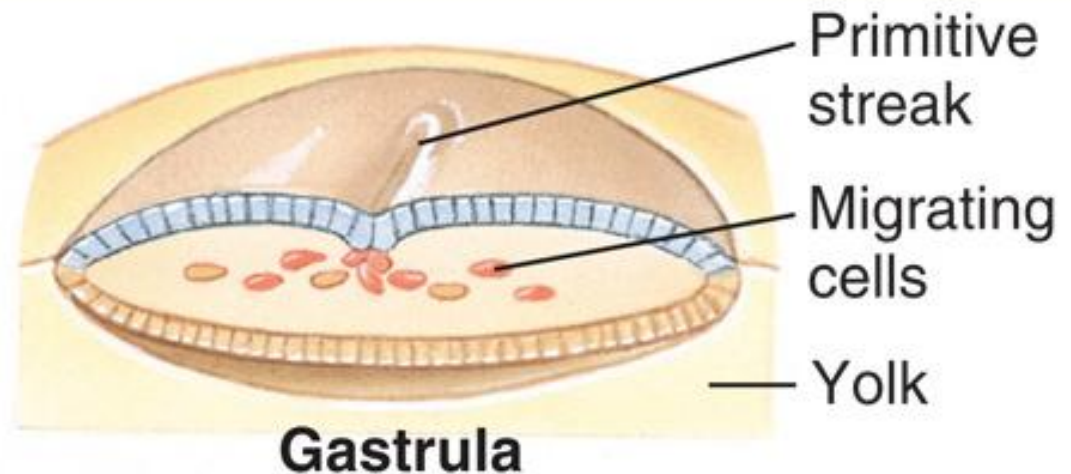
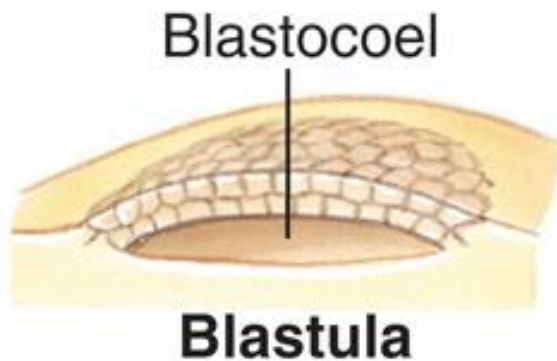


Gastrulation - Chick

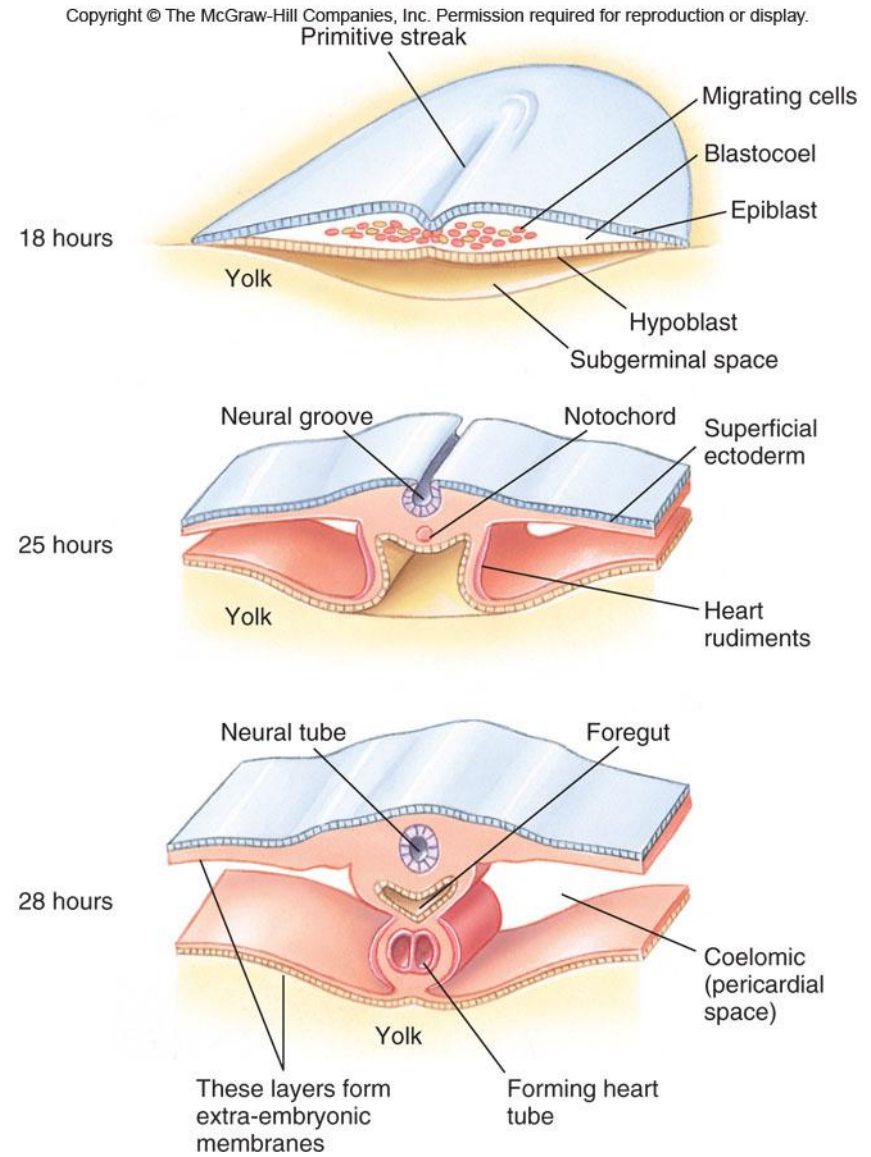
- Gastrulation in the chick is affected by the large amounts of yolk in the egg.
- Primitive streak** – a groove on the surface along the future anterior-posterior axis.
 - Functionally equivalent to blastopore lip in frog.

D Chick



Gastrulation - Chick

- **Blastoderm** consists of two layers:
 - **Epiblast** and **hypoblast**
 - Layers separated by a **blastocoel**
 - Epiblast forms endoderm and mesoderm.
- Cells on surface of embryo form ectoderm.



Gastrulation: Producing the Body Plan

- Gastrulation in reptiles and birds differs from that in sea urchins and frogs because the large egg yolk causes the blastula to form a flattened disc of cells.

**Chick embryo
viewed from above**

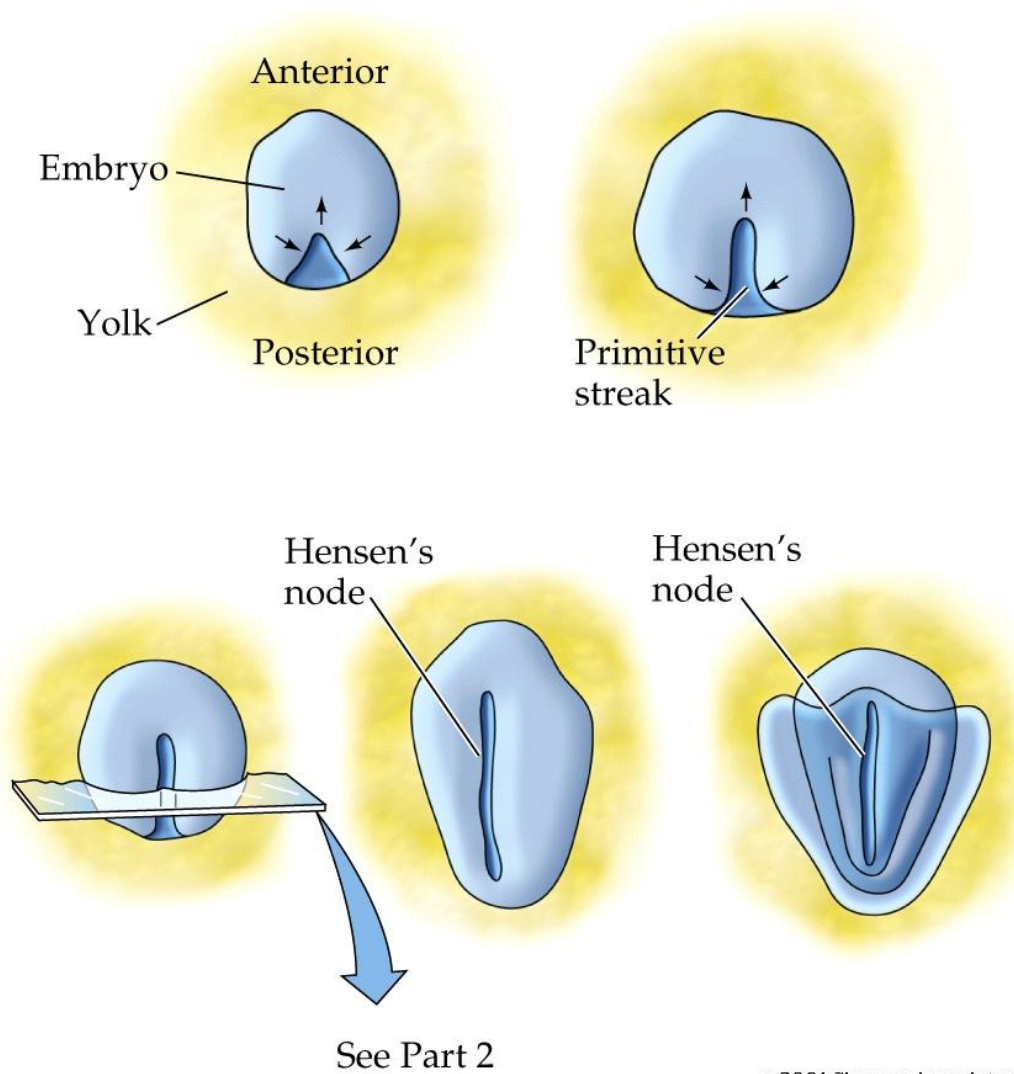
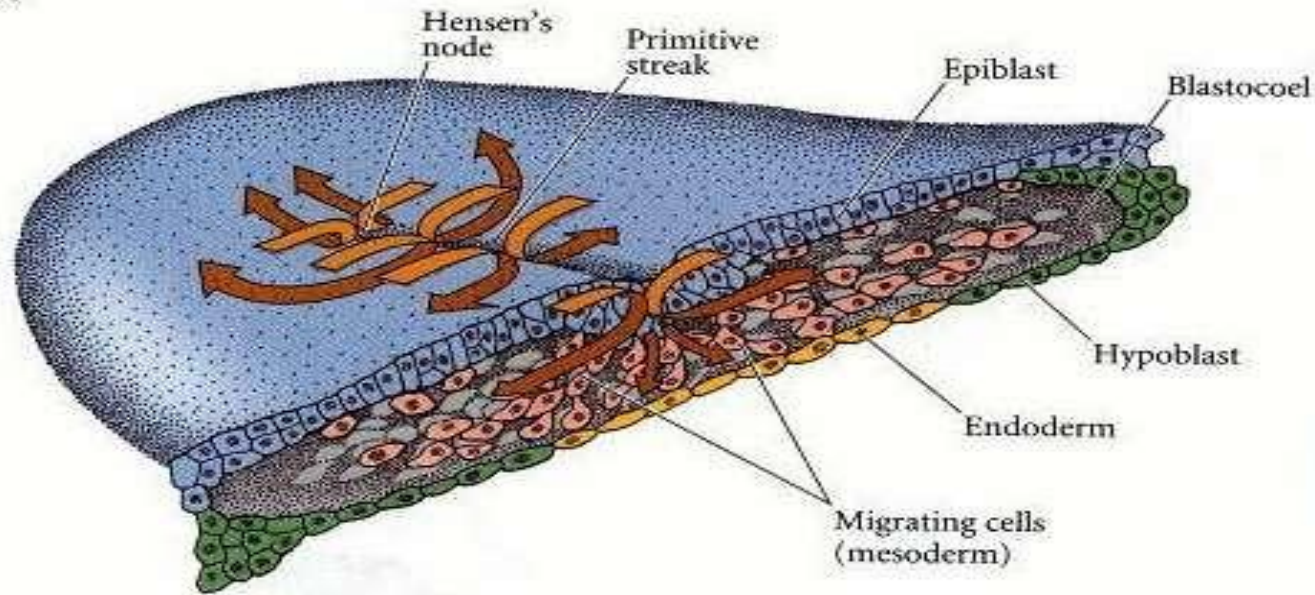


Figure 1

- **Primitive groove:** As cells converge to form the primitive streak, a depression forms within the streak. This depression is called the **primitive groove**, and it serves as an opening through which migrating cells pass into the blastocoels. Thus, the primitive groove is analogous to the amphibian blastopore.
- At the anterior end of primitive streak is a regional thickening of cells called the **primitive knot or Henson's node**.
- The center of this node contains a funnel shape depression (sometimes called the **primitive pit**) through which cells can pass into the blastocoels. Henson's node is the functional equivalent of the dorsal lip of the amphibian blastopore (i.e. the organizer) and the fish embryonic shield.

(B)



Migration of endodermal and mesodermal cells through the primitive streak Stereogram of a gastrulating chick embryo, showing the relationship of the primitive streak, the migrating cells, and the two original layers of the blastoderm.

The lower layer becomes a mosaic of hypoblast and endodermal cells; the hypoblast cells eventually sort out to form a layer beneath the endoderm and contribute to the yolk sac.