Diagram, label, and describe the synthesis of thyroid hormones.
Describe the micro and macro structure of the thyroid gland.
What factors control the synthesis and secretion of thyroid hormones? How are they transported in the blood?
What are the physiological effects of T3 and T4? How are they metabolized?
What is the mechanism of action of thyroid hormones?
Describe the conditions of hyper and hypothyroidism.
What is the effect of thyroid hormone on tadpoles?
Describe the macro and micro structure of the parathyroid gland?
Is this gland necessary for life? Why or why not? Give evidence to support your answer.
Describe the regulatory process that contributes to maintaining bone. How do Vitamin D parathormone, and calcitonin work in this process?
What are osteoblasts and osteoclasts?
What are the physiological roles of calcitonin? What are the factors that control its secretion?
How does vitamin D stimulate calcium absorption?
Describe the chemistry function and regulation of calcitonin and PTH.
What are the major target tissues for these hormones?
What are ALL the major secretions of the pancreas?
Describe the major cell types of the endocrine pancreas and their secretions.
What happens if the pancreas is removed?
Describe type I and Type II diabetes. What are the causes of each? How is each condition controlled? List major symptoms and conditions found in a diabetic.
What is the mechanism of action for insulin?
Describe the synthesis of insulin and glucagon? How are they regulated?
What are the major physiological functions of the pancreatic hormones (insulin, glucagon, SST) What are their target tissues?
What factors control the secretion of insulin, glucagon and SST? How do they regulate each other in a paracrine manner?
Recall that insulin is released in two phases after a glucose load. Sketch a graph of the blood glucose levels as they respond to a glucose level. Include a line for a diabetic and a normal person. What is the source of insulin in each phase.