

**GRADE 9 | 2024**

# **Grade 9 Natural Sciences Practice Exam**

Natural Sciences

**CAPS ALIGNED**

**GRADE 9 NATURAL SCIENCES PRACTICE EXAMINATION**

Time: 2 hours

Marks: 100

**INSTRUCTIONS:**

- Answer ALL questions.
- Show ALL working for full marks.
- Write neatly and clearly in the spaces provided.

**QUESTION 1: CHEMISTRY****1.1 (4 marks)**

Define: (a) Ionic bond (b) Covalent bond

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**1.2 (4 marks)**

Draw a Punnett square for a cross between Na and Cl. Show the ionic charges formed.

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**1.3 (3 marks)**Balance the following equation:  $\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$ 

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**QUESTION 2: PHYSICS****2.1 (6 marks)**

State Newton's Three Laws of Motion.

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**2.2 (3 marks)**Calculate the force needed to accelerate a 5 kg object at 3 m/s<sup>2</sup>.

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**2.3 (4 marks)**

Explain the difference between a series and a parallel circuit.

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**QUESTION 3: BIOLOGY****3.1 (6 marks)**

Explain the difference between asexual and sexual reproduction. Give ONE advantage of each.

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**3.2 (6 marks)**

A plant is tall (T) when the allele T is dominant. Cross Tt x tt:

(a) Draw a Punnett square.

(b) State the phenotypic and genotypic ratios.

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**QUESTION 4: EARTH SCIENCE****4.1 (6 marks)**

Name and describe the THREE types of rocks.

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**4.2 (5 marks)**

Explain the greenhouse effect and its connection to climate change.

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**4.3 (3 marks)**

Name the layers of the atmosphere in order from lowest to highest.

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