**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Principles of Biomedical Science**

**2.1 Review Guide – OBHR**

**Vocabulary to Know**

* Diabetes (Type I and Type II)
* Glucose
* Insulin
* Glucose Tolerance Test
* Insulin Test
* Insulin Receptor
* Signal Molecule
* Design Process
* Hormone
* Endocrine system
* Gland
* Homeostasis
* Positive Feedback Loop
* Negative Feedback Loop
* Glucagon
* Pancreas
* Liver

**Practice Problems**

**2.1.1**

1. Normal blood glucose levels should be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. How is glucose tolerance testing (GTT) performed?

3. How can you use GTT and insulin test results to diagnose diabetes? (Know what the Type I, Type II, and normal graphs would look like.)

4. What is glucose used for in the body? Where do we get glucose?

5. What is a hormone? What two hormones have we learned about in 2.1.1 – 2.1.3?

6. What is the main function of the Endocrine system? How is it different from the nervous system?

**2.1.2**

7. Draw a picture showing how glucose enters a cell. Include the following: Glucose, Insulin, Insulin receptor.

8. How would your drawing in #7 be different for Type I diabetes? Type II?

9. What is the purpose of the design process?

10. Briefly describe how you might use the design process to decide where you should go to college.

11. What is the relationship between a signal molecule and a receptor?

**2.1.3**

12. What is homeostasis?

13. The glucose-insulin pathway is an example of which type of feedback loop?

15. Draw the feedback loop that occurs in the body right after you have just eaten.

16. Draw the feedback loop that occurs in the body when you first wake up in the morning (you haven’t eaten for at least 8 hours.)

17. What is the role of the pancreas in the glucose pathway? The liver?

18. What is the relationship between glucose and glycogen?

19. What is the relationship between insulin and glucagon?

20. How do type I and type II diabetes disrupt the glucose pathway?