

- Further cleavage are irregular, now the micromeres divide slightly faster than macromeres. This is probably because they have fewer yolk granules. A jelly filled cavity now appears in the center of morula to change it into blastula.
- It starts appearing at 16 blastomeres stage and becomes distinct by 64 blastomeres stage.
- The jelly starts absorbing water and enlarges in size. The blastomere become arranged in single layer all around the blastocoel.
- The single layer is called blastoderm. At the completion of cleavage, there are about 9000 cells in the blastula of *Amphioxus*.

GASTRULATION

- At the beginning of gastrulation the blastula has micromeres in upper part and macromeres at the lower part.
- The slower dividing macromeres are pushed by faster dividing micromeres from near the equatorial region and then micromeres start moving downwards (Epiboly).
- Now blastula looks like half sphere with flattened plate at the bottom.

Invagination

- The flattened macromere plate start bending upwards (invagination)
- As invagination continues, the monoblastic blastula starts converting into diploblastic gastrula.
- Later the gastrula has appearance of a double walled inverted cup with the blastocoel as a compressed space between the two walls.
- The newly formed cavity surrounded by diploblastic wall is called **Archenteron** or **Gastrocoel**.

the transformation of single walled blastula into double walled gastrula is called GASTRULATION

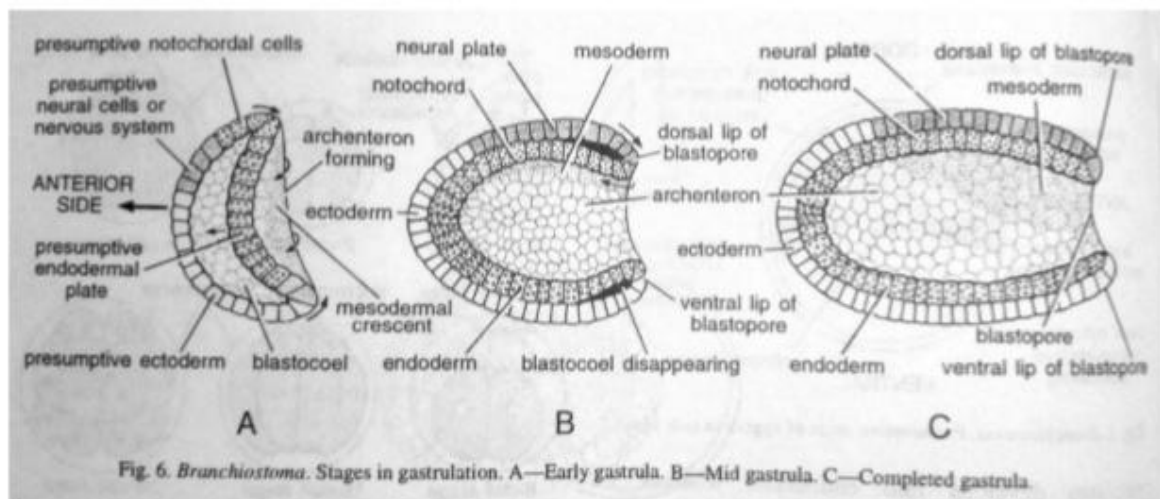


Fig. 6. *Branchiostoma*. Stages in gastrulation. A—Early gastrula. B—Mid gastrula. C—Completed gastrula.