

Meaning of Cleavage:

Zygote is produced after Fertilization. The process of rapid cell division or segmentation immediately after fertilization is called as cleavage. The cells which are produced during segmentation are called blastomeres.

Planes of Cleavage:

The planes of division are:

a. Meridional plane of cleavage:

When a furrow bisect both the animal pole and vegetal pole of the egg passing through the centre of egg it is called meridional plane of cleavage.

b. Vertical plane of cleavage:

When a furrow passes in any direction (except through the median axis) from the animal pole towards the opposite pole.

c. Equatorial plane of cleavage:

This type of cleavage plane divides the egg halfway between the animal and vegetal poles at right angle to the median axis.

Types of Cleavage:

It depends upon the cytoplasmic contents and is divided into following types.

a. Holoblastic cleavage:

When the cleavage furrows divide the entire egg. It may be **Equal**: When the cleavage furrow cuts the egg into two equal cells. **Unequal**: When the cleavage furrow cuts the egg into two unequal cells.

b. Meroblastic cleavage: When cell division takes place only in a small portion of the egg resulting in the formation of blastoderm, it is called meroblastic cleavage. the plane of division does not reach the periphery of blastoderm or blastodisc.

c. Transitional cleavage:

In many eggs, the cleavage is atypical which is neither typically holoblastic nor meroblastic, but assumes a transitional stage between the two.

