

Mathematics and Science

1. Which of the following is NOT indicative of the hypothesising skill?
 - (1) Using the senses to gather information
 - (2) Identifying variables for an experiment
 - (3) Formulating questions which lead to inquiry
 - (4) Attempting to explain observations or relationships in terms of some principle
 - **Identifying variables for an experiment**

2. Identify the correct statement(s) :
 - (a): A fact is an observation that has repeatedly been found to be true over the time.
 - (b): A law is a theory that has repeatedly been found to be true over the time.
 - (1) Only (b)
 - (2) Neither (a) nor (b)
 - (3) Only (a)
 - (4) (a) and (b)
 - **(4) (a) and (b)**

3. Which of the following plant disease(s) are caused by bacteria ?
 - (a) Rust of wheat (b) Citrus tanker (c) Yellow vein mosaic of bhindi
 - (1) (b) and (c)
 - (2) Only (c)
 - (3) (a) and (b)
 - (4) Only (b)
 - **(4) Only (b)**

4. A teacher, while teaching the chapter "Body Movements to class VI students shows the following images to her students:
A sailing boat, swimming fish and a flying aeroplane. She then asks the students to reflect on the shape of the images and the manner of movement. Which of the following are likely to be employed by students in answering?
 - (a) Classifying
 - (b) Observing
 - (c) Inductive reasoning
 - (d) Measuring
 - **Observing**

5. Read the following text:

When a negatively charged rod is brought near an uncharged electroscope,

(a) the electroscope leaves move further apart

(b) both the electroscope leaves acquire similar charge

(c) the negative charges pass on to the electroscope causing its leaves to move further apart

Of the above three statements:

(1) (a), (b) and (c) are observations)

(2) (a), (b) and (c) are inferences

(3) (a) is an observation while (b) and (c) are inferences

(4) (a) and (b) are observations and (c) is an inference

- **(3) (a) is an observation while (b) and (c) are inferences**

6. A box of mass 500 gm is lying on a horizontal table. Which of the following statements is true regarding the force(s) acting on it? [g=10 m/s²]

(1) A pair of balanced forces acts on it

(2) An unbalanced force of 5 N acts on it in the upward direction

(3) No force acts on it

(4) An unbalanced force of 5 N acts on it in downward direction

- **(1) A pair of balanced forces acts on it**

7. - Which of the following best explains the statement 'science promotes scepticism'?

(1) Scientists do not trust the findings of other scientists

(2) Scientists are open-minded and willing to modify their ideas

(3) Scientists judge the validity of a claim based on objective empirical evidence.

(4) Science is purely inductive in nature

- **(3) Scientists judge the validity of a claim based on objective empirical evidence.**

8. X and Y are thick, black liquids which can be used for metalling the roads. X is derived from petroleum and Y is derived from coal. Which of the following can X and Y respectively be?

(1) Charcoal, Bitumen

(2) Coal Tar, Bitument

(3) Bitumen, Coal Tar

(4) Coal Tar, Charcoal

- **(3) Bitumen, Coal Tar**

9. Which of the following is the most suitable strategy for introducing the students to the concept chemical reactions at upper primary level?
- (1) Define a chemical reaction and give examples
 - (2) Hold a discussion on chemical reactions which students are likely to have observed in the lives
 - (3) Explain the concept of valence electrons and electronic configuration
 - (4) Write the chemical equations in symbolic form and ask students to observe

- **(3) Explain the concept of valence electrons and electronic configuration**

10. Read the following statements carefully and select the correct option.
S1 Rayon is a synthetic fibre.
S2: Rayon is made without using any natural raw material.
- (1) S1 is false and S2 is true
 - (2) Both S1 and S2 are false
 - (3) Both S1 and S2 are true
 - (4) S1 is true and S2 is false

- **(4) S1 is true and S2 is false**