



Student Guide

Concluding module

A background image showing a grid of test tubes in a rack, each containing a different colored liquid (orange, blue, red, green, yellow, pink, light blue, light green).

***Bioinformatics
Crossword Puzzle***

bioinform@tica in de klas



Netherlands
Bioinformatics
Centre

UMC



St Radboud

Developed by the Netherlands Bioinformatics Centre

in cooperation with the Centre for Molecular and Biomolecular Informatics
of Radboud University Nijmegen Medical Centre

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Images

www.bioinformaticaindeklas.nl / www.bioinformaticsatschool.eu

Lay out

Identim, Wageningen

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Please contact the Netherlands Bioinformatics Centre (nijmegen@dnalabs.nl) for questions and remarks.

Student Guide

Introduction

Within this puzzle terms and techniques that you used in the bioinformatics DNA-lab will come by.

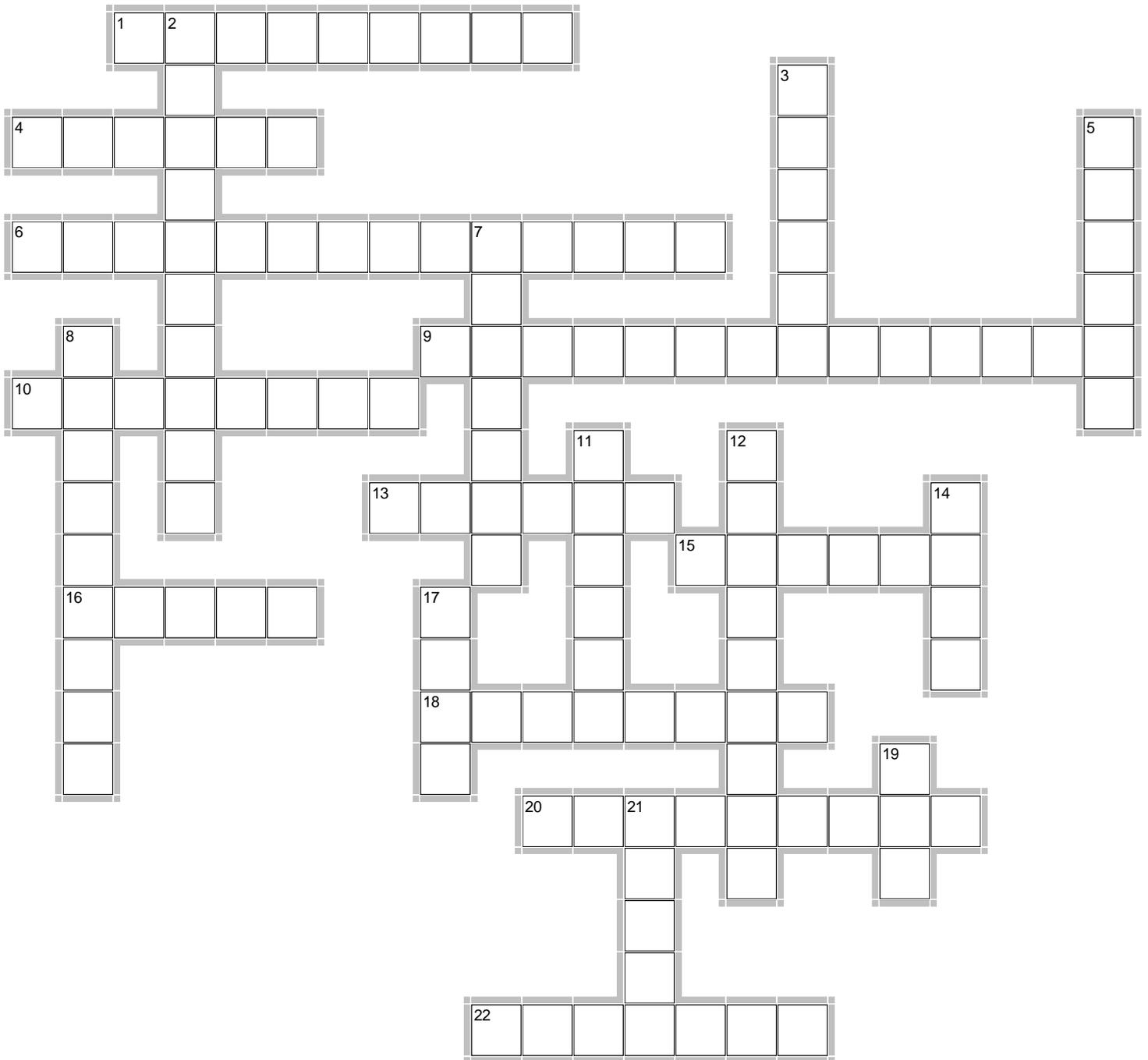
This puzzle is a follow up of the expert version of the DNA-lab on the road "Bioinformatics: a bit of life".

Goal

The goal of this lesson is to give you a fun puzzle to educate you in the most relevant terms and techniques of the bioinformatics practical. You should fill this puzzle in by your own. Afterwards you may consult with your fellow students.

This activity takes about 15 minutes.

Student Guide **Bioinformatics Crossword Puzzle**



Across

1. What does a set of three bases code for in RNA?
4. What is 'Bos taurus'?
6. What is the name of the research area that uses computers to solve biochemical problems?
9. In which inter-atomic interaction is hydrogen involved?
10. What is the charge of the zinc ion?
13. What is the name of the software that enables you to watch proteins in 3D?
15. Can the snake poison be classified as a structural protein, an enzyme or a substrate?
16. What is the name of the software tool that bioinformaticians use to search for proteins in databases?
18. What is the name of the structural protein that is cleaved by the poison of the Texas diamond-back rattlesnake?
20. Which amino acid is abbreviated with the word 'His'?
22. DNA -> RNA ->... What is the next step in this chain?

Down

2. Which amino acid is represented by the so-called start codon?
3. Which element from the periodic table is the most abundant one in proteins?
5. Which element is represented by a red sphere in the 3D-software?
7. What is the name of the enzyme that digests starch? Hint: It is also present in your mouth.
8. Which atomic interaction can one compare to the functioning of a magnet?
11. Which base can one find in RNA but not in DNA?
12. What is the biological term for the production of a protein?
14. How can one cause a protein to denature?
17. In the lock-and-key principle, is the enzyme the lock or the key?
19. What is abbreviation of deoxyribonucleic acid?
21. What is the name of the secondary structure that looks like a drapery?