**VIDEO GUIDE FOR BOZEMAN BIOLOGY – ENDOCRINE SYSTEM**

1. Why does Mr. Anderson say the nervous system is like Gmail while the endocrine system is like Facebook?
2. Explain how the action of water soluble hormones differs from lipid soluble hormones.
3. Fill in the following chart

|  |  |  |
| --- | --- | --- |
| **GLAND** | **HORMONE** | **ACTION** |
| Pineal |  |  |
| Anterior Pituitary |  |  |
| Posterior Pituitary |  |  |
| Thyroid |  |  |
| Parathyroid |  |  |
| Pancreas |  |  |
| Adrenal Cortex |  |  |
| Adrenal Medulla |  |  |
| Ovary |  |  |
| Testes |  |  |

1. From the list of hormones above, choose two antagonistic pairs of hormones and describe how they work together to maintain homeostasis in the organism (how are their effects complimentary)
2. Draw out a diagram of how insulin and glucagon work together to maintain blood sugar homeostasis. Explain the actions each promote and what triggers each to be released. Is this POSITIVE or NEGATIVE feedback?

**Positive and Negative Feedback Loops Video Review Sheet** [www.bozemanscience.com/positive-and-negative-feedback-loops](http://www.bozemanscience.com/positive-and-negative-feedback-loops)

1. Introduction

a. Negative Feedback loop: dance around that point, brings you…

b. Positive Feedback loop: amplifying and moving

c. What can alterations in our feedback loops lead to?

2. Negative Feedback

a. Homeostasis defined:

b. How does a hairless cat maintain homeostasis? Through

c. Ectotherms defined:

d. Endotherms defined:

e. What types of feedback loop do we use to maintain our temperature?

i. If too hot we (also explain why we would do that):

ii. If too cold we (again, explain why that behavior):

DRAW AN EXAMPLE **NEGATIVE** FEEDBACK LOOP AND EXPLAIN:

3. Positive Feedback

a. What plant hormone does ripe fruit give off?

b. Why can one “bad apple” spoil a barrel?

c. How is fruit ripening an example of positive feedback?

d. What is the example in humans?

e. Positive feedback is not used for a long time, it is used when you want to do something….

DRAW AN EXAMPLE **POSITIVE** FEEDBACK LOOP AND EXPLAIN:

4. Mistakes in Feedback Loops

a. Besides being in your blood, where else could glucose go? (2x)

b. What two hormones help with blood glucose regulation:

c. What organ and what other job does it have?

d. What are the two cells found in the pancreas and what does each do?

e. Why does the blood glucose levels usually rise three times per day?

f. What else was rising at the same time?

g. What is wrong when you have type I diabetes?

h. What is type II diabetes a result of usually?

i. What pattern do you see with diabetes worldwide and why is that?