The Making of the Fittest by Sean B. Carroll

1. What is commonly found in all vertebrates that the ice fish lacked? What does it do?
2. Explain the two possible outcomes of alternate versions of genes?
3. What does it mean for a gene be “immortal?” Provide an example.
4. How do microbes “violate the pattern of treelike evolution”
5. Describe the three elements of the evolutionary process?
6. How is color vision made?
7. What is a fossilized gene? Where are they located and how do they work?
8. What is convergent evolution? Give one example.
9. Explain why is sickle cell disease so prevalent in sub-Saharan Africa?
10. Biologically, how do tumors come about? What is a new treatment against them?
11. What does the *Pax-6* gene do, and what organisms does it exist in? How did it evolve to be in those organisms?
12. What is the difference between proteins like opsins and proteins like *Pax-6*?
13. What did Lysenko support?
14. What are the six common arguments against vaccination? Describe why each viewpoint puts human health at risk.
15. Describe some impacts humans have on species decline in ancient history?