

STANDARDISED ASSESSMENT FOR ELEMENTARY SCHOOLS (SAfES): 2025-2026

SUBJECT: SCIENCE

Class VIII

ANSWER KEY

A. Fill in the Blanks

1. metamorphosis
2. electroplating
3. attract
4. equal
5. attracts
6. seismic
7. braille
8. poor / weak / bad
9. anode
10. uterus

B. Match the following

	Column (A)		Column (B)
1	Lightning conductor	I	Amoeba
2	Distilled water	II	Richter scale
3	Earthquake	III	Protects building
4	Binary fission	IV	Screen of the eye
5	Retina	V	Free of salt

C. Write whether True or False

1. FALSE
2. TRUE
3. TRUE
4. FALSE
5. FALSE

D. Very Short Type Question: 2 Mark each: Total 28 mark

1. Why do we need reproduction?

ANSWER: Reproduction is essential for the continuation of a species. Imagine what would happen if organisms had not reproduced. You will realise that reproduction is very important as it ensures the continuation of similar kinds of individuals, generation after generation.

(Only the first sentence can also be counted as the correct answer)

2. The bulb glows when electric current pass through it. Give reason.

ANSWER: Due to heating effect of current, the filament of the bulb gets heated to a high temperature and it starts glowing

3. Suggest two measures to protect ourselves from lightning.

ANSWER: Any two points will suffice –

- a) Hiding inside a house or a building
- b) You are safe inside a closed windows and doors of a vehicle
- c) In a forest, taking shelter under shorter trees
- d) If no shelter is available in an open field, stay far away from all trees
- e) Stay away from poles or other metal objects
- f) Do not lie on the ground. Instead squat low on the ground
- g) Placing hands on knees with your heads between the hands
- h) Avoid all electrical wires, telephone cords and metal pipes
- i) Avoid bathing during thunderstorms
- j) Electrical appliances should be unplugged
- k) Lightning conductor can be used to protect our buildings

4. What is the cause of diffuse or irregular reflection?

ANSWER: Diffused reflection is caused by irregularities in the reflecting surface, like that of a cardboard.

(Definition of diffused or irregular reflection cannot be counted as correct answer)

5. Give one example each of oviparous and viviparous animals.

ANSWER: Oviparous – Hen etc.; Viviparous – Humans, etc.

6. Is it safe for an electrician to carry out electrical repairs outdoors during heavy downpour?

ANSWER: No, it is not because electrical appliances are good conductors of electricity, repairing such items outdoors during heavy downpour put the person life at risk as lightning strike may cause fatal accidents.

(Students may be allowed to express the answer in their own words)

7. What is earthing?

ANSWER: Earthing is the process of transferring of charge from a charged object to the earth.

8. What is lateral inversion?

ANSWER: Lateral inversion is the left-right reversal of an image formed by a plane mirror.

9. State the functions of the testes and the tail of a sperm.

ANSWER: Testes: Produce male gametes called sperms. (1 mark)

Tail of sperm: Helps the sperm to move or swim towards the egg. (1 mark)

10. Why should the free ends of the tester be washed and wiped dry after testing each liquid such as lemon juice, tap water, milk or vegetable oil?

ANSWER: Washing and wiping the tester ends removes the liquid left from the previous test. (1 mark)

If the tester ends are not cleaned and dried, the remaining liquid may conduct electricity and give wrong or confusing results for the next liquid. (1 mark)

11. What are seismic waves and how are they recorded?

ANSWER: The tremors that produce waves on the surface of the Earth are called seismic waves. (1 mark)

Seismic waves are recorded by a seismograph, which has a vibrating rod or pendulum with a pen that records the waves on moving paper. (1 mark)

12. Why do we see a continuous moving picture in movies?

ANSWER: The image of an object remains on the retina for about 1/16th of a second (persistence of vision). (1 mark)

Movies show pictures at a rate faster than this (about 24 pictures per second), so the eye perceives them as continuous motion. (1 mark)

13. Kimi knew that distilled water is a poor conductor of electricity. When she tested rainwater using a tester, she was surprised because the magnetic compass needle deflected. What could be the reason?

ANSWER: Salts present in the rainwater make the water a conductor, which then causes the compass needle deflected

14. What causes lightning?

ANSWER: The process of electric discharge between clouds and the earth or between different clouds causes lightning.

E. Short Answer Type Question: 3 Mark each: Total 27 mark

1. List three observations that indicate chemical effects of current.

ANSWER:

- i. Formation of gas bubbles.
- ii. Change in colour of solution.
- iii. Deposition of metal on electrodes.

2. Suggest any three safety measures during an earthquake.

ANSWER: Take shelter under a table or desk. Stay away from windows and heavy objects. Move to an open area when outdoors.

3. State the differences between real and virtual images.

ANSWER: Real images can be obtained on a screen; virtual images cannot. Real images are inverted; virtual images are erect.

4. What is an electroscope? Explain how it works to detect electric charge and what happens when the paper clip is touched by hand?

ANSWER: An electroscope is a device used to test whether an object is carrying electric charge or not. (1 mark)

When a charged object touches the paper clip, electric charge is transferred through the metal conductor to the aluminium foil strips, causing them to repel each other and spread apart. (1 mark)

When the paper clip is touched by hand, the foil strips lose their charge to the earth through the body and collapse back to their original position (discharge). (1 mark)

5. Define fertilization. Name the two types of fertilizations and give one example for each.

ANSWER: The fusion of ovum/egg and sperm is called fertilization. Internal and external fertilizations.

Example of internal – Cow, etc.

Example of external – Frog, etc.

(No marks to be given if sexual and asexual reproduction is given as answer)

6. Does pure water conduct electricity? If not, what can we do to make it conducting?

ANSWER: Pure water/distilled water is a poor conductor of electricity. Adding a small amount of salt can make the water conduct electricity.

(Accept answers as correct when students give the answer in their own words without losing the logic behind conductivity)

7. Differentiate between viviparous and oviparous animals? Give one examples each.

ANSWER:

VIVIPAROUS	OVIPAROUS
Animals which give birth to young ones are called viviparous animals	Animals which lay eggs are called oviparous animals
Dogs, cows, humans (<i>Any one</i>)	Hen, frog, lizard, etc (<i>Any one</i>)

8. State two differences between conductors and insulators of electricity.

ANSWER: (Accept correct answers given by the students own ideas if logic is correct) Any two

- Materials which allow electric current to pass through them are good conductors of electricity while materials which do not allow electric current to pass through them are insulators
 - Conductors can be used for electrical wiring while insulators cannot be used for electrical wirings
 - Metals such as copper, gold, silver, iron, aluminium are good conductors while examples of insulators may include rubbers, plastics, glass, oils, etc.
9. Why do we see objects only when light falls on them?

ANSWER: We see objects only when the light that falls on them is reflected back to our eyes. It is only when light from an object enters our eyes that we are able to see it.

(Accept answers given by students own ideas if the logic is correct)

F. Long Answer Type Question: 5 Mark each: Total 25 mark

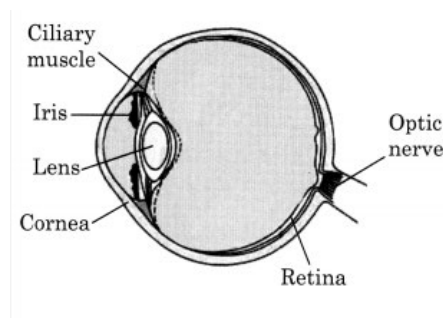
1. Explain development of the embryo in humans.

ANSWER: Fertilization results in the formation of zygote which begins to develop into an embryo. The zygote divides repeatedly to give rise to a ball of cells. The cells then begin to form groups that develop into different tissues and organs of the body. This developing structure is termed an embryo.

The embryo continues to develop in the uterus. It gradually develops body parts such as hands, legs, head, eyes, ears etc. The stage of the embryo in which all the body parts can be identified is called a foetus. When development of the foetus is complete, the mother gives birth to the baby.

2. Draw a labelled sketch of the human eye, and explain how you can take care of your eyes.

ANSWER:



It is necessary that you take care of your eyes. If there is any problem, you should go to an eye specialist. If advised, use suitable spectacles, too little or too much light is bad for eyes. Insufficient light causes eyestrain and headaches. Too much light, like that of the sun, a powerful lamp or a laser torch can injure the retina. Do not look at the sun or a powerful light directly. Never rub your eyes. If particles of dust go into your eyes, wash your eyes with clean water. Always read at a proper distance. Do not read by bringing the book too close to your eyes or keeping it too far.

3. Elaborate the usefulness of electroplating process.

ANSWER: Electroplating is a very useful process. It is widely used in the industry for coating metal objects with thin layer of different metal. For example, chromium plating in car parts, bath taps, kitchen gas burners, bicycle handlebars, wheel rims, jewellery etc.

4. Define asexual reproduction. Elaborate the two methods of asexual reproduction in animals.

ANSWER: Type of reproduction in which a single parent is involved is called asexual reproduction.

Budding: budding in hydra

In each hydra, there may be one or more bulges. These bulges are the developing new individuals and they are called buds. New individuals develop as the outgrowths from a single parent.

Binary fission: Amoeba is a single-celled organism, reproduction takes place by division of its nucleus into two nuclei followed by division of its body into two, each receiving a nucleus. Finally, two amoebae are produced.

5. What are seismograph and richter scale? Mention any three most threatened earthquake zones in India.

ANSWER: The instrument used for measuring earthquake is called **seismograph** and **Richter scale**, it is the scale used for measuring the magnitude of the earthquake. (1 + 1)

Kashmir, Western and Central Himalayas, whole of North-East India, Rann of Kutch, Rajasthan and Indo-Gangetic Plain. (*Any three*)



ASSESSMENT RUBRICS**1 Marks questions**

Performance	Description	Mark(s)
Correct	There is only one correct answer for every question	1
Incorrect	No marks to be given for incorrect and unattempt questions.	0
	No deduction in marks for incorrect spelling if the answers can make sense. Reduce by $\frac{1}{2}$ only even if it requires specific terminologies, etc.	

2 Marks questions

Performance	Description	Mark(s)
Correct	Correct definitions and answers without any mistake	2
Partially correct	Deduct $\frac{1}{2}$ marks each for partially correct but factual errors, incomplete sentence and examples	$\frac{1}{2}$
Incorrect	No marks to be given for incorrect and unattempt questions.	0
	Do not reduce marks for incorrect words which are not absolutely required to be correct like specific terminologies, etc.	

3 Marks questions

Performance	Description	Mark(s)
Correct	Correct definitions and answers without any mistake	3
Partially correct	Deduct $\frac{1}{2}$ marks each for partially correct but factual errors, incomplete sentence and examples	$\frac{1}{2}$
Incorrect	No marks to be given for incorrect and unattempt questions.	0
	Do not reduce marks for incorrect words which are not absolutely required to be correct like specific terminologies, etc.	

5 Marks questions

PERFORMANCE	DESCRIPTION	MARK(S)
Correct	Correct definitions and answers with diagrams and figures wherever required without any mistake	5
Partially correct	Deduct $\frac{1}{2}$ marks each for partially correct but factual errors, incomplete sentence, incorrect figures or diagrams and examples	$\frac{1}{2}$
Incorrect	No marks to be given for incorrect and unattempt questions.	0
	Do not reduce marks for incorrect words which are not absolutely required to be correct like specific terminologies, etc.	

