

LIFE SCIENCES GRADE 12

PRACTICAL TASK TERM 1 2023

DURATION: 45 Minutes

| DNA: | THE | CODE | OF | LIFE |
|------|-----|------|----|------|
| | | | | |

Total 30

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

- This is a formal SBA task and MUST be done under supervised conditions in the classroom.
- Each learner completes this task on his/her own (under test conditions).
- Present your answers as per the instructions of each question.
- Draw all diagrams in pencil and label in blue ink.
- The diagrams in this task may NOT be drawn to scale.

BACKGROUND INFORMATION

There are two types of nucleic acids in all living organisms – DNA (deoxyribonucleic acid) and RNA (ribonucleic acid). Together these form the basis of all life on earth.

They consist of monomers (building blocks) called nucleotides. In 1952 the British chemist, Rosalind Franklin and her assistant Maurice Wilkins researched the structure of DNA using X-ray diffraction images. Watson and Crick did independent research on DNA. Upon seeing Franklin's images, they proposed a 3-D double helix model of DNA in 1953. In 1962 Watson and Crick received the Nobel Prize for the discovery of the structure of DNA, and Wilkins received an award for his X-ray photography. Franklin had died of cancer.

Source: DBE Life Sciences textbook

Diagram 1 below illustrates some of the components of nucleic acids.

| Phosphate | Deoxyribose/Ribose | Cytosine | Thymine |
|---------------|--------------------|----------|---------|
| \circ | | | |
| Hydrogen bond | Guanine | | |
| | | | |

QUESTION 1

Answers For Life Sciences Practical Of 2015

ML Morrison

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