

## SCIENCE MARKING SCHEME

1a. skills

Observation  
Recording.

(2marks for the first correct two.)

Attitude  
Genuine interests.  
Curiosity.

b. Drawing.  
Tabulation.  
Documentation.

c. For future reference.  
To make information more permanent.  
For easy analysis.

2 i)

- Does it resemble the real parasite,
- Neatness.
- Proportionality of parts.
- Suitable size.

(Any two- 2mks)

ii)

- Oral questions.
- Observation of the process.
- Written test. (or any other objective test) (2mks)

iii)

- Ticks
- Fleas
- Mites
- Tsetse flies
- Lice.

(Any one - 1mk)

b)

- Recall of knowledge.
- Investigative questions
- Reasoning/application of knowledge. (3mks)

c)

- Help the teacher to monitor the intellectual growth or development of each individual pupil.
  - Help the teacher to decide on the areas where a pupil is good or bad and organize appropriate method of assisting the pupil.
  - Help in placement of the pupil according to their abilities.
  - To evaluate his teaching strategies.
  - Help a new teacher to know the ability of the class.
- W.T.T.E (2mks)

3a.

- Essays are easy to set while objectives are difficult to set.
  - Essays are difficult to make while objectives are easy to make.
  - Objectives cover a wide range while essays cover a narrow range.
  - Essays are subjective in marking while objectives can be marked accurately.
- (Any3 3mks)

bi) A key shovels, fishing rods, tongs, tweezers, forceps.

B Bottle opener.

C Wheel barrow.

D Crow bar.

ii) Ability test..... (any 3 answers 3mks)

c) validity- Ability of a test to measure what it is supposed to measure. Refers to appropriate measurements and usefulness of a test. (1mk)

ii)

- Reliability
- Efficiency.
- Equity.
- Fairness.
- Error free. (2mks)

d.

- Ensure all topics are adequately covered in attest.
- Ensure all mental abilities are tested.
- Specific objectives of the syllabus are addressed.
- Prevents over testing some topics. (2mks)

4a i) The teacher started teaching the content during introduction.....1mk

Ii) eg- What do we use to see?  
The teacher to apply the teaching aids and the learners identifies them.  
1mark each.

b i) A – Cardboard/carton with holes; 1mk

B – Burning candle/ fire / source of heat. 1mk

C - Ray of light. 1mk

ii) Indicate the arrow sign\_\_\_\_\_on the rays of the light. 1mk

c i) use for the flow line 1mk

direction of flow 1mk

ii) water /liquid. 1mk

ii) Conventional flow in liquids. 1mk

d) The experiment is – dangerous/fire.  
Can burn pupils  
Is harmful. 1mk)

5 a)

- It is a practical approach.
- Enhances acquisition of skills/attitude/in depth understanding.
- Retention of knowledge.
- Materials are readily available.

- b)
1. Problem identification.
  2. Collection of information.
  3. Formulation of hypothesis.
  4. Designing and setting up experiment.

(First correct 4 steps should be in correct order.)

c)

it is a study /body of knowledge ; that involves observation and recording information/experimentation. (2mks)

6.a i)

- Pre-visit the shamba.
- Prepare a questionnaire or a worksheet.
- Seek permission from administration to use the school farm.
- Prepare material such as jembe, containers, etc.

1<sup>st</sup> 2 = 2mks

ii)

- Pupil could be exposed to dangers such as snake bites, injuries or bee stings.
- Pupils likely to soil themselves.      etc                                      2mks

b)

Diagram 1½mks.

Any correct label ½mks.

c.) Any two of the ten generated objective of teaching science in primary

- Develop ability to observe and explore the environment.
- Develop manual and mental skills for rational decision making.
- Develop creativity & critical thinking in addressing new & emerging challenges.
- Develop and use appropriate skills and technologies to solve problems.
- Develop positive attitude about self and the environment.
- Manage and conserve the available resources.
- Improve physical fitness and maintain good health.
- Identify and utilize opportunities for productive work in school, home and the community.
- Acquire basis scientific knowledge.
- Develop interest in science and science related careers.

(any2=2mks)

d.

- Practice teaching skills.
- Meant for students to familiarize with the situation they are being trained to work in.
- Give them an opportunity to be assessed on their ability to teach as a teacher.
- Give them an opportunity to be assessed by external assessors.
- Practice how to implement the syllabus and prepare appropriate teaching aids.

(Any 2= 2mks)

7 a) Labeled axis ----2mks v/h

The height of bars –against data 1/2

Width of bars

Different 2 sides of cheetahs 1/2

“ ” “ ” “ ” gazelle 1/2

Neatness 1mk

4mks

b.) Predators –prey relationship -1mk

c.) Emigration.

Rains hence growth of vegetables

Decrease in population of cheaters-predators.

ANY 1MK

8. a)i) P is calcium carbonate/sodium bicarbonate. 1mk

ii) Dipping the delivery tube in acid. 1mk

b. Denser than air.

Doesn't support burning. 1mk

9.i) (diagram)

ii)  $M.A = \frac{L}{E}$

$$E = \frac{L}{M.A} = \frac{10,000}{40} = 250N \quad 1MK.$$

b i) Scrubbing removes soap which is slippery increasing friction and make it safe to walk on it. (1mk)

ii) The load is distributed over a long distance hence less effort would be needed; ( 1mk)

### SECTION B

10.a) Sucking out air out of the hose pipe creating low pressure inside. This causes the high atmospheric pressure to push the petrol into the hose pipe and out. (2mks)

b) Mercury has very high cohesion forces, and low adhesion force. Any ½ mark.

c. conduction. (1mk)

11 a)

- No contamination, no dirt or disease causing micro-organism.
- Cheapest food for the baby.
- Contains antibodies that protect the baby from diseases.
- The baby gets food at the right temperature.
- It is easily digested by infants.
- It lowers infant risks of having asthma or allergies.
- Breast milk promotes a heavy weight gain and prevents childhood obesity.

(Any 2 = 2mks)

b) The preservative effect of honey is due to:

- The presence of antibiotic substance ( phytocides ) of plant origin in it which prevent growth of micro-organisms.
- The high percentage of sugar in it which has hygroscopic action of dehydrating micro-organisms and creating unfavorable condition for their multiplication.

(Any 1 =1mk)

c.) Methods of controlling weeds.

- Mulch which deprives weeds of light, mulch can also host crickets and beetle which feed on weeds.
- Cultivating/ weeding.
- Herbicides/weed killers.
- Animal grazing/ biological control.
- Apply close plant spacing to choke emerging weeds by shading the soil between plants.

(Any 2=2mks)

12. a)

- Have a large surface area for maximum gaseous exchange.
- Are moist for easy diffusion of gases.
- Highly vascularized to transport to the large organs.

(1<sup>st</sup> correct 2- 2mks)

b>)

- Transporting dissolved nutrients.
- Transporting dissolved waste.
- Regulation body temperature.
- Transportation of hormones to the target organs.

(1<sup>st</sup> correct two-2mks)



13. a) i) A – Dry cells rj cell/battery.  
 B – Lighted bulb rj bulb. (2mks)

ii) cells in parallel. (1mk)

	Gritty, rough, large particles.	
clays		

2mks)

14. a) The follow an extremely elongated orbit.; and are seen when near the sun which takes a very long period. (1mk)

b.)

- May not give accurate reading.
- Not durable.
- Not standardized.
- May be cumbersome to use.

(Any 1= 2mks)

c.) Temporary hard water contains hydrogen carbonates of magnesium and calcium which decompose on heating permanently hard water contain magnesium and calcium salt that do not decompose on heating. (1mk)

d.) Adding chemicals (sodium carbonate.);

Distilling.

Ion exchange softens use. (1mk)

15 a)

- Washing hands after visiting the toilet.
- Boiling water for drinking.
- Cooking food properly.
- Washing foods that are eaten raw.

1<sup>st</sup> correct 3 = 3mks)

b.)

- Have inside and ridged molars and premolars for grinding vegetables matter.
- Harbor bacteria/micro-organism in their stomach/lumen for digesting cellulose.
- Have no upper incisors/ horny pad to help cut vegetables.

(1<sup>st</sup> correct 2 = 2mks)