**8 SCIENCE 2014**

### SCIENTIFIC METHOD TEST

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mark: /46

**Percentage: %**

**SECTION A: MULTIPLE CHOICE (5 marks)**

**Select the most correct answer for each question below.**

**1.** A description of the steps taken in an experiment is called the:

(a) discussion.

(b) aim.

(c) method.

(d) hypothesis.

**2.** The correct prefix symbol for milli is:

(a) m

(b) M

(c) μ

(d) n

**3.** Which of the following is not an example of second-hand data?

(a) Data written in a science journal.

(b) Data written in textbooks.

(c) Data on the internet.

(d) Data you took from an experiment.

**4.** An error due to guessing a measurement between an instruments markings would be:

(a) a human-reflex error.

(b) a zero-error.

(c) an instrumental error.

(d) a reading error.

**5.** Whether or not the hypothesis in an experiment was proved or disproved is written in the:

(a) method.

(b) discussion.

(c) conclusion.

(d) aim.

**SECTION B: SHORT ANSWER (40 marks)**

**1.** State the difference between a mistake and an error. (2 marks)

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**2.** Read the experiment below then answer the questions.

One tank of gold fish is fed the normal amount of food once a day, gold fish in a second tank is fed twice a day and gold fish in a third tank are fed three times a day during a six week study. The fish’s’ weight are recorded daily.

a) What is the aim of the experiment? (1 mark)

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b) Write down a hypothesis for the experiment. (2 marks)

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c) State the dependent variable in the experiment. (1 mark)

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d) State the independent variable in the experiment. (1 mark)

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e) List two variables that would stay the same throughout the experiment (controlled variables).

(2 marks)

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**3.** Fill in the table below (12 marks)

|  |  |  |
| --- | --- | --- |
| Equipment name | Purpose | Scientific diagram |
|  | A more stable way of storing and  heating liquids, can close with a  stopper. |  |
| Beaker |  |  |
| Tripod and  gauze mat |  | [http://t3.gstatic.com/images?q=tbn:ANd9GcR-3Ip4s1lDCq-VYnhWlMPoGcqRsqO2V5x2fWVYPCXESgldJvFRPA](http://www.google.com.au/url?sa=i&rct=j&q=tripod+and+gauze+mat&source=images&cd=&cad=rja&docid=X_kExkPfpY68bM&tbnid=aLw3UMkHQM7XJM:&ved=0CAUQjRw&url=http://quizlet.com/22840111/what-is-science-flash-cards/&ei=VGL5UsCJIsmdkwW9hoDoDg&psig=AFQjCNHJTEHPKL57i0dec3bTSnPXKDi_3g&ust=1392161741881214) |
|  | Used to produce a flame for  heating. |  |
| Retort stand,  bosshead and clamp |  |  |
| Filter paper and  funnel | To separate solids from liquids in  a suspension. |  |
|  |  | [http://t1.gstatic.com/images?q=tbn:ANd9GcR9pSk7DBZBoqtl5iulnFx9fy2uykxREdN4f7VGc4Wbdi9ZWD8dmQ](http://www.google.com.au/url?sa=i&rct=j&q=test+tube&source=images&cd=&cad=rja&docid=ZSYE3fF-7xV-kM&tbnid=JqSFeEFL5zQEoM:&ved=0CAUQjRw&url=http://www.saburchill.com/chemistry/chapters/chap002.html&ei=i2P5UrfjO82CkgXm3ICgDA&psig=AFQjCNETozGJNxu7hQn_PoC2Xg4QdbsJYQ&ust=1392162056891363) |

**4.** Write definitions for the terms below. (4 marks)

Mistake: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Error: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**5.** Fill in the missing words. (3 marks)

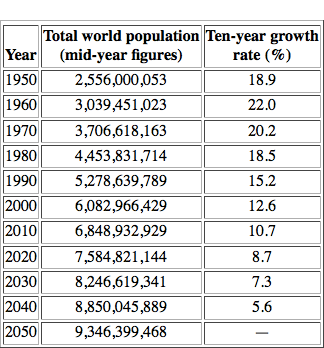
The line of best \_\_\_\_\_\_\_\_\_\_ is a line drawn through the ‘centre’ of \_\_\_\_\_\_\_\_\_\_\_\_\_ on a \_\_\_\_\_\_\_\_\_\_\_\_.

Interpolation involves finding data on a \_\_\_\_\_\_\_\_\_\_\_\_ using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ data points.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ involves extending a line on a graph by following the given data.

**6.** State which kind of data is shown below, qualitative data or quantitative data. (1 mark)

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[](http://www.google.com.au/url?sa=i&rct=j&q=table+greaph&source=images&cd=&cad=rja&docid=uywRTEDdxm0t0M&tbnid=5lKVH-srBg6faM:&ved=0CAUQjRw&url=http://glowfilter.com/blog/data-visualization-html-tables-django-beautiful-soup-flot&ei=pF_5UpaJIcbxkAWTyIAw&psig=AFQjCNHC__0qS-hHjQ1qminMlUWz5YY5Xw&ust=1392160991583556)

b) Explain why you chose your answer. (1 mark)

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**7.** Write the term next to its matching definition below. (5 marks)

*Data, second-hand data, quantitative data, first-hand data, qualitative data*

a) Observations that use descriptions.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) Data not taken from an experiment.

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c) Measurements that use numbers.

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d) Measurements and observations about something.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) Data you collect from an experiment yourself.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8.** Use the information in the table below to draw a line graph. (5 marks)

|  |  |
| --- | --- |
| Height of plant (cm) | Week |
| 7 | 1 |
| 9 | 2 |
| 10 | 3 |
| 13 | 4 |
| 17 | 5 |
| 22 | 6 |

