

4.1

Describe two ways that cells communicate with each other. **Compare** short and long distance signaling.

4.2

Describe the components and their role(s) in signal transduction pathways.

4.3

Compare the two types of cellular responses. (Hint: Bakery Analogy)

4.4

Explain how a change in the structure of any signaling molecule or a change in the receptor affects the activity of the signaling pathway.

4.5

Compare negative and positive feedback loops. **Provide** one example of each.

4.6

Explain how mitosis results in the transmission of chromosomes from one generation to the next.

4.7

Describe the role of checkpoints in regulating the cell cycle. **Discuss** the effects of disruptions to the cell cycle on the cell or organism.