Worksheet Biodiversity 3th form – Pretest / summary

1. Someone discovers a forest with differently coloured beetles: a lot of green beetles, but just a few red, yellow and blue ones. Apparently, quite some years ago, all of these colours were abundant, none of the colours dominated the population. Explain in a biological correct way how this could have changed.
2. James says he rather has a mutation of having a base being removed instead of having a changed base in his DNA. Explain in detail whether you agree or not and why.
3. Explain what is meant with 'survival of the fittest'.
4. Give the definition of these terms: codon, nucleotide, base, double helix, messenger RNA, gene, chromosome, adaptation, variation, selection pressure.
5. There are three important processes called replication, translation, and transcription. Explain these.
6. A nucleotide is the building block of _____.
7. An _____ is the building block of a protein. There are ____ different ones.
8. What is in most cases the effect of a mutation? Explain what a mutation means for the human body.
9. What do we mean with a 'silent mutation'?
10. Jesse says that animals change from generation to generation and this is called evolution. Amasja says that animals change during their lifetime and that this is also called evolution. Explain whether you think both statements are true.
11. Somebody states that the evolutionary theory is just rubbish. How would you react to this statement while explaining a bit of this theory?
12. Explain the difference between you adapting to the quiet environment of the library by whispering instead of talking compared to a population that adapts to a certain environment.
13. Below you see one DNA strand (which is half of a complete DNA molecule). Write down the other DNA stand. Write the RNA strand for both DNA strands. Search for all possible proteins in both RNA strands.

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14. Finish unit 3 of your workbook. Study 3.14, 3.15, 3.16 and 3.22 – 3.26 of your textbook.
15. Make a summary by making a mind map using the most important terms of the chapter.