

Worksheet for class 3

- What are the three primary germ layers? From which one does the nervous system develop?
- Draw a lateral view of the neural tube shortly after tube closure. Label each of the primary brain vesicles and spinal cord in this drawing.
- Draw a simple diagram of the medial surface of an adult human brain. Label the major brain regions visible in this view. Identify the embryonic primary brain vesicle that ultimately gave rise to each of these adult brain regions. (This could be done by colorcoding.)
- Draw the neural plate on the embryonic disk. Include the primitive streak in the drawing. Color in the cells that will give rise to the peripheral nervous system (PNS). What are these cells called?
- Draw the outline of a circle and divide it into four segments. Label each segment with one stage of the cell cycle in the proper sequence around the circle. Draw an arrow to indicate the direction in which the cell cycle progresses.
- Draw a cross section of the embryonic neural tube at the level of the spinal cord. Label dorsal and ventral. In your drawing, include the ventricle (lumen of the neural tube), ventricular cell layer (layer of dividing cells), alar plates, basal plates, roof plate, floor plate and layer of axons. What is the relationship between motor and sensory functions and the plates in your drawings?