Conduction System of the Heart – Workbook

Directions. Watch the following tutorial and complete this workbook:
https://www.youtube.com/watch?v=jTaUswR10t8&feature=youtu.be

Learning objectives

• Describe the role of the ANS in regulating the heart.

• What spinal cord levels is the origin of sympathetic innervation?

• What CNS origins is the parasympathetic innervation?

• How do pre-ganglionic sympathetic neurons get from the spinal cord to thoracic and cervical cardiac splanchnic nerves?
Heart – Innervation

Sympathetic

• Trace out the sympathetic innervation of the heart
• Include both pre- and post-ganglionic sympathetic neurons
• What neurotransmitters and receptors are located in each synapse? (may need to look this up)
Heart – Innervation

Parasympathetic

• Trace out the parasympathetic innervation of the heart
• Include both pre- and post-ganglionic parasympathetic neurons
• What neurotransmitters and receptors are located in each synapse? (may need to look this up)
Heart – Innervation

SA node
AV node
Bundle of His
Left bundle
Right bundle
Perkinje fibers
Heart – Innervation

Sympathetic – Visceral afferent pathways

Parasympathetic – Visceral afferent pathways
What happens when the heart suffers damage?