G11 Biology: Class 10 Homework

1. What are the two factors that determine how much an animal needs to eat? **[2 marks]**

2. Paul, who has a mass of 70kg had a fast food meal that provided a total of 2500kJ of energy.
    a. How long would Paul have to play a computer game in order to use this much energy? Show all calculations. **[2 marks]**

    b. How long would he have to run to use this much energy? Show all calculations. **[2 marks]**

    c. If Paul walked at 6.4km/h for 2h, do you think he would use up all the energy from his meal? Explain showing your calculations. **[3 marks]**

3. List the six essential nutrients your body needs to survive. **[6 marks]**

4. Compare and contrast catabolism and anabolism. **[3 marks]**

5. Complete the following table: **[6 marks]**

Nutrient	**Function**	**Obtained from**
Carbohydrates		
Proteins		
Lipids		

6. Compare and contrast saturated and unsaturated fats. **[3 marks]**

7. Compare and contrast calorie and Calorie. **[3 marks]**

8. Vitamins A, D and K are formed in the body. Explain how they are produced **[3 marks]**

9. Compare and contrast anorexia nervosa and bulimia. **[3 marks]**

10. Explain how each of the following factors affects metabolic rate: **[5 marks]**

    a) Body Size

    b) Physical Activity

    c) Sex

    d) Age

    e) Hereditary Factors

11. Think about the last time you had dinner. List the types of food and categorize each as a source of carbohydrates, protein, lipids, water, minerals, and/or vitamins. **[4 marks]**

12. A typical day for a Grade 11 student who is 60kg may look like the following. Calculate the total energy requirements for this student on a typical day. **[3 marks]**

    - Sleep for 7 hours
    - Bike to school at 13km/h for 0.5h
    - Sit in class for 4 hours
    - Use the computer for 3 hours
    - Play the piano for 1 hour