

9.01 Study Questions

Class 15 (Intro. To CNS Development)

1. Which part of the brain, and which part of the spinal cord, develops the earliest? (It is where the neural tube first begins to close.)
2. Neurulation begins with an inductive event. What part of the embryonic mesoderm induces the formation of the nervous system? To which germ layer of the gastrula does this part belong? How does it accomplish the induction?
3. The neural crest cells form from part of the neural plate that does not become incorporated into the neural tube. Cells of the neural crest form a number of separate structures. Name several of these.
4. Contrast two different kinds of mitosis. Where do mitoses occur in the developing spinal cord?
5. The walls of the early neural tube are called a neuroepithelium. Why is it called a "pseudostratified epithelium"?
6. Explain nuclear translocation as a mechanism of cell migration, and give an example of it.