

FREE ORIGINAL STARTER BOOKLET

Class 10 Science Olympiad practice

For students exploring SOF ISO. Concept notes, worked examples, and six original questions with answers.

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How to use this booklet

Read one concept note, cover its worked example, and try the matching questions without looking at the answers. Then check the official syllabus for anything this short guide does not cover.

Syllabus map

Reactions and materials; life processes and heredity; light, electricity and magnetism; environment; reasoning.

This is a broad revision map, not a transcription or a complete SOF syllabus. For the authoritative current topic list and exam pattern, use the official source linked at the end.

Four concepts to practise

Chemical reactions

In a balanced equation each element has the same number of atoms on both sides. Acids and bases can be distinguished with indicators; neutral solutions have pH 7 at 25 C.

Worked example: $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$ balances four hydrogen and two oxygen atoms on each side.

Life processes

Photosynthesis stores light energy in food. Respiration releases usable energy from food. Hereditary information is carried in DNA, which is passed between generations.

Worked example: Leaves use carbon dioxide and water to make glucose and oxygen during photosynthesis.

Electricity and light

Ohm's law is $V=IR$ for an ohmic conductor at constant conditions. In series, resistances add. A convex lens can bring parallel rays to a focus.

Worked example: Two 4 ohm resistors in series give 8 ohms total.

Environment

Energy moves through food chains while materials cycle through ecosystems. Decomposers break down dead organic matter, returning nutrients to the environment.

Worked example: Fungi can act as decomposers in a forest ecosystem.

Your turn

Try each problem before checking the answer key on the next page.

1. Balance: $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$.
2. What is the pH of neutral water at 25 C?
3. What is the resistance if $V=12\text{ V}$ and $I=2\text{ A}$?
4. Two 3 ohm resistors are in series. Find total resistance.
5. What molecule carries inherited information?
6. Why are decomposers important?

Answers and next steps

1. $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$.
2. 7.
3. 6 ohms; $R=V/I$.
4. 6 ohms; add series resistances.
5. DNA.
6. They break down dead material and recycle nutrients.

What this does not cover

This short booklet is not a full textbook, full-length mock exam, or complete syllabus. SOF Level 1 also includes logical reasoning and an achievers section. Revisit your current and previous class concepts before an exam.

Official source

SOF ISO Class 10 syllabus

Prepared by BodhiScore. Reviewed October 2026. The linked SOF page is the final authority for changes.