**Science toolkit**

|  |  |
| --- | --- |
| Instructions to students  • You have 50 minutes to complete the test.  • Please answer all questions in the spaces provided.  • There is to be no talking during the test. | Marks  Section I: Multiple-choice questions: 5 marks  Section II: Short-answer questions: 12 marks  Section III: Extended-response questions: 8 marks  Total: 25 marks |

|  |  |
| --- | --- |
| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Score: /25  Grade: % |
| Comments: | |

Section I: Multiple-choice questions

For each question, circle or highlight the correct answer.

|  |  |  |
| --- | --- | --- |
| 1 What type of lab equipment is shown in this photo? | |  |
| A | Measuring cylinder |
| B | Test tube |
| C | Beaker |
| D | Watch glass |
| 2 What is a hypothesis? | | |
| A | The measurements taken during the experiment | |
| B | What you are trying to find out | |
| C | A prediction about the outcome of the experiment | |
| D | The variable being measured or tested during the experiment | |
| 3 A thermometer is used to measure: | | |
| A | temperature in millilitres. | |
| B | volume in millilitres. | |
| C | temperature in degrees Celsius. | |
| D | volume in degrees Celsius. | |

|  |  |
| --- | --- |
| 4 The data below has been displayed in a: | |
|  | |
| A | scatter graph. |
| B | diagram. |
| C | data table. |
| D | column graph. |
| 5 Why is it important for scientists to use the correct equipment in their experiments? | |
| A | It ensures the scientist will not have to do the experiment again. |
| B | It ensures reliable results and the safety of the scientist. |
| C | It ensures the question being tested is always answered. |
| D | It is not that important. Scientists can use whatever equipment they like without affecting their results. |

|  |  |
| --- | --- |
|  | Section I  Total marks:  /5 marks |

Section II: Short-answer questions

|  |  |
| --- | --- |
| 6 Name four pieces of scientific equipment being used in this image. | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | /4 marks |
| 7 What is an inference? | |
|  | |
|  | |
|  | |
|  | /2 marks |

|  |  |  |
| --- | --- | --- |
| 8 Why are experiments repeated several times rather than being carried out once? | | |
|  | | |
|  | | |
|  | | |
|  | | /2 marks |
| 9 Outline the steps you would take to light a Bunsen burner safely. | | |
|  | | |
|  | | |
|  | | |
|  | | |
|  | | |
|  | | |
|  | /4 marks | |
|  | Section II  Total marks:  /12 marks | |

Section III: Extended-response questions

|  |  |
| --- | --- |
| 10 Cane toads have been eating dog food that has been put out for the family’s pet dog. You decide to test whether cane toads prefer a certain brand of dog food. Three cane toads have already been trapped and placed in separate cages for you to use. Design an experiment to investigate the brand of dog food that cane toads prefer to eat. Include an aim and method for your experiment. Identify the dependent, independent and two controlled variables. | |
| Cane toads are an invasive species introduced to Australia. Scientists are researching methods of controlling cane toad populations. | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | /8 marks |
|  | Section III  Total marks:  /8 marks |