Name: _____ Date: _____

Biology Pre-Entrance Exam

1. Describe the various steps of the scientific method (questioning, hypothesizing, designing and conducting an experiment, drawing conclusions, forming scientific laws and theories).

2. Define dependent, independent and control variables in an experiment?

3. What are metric units for length, mass, and time?

4. What is the difference between a mixture and a compound?

5. What are the three phrases of matter?

6. Describe the structure of simple atoms

7. List the major characteristics of living organisms

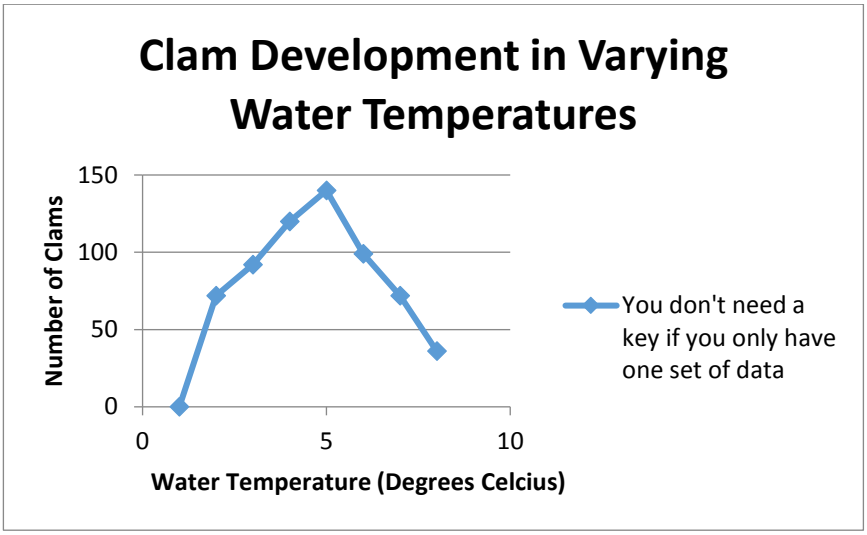
8. What is the difference between genotype and phenotype?

Practice Problem

Background: Clams were placed into various temperatures of water. Use the information in the data table below in order to create a proper scientific graph and to answer the corresponding questions.

9. Write a short introduction for the study below (next page)?

Introduction



Water Temp °C	# of Developing Clams	Questions	Answers
15	72	10. What is the dependent variable?	
20	92	11. What is the independent variable	
25	120	12. What is the optimum temperature for clam development?	
30	140	13. What is the mean (average) number of clams per sample?	
35	99	14. Approximately how many clams would be developing in 10 degree Celsius water (use above graph)?	
40	72	15. What is it called when you make predictions about data not yet recorded, such as the prediction we made in question number 5?	
45	36		
50	0		

16. Discuss your conclusion