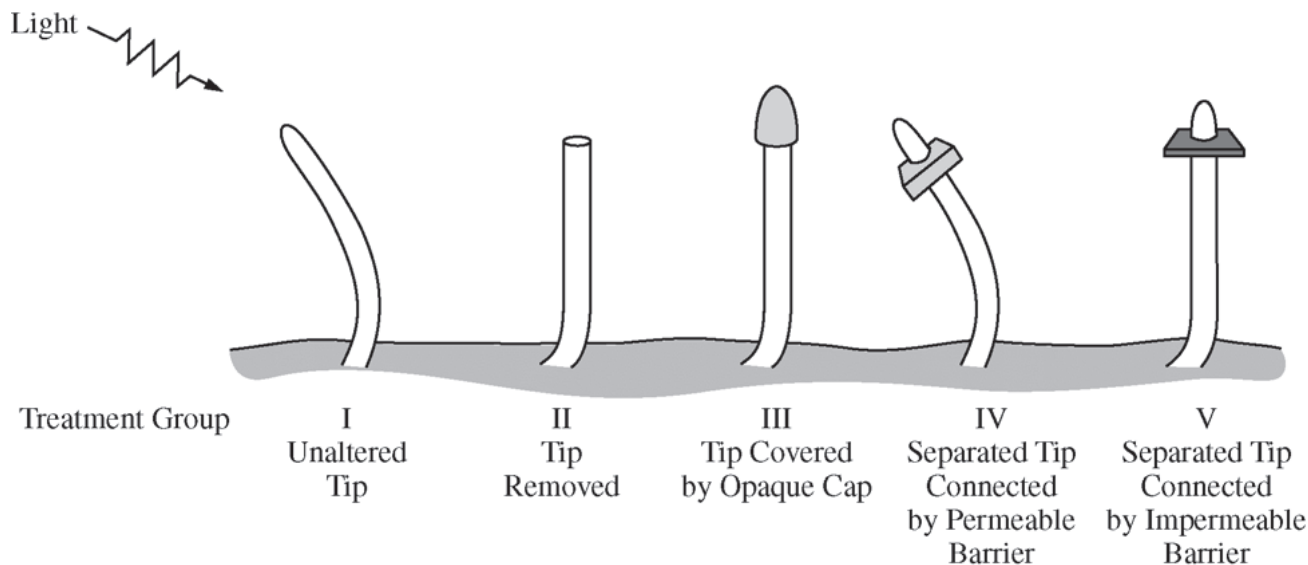


4. Both mitosis and meiosis are forms of cell division that produce daughter cells containing genetic information from the parent cell.
- (a) **Describe** TWO events that are common to both mitosis and meiosis that ensure the resulting daughter cells inherit the appropriate number of chromosomes.
- (b) The genetic composition of daughter cells produced by mitosis differs from that of the daughter cells produced by meiosis. **Describe** TWO features of the cell division processes that lead to these differences.
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5. Phototropism in plants is a response in which a plant shoot grows toward a light source. The results of five different experimental treatments from classic investigations of phototropism are shown above.
- (a) **Give support** for the claim that the cells located in the tip of the plant shoot detect the light by comparing the results from treatment group I with the results from treatment group II and treatment group III.
- (b) In treatment groups IV and V, the tips of the plants are removed and placed back onto the shoot on either a permeable or impermeable barrier. Using the results from treatment groups IV and V, **describe** TWO additional characteristics of the phototropism response.