Tutorial: Misconceptions about natural selection and adaption

Go to the following web site and answer the questions using complete sentences on your own paper.

http://evolution.berkeley.edu/evolibrary/article/0_0_0/misconcep_01

1. What are some common misconceptions about the process of natural selection?
   a. Why is it said that "natural selection is not all-powerful; it does not produce perfection"? Give an example. What is the result?
   b. Why is it more accurate to think of natural selection as a process rather than as a guiding hand? What are the 3 factors that contribute to natural selection?
   c. Why are "need," "try," and "want" not very accurate words when it comes to explaining evolution?
2. Why might natural selection not have removed all deleterious alleles from a population?
   a. Describe 3 reasons that natural selection doesn't produce a "perfectly-engineered" trait.
   b. Describe 5 ways natural selection might allow deleterious alleles?
3. What aspect of natural selection is non-random and how does this affect the direction of evolution?
4. What sort of traits are adaptations, and what sorts of traits are not?
   a. Describe 4 lines of evidence that point to an adaption hypothesis.
   b. What are 5 lines of evidence that point to non-adaptations?
5. What is the "neutral theory?" What does it <u>NOT</u> suggest?
6. What 4 factors lead to evolution?