

Genetics Review worksheet: -- Answer these questions in your notebook – they will be graded.

1. Compare and contrast prokaryotes and eukaryotes.
2. Write an essay on Melanoma – include symptoms, susceptibility and the role of sunscreens in preventing melanoma.
3. What is epigenetics? Explain how chemical modifications in DNA and or histones controls gene expression. Use the example from the article discussed in class today to describe how changes in epigenetic tags can lead to cancer.
4. What role does the centromere play in cell division? What is the equivalent of this mechanism in prokaryotes?
5. How does mitosis compare with meiosis? What happens during the substages of Prophase I?
6. What do the following terms mean ---
 - a. Metacentric
 - b. Acrocentric
 - c. Telocentric
 - d. Sub-metacentric

What kind of chromosomes do mice have? Do humans have all four kinds of chromosomes?

7. Discuss the stages of the cell cycle alongwith details of what happens in each stage.
8. What is the difference between euchromatin, heterochromatin and satellite DNA?
9. What is karyotyping? How would you distinguish between G banding and Q banding?