

**Grade 8 June exam 2025**

**Marks: 80**

**Duration: 1hour30 minutes**

| Topic                               | Breakdown of topic  |   |
|-------------------------------------|---|---|
| <b>Periodic Table Of Elements</b>   | <p><u>Arrangement of elements on the periodic table.</u></p> <ul style="list-style-type: none"><li>• Groups</li><li>• Periods</li><li>• The first 20 elements</li></ul> <p><u>Some properties of metals, semi-metal and non-metals</u></p> <ul style="list-style-type: none"><li>• Identifying elements in the periodic table</li></ul>   | <ul style="list-style-type: none"><li>• Identify the names and symbols of the first 20 elements of the periodic table [learners need NOT memorise the atomic number of each element]</li><li>• Identify metals, semi-metals, and non-metals on the periodic table of elements</li><li>• Show the atoms which make up molecules (such as O<sub>2</sub>, H<sub>2</sub>, N<sub>2</sub>, H<sub>2</sub>O, CO<sub>2</sub>)</li><li>• Draw diagrams to represent particles in a solid, a liquid and a gas, and explain them in terms of arrangement, movement, forces and spacing using the particle model of matter</li></ul> |
| <b>Atoms</b>                        | <p><u>Atoms – building blocks of matter</u><br/>Drawing an atomic model</p> <p><u>Sub-atomic particles:</u></p> <ul style="list-style-type: none"><li>• Protons</li><li>• Electrons</li><li>• Neutrons</li></ul> <p><u>Pure substances:</u></p> <ul style="list-style-type: none"><li>• Elements</li><li>• Compounds</li></ul> <p><u>Mixtures of elements and compounds</u></p> | <ul style="list-style-type: none"><li>• Draw a table comparing the particles of gases, liquids, and solids</li><li>• Do an investigation to determine whether it is possible to decompose copper chloride using electrical energy</li><li>• Investigate if particles diffuse (mix) faster when they are in the liquid state or in the gaseous state</li><li>• Investigate what happens when we heat and then cool candle wax</li><li>• Compare objects with same volume but with different mass (by hand) in terms of their density, such as sponge, polystyrene, wooden and metal blocks of the same size</li></ul>    |
| <b>The particle model of matter</b> | <p><u>The concept of the particle model of matter</u></p> <ul style="list-style-type: none"><li>• States of matter</li></ul> <p><u>Change of state</u></p>  | <ul style="list-style-type: none"><li>• Compare the densities of different states of the same material, a solid, a liquid or a gas</li></ul>  |

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|--|---|--|
|  | <u>Density, mass and volume</u><br><br><u>Density and states of matter</u><br><br><u>Density of different materials</u><br><br><u>Expansion and contraction of materials</u><br><br><u>Pressure</u> | <ul style="list-style-type: none"> <li>Investigate which material has the highest density; sand, flour, water, or air</li> </ul> |
|  | <b>Chemical reactions</b><br><u>Reactants and products</u>  |  |

### **Investigative skills required**

| Skill  | Key point  |
|--|--|
| <b>Drawing a:</b><br><b>Line graph</b><br><b>Bar graph</b><br><b>Histogram</b><br><b>Pie chart</b> | <ul style="list-style-type: none"> <li>• The caption must have two variables</li> <li>• Scale: Equal spaces between units on axes which are in chronological order</li> <li>• Equal width of the bars and between bars</li> <li>• Pie graph must show calculations and a compass &amp; protractor must be used</li> </ul>  |
| <b>Drawing a:</b><br><b>Table Diagram with labels</b>  | <ul style="list-style-type: none"> <li>• Table must be drawn with clear columns and related items must be compared</li> <li>• Drawing must be in pencil with a definite heading/caption and label lines must point to the exact part and the labels written in pen</li> </ul>  |
| <b>Answering:</b><br><b>Scientific investigative questions</b>                                     | <ul style="list-style-type: none"> <li>• Use the aim of the investigation to determine the dependent and independent variables which is not always the same as the labels on a graph or table</li> <li>• Reliability – repeat the investigation and increase the sample size must be linked to the investigation</li> <li>• Validity – keep the variables constant e.g., same age, gender, environmental conditions etc. the word same must be included</li> <li>• Control – to compare results and ensure that the results are due to the factor that is tested</li> <li>• Difference between the experiment and the control. With the control you eliminate the factor that you test. With the experiment you provide the factor you test</li> </ul> |
| <b>Do</b><br><b>calculations</b>   | <u>Simple calculations</u> <ul style="list-style-type: none"> <li>• Percentage</li> <li>• Average</li> <li>• Percentage increase or decrease formula</li> </ul> <p>Convert calculations to a description</p>   |

### **Tips from A Ngubane**

- Use reading time to plan how you will answer each question and manage your time wisely.
- Read the instructions of the question paper and follow them.

- Do not create a cover page, start answering from the first page of your answer book.

***Exam tips***

- All diagrams for each topic must be studied
- All activities given in the classroom must be studied
- Practice terminologies
- practice all topic tests
- show calculations even when not asked to

Use the link for [past papers](#)