

34. Nerve Tissue Podcast
Study Guide
BIO 122 – Principles of Modern Biology

I. Introduction

A. Function

1. General
2. Impact on animal

B. Location

1. Central nervous system
2. Other locations in body

II. Two kinds of cell

A. Neurons

B. Glial cells

III. Neurons

A. Structure

1. Soma
2. Dendrites
3. Axon
4. Axon terminal

B. Pattern of conducting impulse

IV. Glial cells

A. Relate to Schwann cells and myelin sheath

B. Pattern of Schwann cells on axon

C. Saltatory pattern of impulse conduction

V. Synapse

A. Three regions

B. Conversion of electrical to chemical impulse

C. Features associated with axon terminal

1. Vesicles
2. Neurotransmitters
3. Mitochondria

D. Processes

1. Accumulation of neurotransmitters in vesicles.
3. Movement of vesicle to cell membrane
4. Neurotransmitters drift across synaptic gap
5. Neurotransmitters bind to receptors on postsynaptic structure
6. New impulse set up in post synaptic structure
7. Recycling of neurotransmitter.
8. Processes that inhibit neurotransmitter function

Questions:

1. How does nerve tissue compare to epithelial, connective, and muscle?
2. Where is nerve tissue found within the body?
3. What is the relationship between dendrites, the soma, and the axon on a neuron?
4. What do glial cells look like, and how do they function?
5. Why are axon terminals so rich in mitochondria?
6. What is the relationship between neurotransmitters and vesicles in nerve cells?
7. How are neurotransmitters recycled within the axon?
8. What is the importance of the synaptic gap within the synapse?