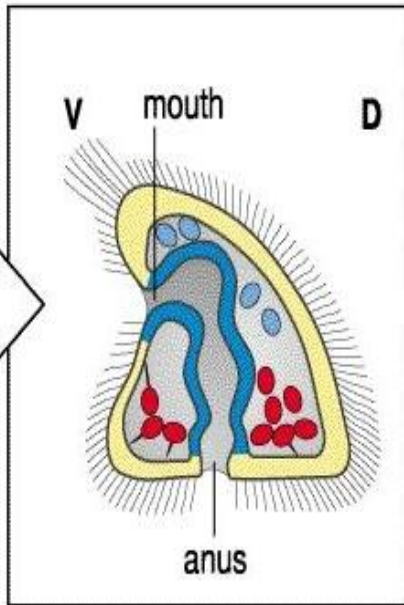
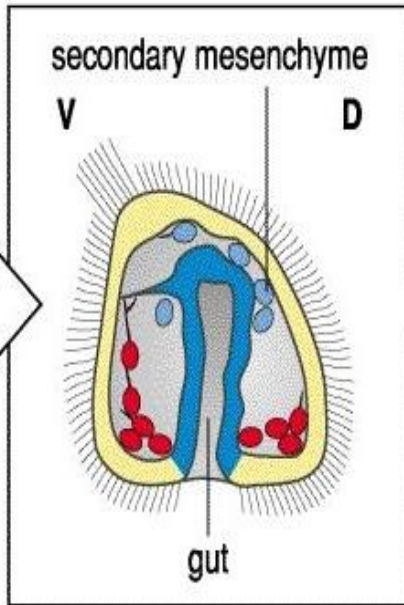
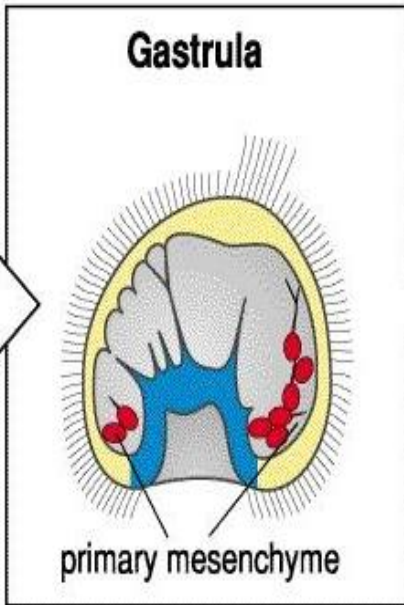
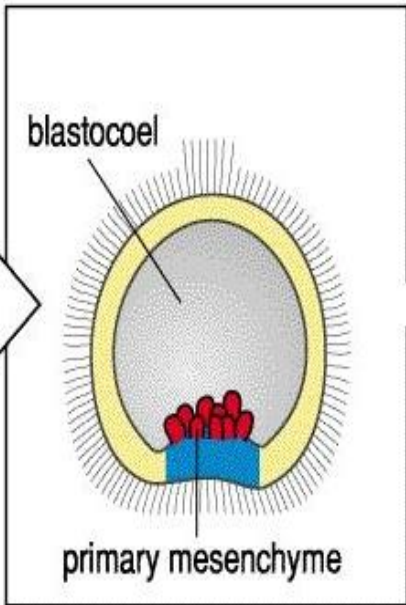
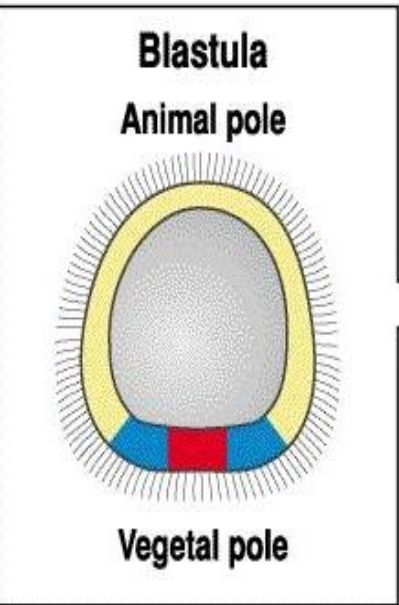




00:01

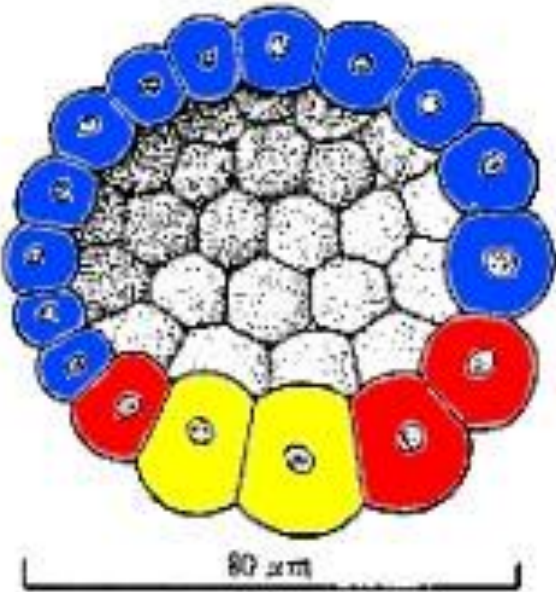


# Erizo de mar

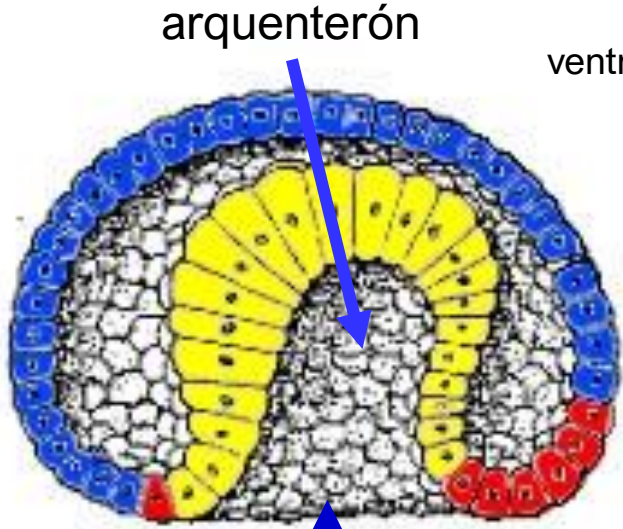


Amphioxus

Cordados



blastula

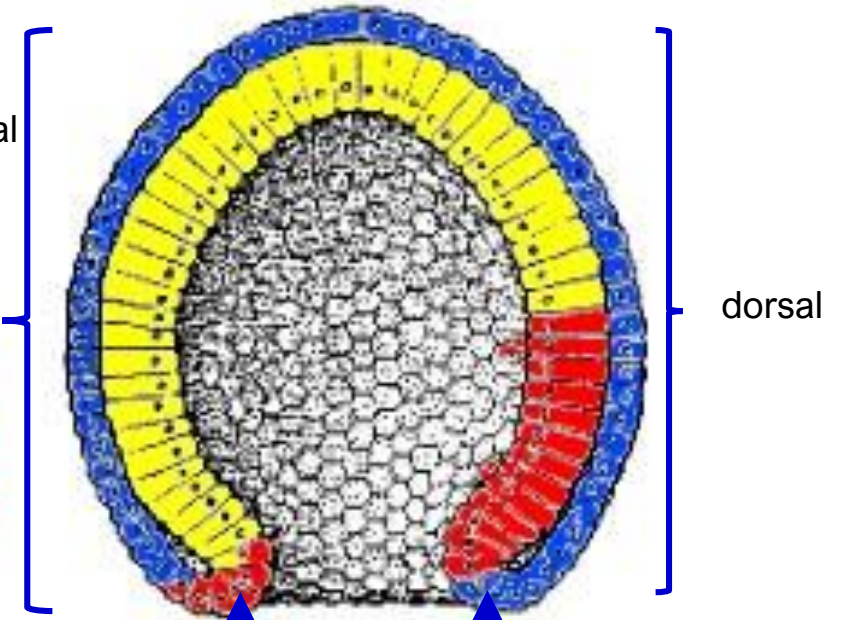


arquenterón

ventral

blastoporo

early gastrula



anterior

dorsal

Labio ventral del blastoporo

Labio dorsal del blastoporo

posterior

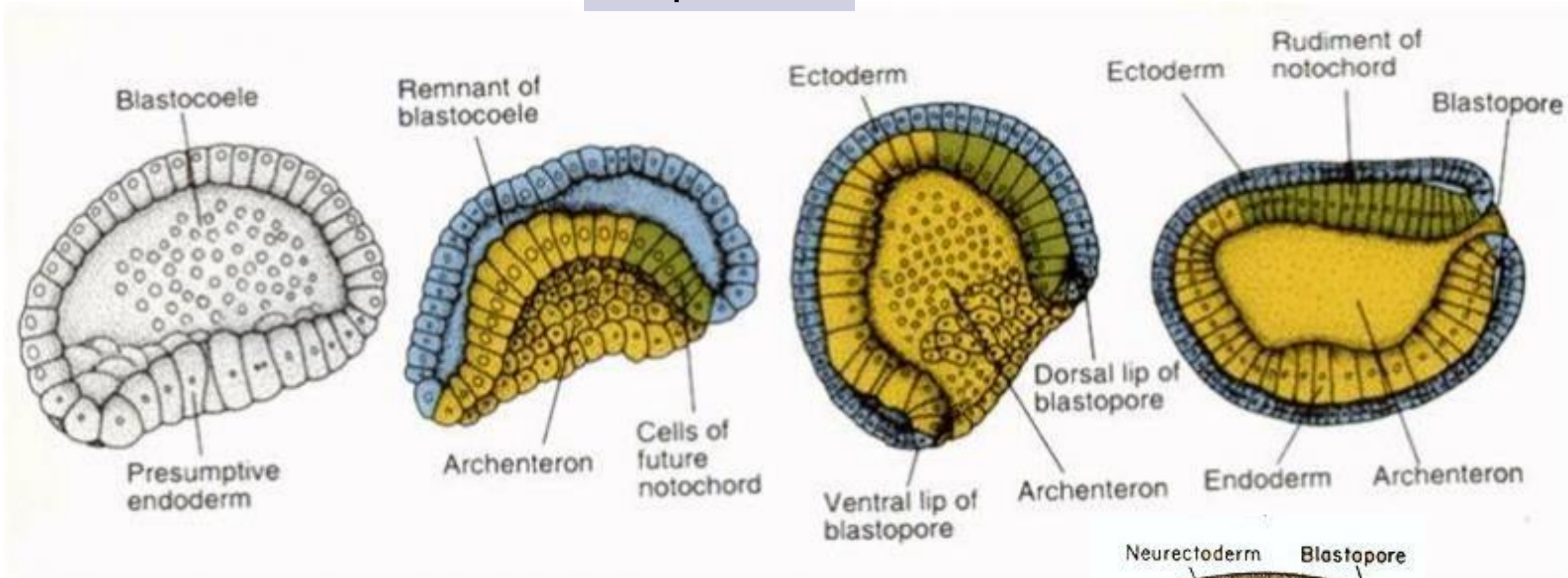
Gastrulation  
(Development of Amphioxus)

Azul, ectodermo  
 Rojo, mesodermo  
 Amarillo, endodermo



# Amphioxus

## Gastrulación



Visto en corte

anterior

posterior

Visto desde afuera

