

question 1 1. The first parts of the nervous system to become evident are the neural plate and the elevation of the neural folds on either side of the neural groove to form the neural tube, which is where the dorsal nerve cord starts to differentiate, a few hours after gastrulation. To create an independent neural tube, the ends of the neural plate connect and fuse. It represents the transition from a solid mass of cells to a hollow structure with internal organization, preparing the embryo for the next steps in development, such as implantation and germ layer formation.

From Zygote to Morula: After fertilization, the zygote undergoes a rapid cell division called fission, which begins with the division of the first two cells to produce 4 cells, which in turn divide to produce 8 cells until they become 16 similar cells. This void gradually increases until the morula transforms into a hollow sphere called the blastula.

blastopore: It is a general term that refers to changes that occur in the cells of the fetus during its development, allowing the passage of materials necessary for cell growth.

coelom: A body cavity is a space or void within an animal's body, formed primarily by mesoderm during embryonic development.

Morula to Blastula: This transformation occurs through a process called cavitation or elongation. This cavity surrounds and protects internal organs, and provides space for their growth and movement. The notochord is located on the dorsal side of the embryo, that is, in the back of it, and extends along the length of the body.

Ectoderm at the neural plate folds inward as a result of signals from the notochord. During this process, the cells that make up the morula begin to absorb fluid, creating a void in the center of the cell mass.

Blastula to Gastrula: This transformation occurs through a process called invagination. The ectoderm, mesoderm, and endoderm are the three separate layers that form as the cells fold inward.

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