Class 10 science diagrams: draw, label and explain

Practice worksheet - Science · Grade 10

Name: _____ Date: _____

Show your working. Answers and explanations follow on a separate page.

Try each task before opening its answer. Give an example or reason, not only a label.

Write an answer and your reason before opening the explanation. Check the reasoning as well as the final answer.

1. Should an ammeter be in series or parallel with the measured current path?

2. Where should a voltmeter connect when measuring a resistor's potential difference?

3. What can a small gap in a wire represent?

4. What is conventional current direction in the external circuit?

5. What happens to a ray parallel to the axis through a convex lens in the school model?

6. What happens to a ray through the optical centre of a thin lens?

7. An object is at 2 F of a convex lens. State image position.

8. An upright object is at 2F of a convex lens. State the image orientation and relative size.

Practice continued

9. What do dashed backward ray extensions represent?

10. Is the stomatal pore itself a guard cell?

11. Name the long conducting part of a neuron.

12. How many C-H single bonds does methane have?

13. What does one line in a simple covalent structural formula represent?

14. Why redraw a diagram without looking at the model?

Answers and explanations

Answer key - Science · Grade 10

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1. Series.

The current to be measured passes through it.

2. Across its two ends.

It compares the potentials of those points.

3. An open circuit.

The intended continuous path is broken.

4. From positive to negative.

This convention differs from electron movement in a metal.

5. It refracts through the far principal focus.

Use this ray rule to locate an image.

6. It continues approximately straight.

This is the central-ray approximation used in school diagrams.

7. At 2 F on the other side.

Two valid rays intersect there.

8. Inverted and equal-sized.

The image arrow is below the axis for an upright object arrow.

9. Construction lines used to locate a virtual image.

They do not show light travelling backwards.

10. No.

It is the opening between guard cells.

11. The axon.

It carries the signal away from the cell body in the simplified model.

12. Four.

Its formula is CH_4.

13. One shared electron pair.

It denotes a single covalent bond.

14. To check whether the structure and relationships can be recalled independently.

Recognising a copied image is easier than reconstructing it.