

Class X

Science

One-page chapter summaries
Large print • CBSE 2026-27 syllabus

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Not included: Periodic Classification of Elements, Evolution, and electric motor / electromagnetic induction / generator. CBSE's 2026-27 curriculum says these are assessed only in school (formative) and not in the board exam. Questions marked SQP are from the official CBSE Sample Question Paper 2026-27.

Chapter 1: Chemical Reactions and Equations

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Big idea: Atoms rearrange into new substances; a balanced equation shows mass is conserved.

Key points

- Signs of a reaction: change of state, colour or temperature; gas given off; precipitate formed.
- **Balanced equation:** equal atoms of each element on both sides — **law of conservation of mass**.
- **Combination:** $A + B \rightarrow AB$, e.g. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + \text{heat}$.
- **Decomposition:** one substance breaks down by heat, electricity or light.
- **Displacement:** $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$ (blue $\rightarrow$ light green).
- **Double displacement:** ions swap; $\text{Na}_2\text{SO}_4 + \text{BaCl}_2 \rightarrow \text{BaSO}_4\downarrow$ (white precipitate) $+ 2\text{NaCl}$.
- **Oxidation** = gain of O / loss of H; **reduction** = loss of O / gain of H. Together = **redox**.
- **Exothermic** gives out heat (respiration, burning); **endothermic** takes in heat.

Key reactions

- $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$ (dazzling white flame)
- $2\text{FeSO}_4 \xrightarrow{\text{heat}} \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$ (green $\rightarrow$ brown)
- $\text{CaCO}_3 \xrightarrow{\text{heat}} \text{CaO} + \text{CO}_2$
- $2\text{H}_2\text{O} \xrightarrow{\text{electricity}} 2\text{H}_2 + \text{O}_2$ (H_2 volume double)
- $2\text{AgCl} \xrightarrow{\text{sunlight}} 2\text{Ag} + \text{Cl}_2$ (photography)
- $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$ (CuO reduced, H_2 oxidised)

Exam focus: how to score

- **Balancing equations** and naming reaction types — every year.
- In redox, name what is oxidised and what is reduced.
- Write observations (colour, gas, precipitate) — they carry marks.

★ Important questions from CBSE sample papers

- Correct the errors: $\text{MgCl}_2 + \text{AgNO}_3 \rightarrow \text{AgCl}_2 + \text{MgNO}_3$ and $\text{Al} + \text{H}_2\text{SO}_4 \rightarrow \text{Al}_2\text{SO}_4 + \text{H}_2\text{O}$. (SQP 2026-27, 5 marks)
- Iron filings in MgSO_4 solution: will it turn green? Aluminium in dilute H_2SO_4 : will it fizz? Give reasons. (SQP 2026-27, 5 marks)

Remember: Balance with numbers in front — never change a formula.

Chapter 2: Acids, Bases and Salts

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Big idea: Acids give H^+ ions, bases give OH^- ions; together they neutralise to salt + water.

Key points

- **Acids:** sour, blue litmus $\rightarrow$ red. **Bases:** bitter, soapy, red litmus $\rightarrow$ blue. Soluble bases = **alkalis**.
- **Olfactory indicators** change smell: onion, vanilla, clove oil. Phenolphthalein turns pink in base.
- Acid + metal $\rightarrow$ salt + H_2 (pop test). Acid + carbonate $\rightarrow$ salt + CO_2 + water (lime water milky).
- Acid + base $\rightarrow$ salt + water (**neutralisation**). Metal oxides basic; non-metal oxides acidic.
- **Add acid to water, never water to acid** — dilution gives out heat.
- **pH** 0–14: below 7 acidic, 7 neutral, above 7 basic.
- Body works at pH 7.0–7.8; **tooth decay below pH 5.5**; antacids cure acidity; acid rain below 5.6.
- **Water of crystallisation:** blue $CuSO_4 \cdot 5H_2O$ turns white on heating.

Important chemicals

- **Chlor-alkali:** $2NaCl + 2H_2O \rightarrow 2NaOH + Cl_2$ (anode) + H_2 (cathode)
- Bleaching powder: $Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2 + H_2O$
- Baking soda $NaHCO_3$: $2NaHCO_3 \xrightarrow{\text{heat}} Na_2CO_3 + H_2O + CO_2$
- Washing soda $Na_2CO_3 \cdot 10H_2O$ — removes permanent hardness
- Plaster of Paris $CaSO_4 \cdot \frac{1}{2}H_2O$: gypsum heated at 373 K; sets back to gypsum with water
- Excess CO_2 in lime water $\rightarrow$ soluble $Ca(HCO_3)_2$, milky appearance disappears

Exam focus: how to score

- Salt: formula + preparation equation + one use — common 3-marker.
- Arrange solutions by pH; gas tests with equations.

★ Important questions from CBSE sample papers

- Chlor-alkali: which match? H_2 at cathode – fuel; Cl_2 at anode – margarine; $NaOH$ near cathode – soap. (SQP 2026-27, 1 mark)
- Which contain water of crystallisation: Plaster of Paris, washing soda, baking soda, gypsum? (SQP 2026-27, 1 mark)
- Why does milky appearance disappear when excess CO_2 passes through lime water? (SQP 2026-27, 3 marks)

Remember: Below 7 = sour side, above 7 = soapy side.

Chapter 3: Metals and Non-metals

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Big idea: Metals lose electrons, non-metals gain them — this decides properties, reactivity and extraction.

Key points

- Metals: lustrous, malleable, ductile, sonorous, good conductors; **silver and copper conduct best.**
- Exceptions: mercury liquid; Na, K soft; iodine lustrous; graphite conducts; diamond hardest.
- **Amphoteric** oxides (Al_2O_3 , ZnO) react with acids and bases.
- Water: Na, K violent (kept in kerosene); Mg — hot water; Al, Fe, Zn — steam only; Cu, Ag, Au — none.
- **Reactivity series:** $\text{K} > \text{Na} > \text{Ca} > \text{Mg} > \text{Al} > \text{Zn} > \text{Fe} > \text{Pb} > \text{H} > \text{Cu} > \text{Hg} > \text{Ag} > \text{Au}$.
- **Ionic compounds** (electron transfer): high melting points, dissolve in water, conduct when molten or dissolved.
- Rust needs air + water. Prevent by painting, oiling, **galvanising (zinc coat)**, alloying (stainless steel).

Extracting metals

- Ore → enrichment → reduction → refining
- **Roasting** (sulphide, excess air): $2\text{ZnS} + 3\text{O}_2 \rightarrow 2\text{ZnO} + 2\text{SO}_2$
- **Calcination** (carbonate, limited air): $\text{ZnCO}_3 \rightarrow \text{ZnO} + \text{CO}_2$; $\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$
- **Thermit:** $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow 2\text{Fe} + \text{Al}_2\text{O}_3 + \text{heat}$ (railway tracks)
- Na, Mg, Al: electrolysis of molten compounds
- Refining Cu: impure Cu anode, pure Cu cathode, CuSO_4 electrolyte

Exam focus: how to score

- **Electron-dot formation of NaCl , MgCl_2** — frequent 3-marker.
- Roasting vs calcination with equations.
- Displacement activity: order of reactivity.

★ Important questions from CBSE sample papers

- Rods of Al, Ag, Cu, Fe, Zn heated at one point; candles fall at different times. Best conductor? Effect of 20% longer rods? (SQP 2026-27, 4 marks)
- Why do aluminium wires not corrode easily? (SQP 2026-27, 1 mark)
- Why does an iron bridge near the sea rust faster than one in dry hills? (SQP 2026-27, 3 marks)

Remember: Please Send Cats, Monkeys And Zebras In Large Hired Cages Made of Silver and Gold.

Chapter 4: Carbon and its Compounds

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Big idea: Carbon shares electrons; tetravalency and catenation give millions of compounds.

Key points

- **Covalent bond** = shared electron pairs; covalent compounds have low melting points, poor conductors.
- Carbon (2, 4) **shares** 4 electrons — it is **tetravalent**.
- **Catenation**: carbon links to carbon in chains, branches and rings.
- **Saturated** (single bonds) burn with blue flame; **unsaturated** (double/triple) give sooty flame.
- **Isomers**: same formula, different structure (butane, isobutane).
- **Homologous series**: members differ by $-\text{CH}_2-$; similar chemical properties.
- Name endings: -ol alcohol, -al aldehyde, -one ketone, -oic acid; chloro-, bromo-.
- **Soap** forms micelles; makes scum in hard water. Detergents work in hard water.

Key reactions

- Combustion: $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} + \text{heat}$
- Oxidation: ethanol $\rightarrow$ (alk. KMnO_4) ethanoic acid
- **Hydrogenation**: oil + $\text{H}_2 \rightarrow$ (Ni) fat
- Substitution: $\text{CH}_4 + \text{Cl}_2 \rightarrow$ (sunlight) $\text{CH}_3\text{Cl} + \text{HCl}$
- Ethanol $\rightarrow$ (conc. H_2SO_4 , 443 K) ethene + water
- **Esterification**: acid + alcohol $\rightarrow$ ester (sweet smell) + water
- $\text{CH}_3\text{COOH} + \text{NaHCO}_3 \rightarrow \text{CH}_3\text{COONa} + \text{H}_2\text{O} + \text{CO}_2$

Exam focus: how to score

- **Electron-dot structures** (CH_4 , ethene, CO_2 , ethanol).
- Next homologue; reactions of ethanol and ethanoic acid.
- Micelle diagram; soap vs detergent.

★ Important questions from CBSE sample papers

- Why does carbon form millions of compounds but silicon only a few? (SQP 2026-27, 2 marks)
- $\text{C}_2\text{H}_6\text{O}$ is blended with petrol. Draw its electron-dot structure, give the next homologue and its reaction with acetic acid. (SQP 2026-27, 3 marks)

Remember: Carbon is the great sharer: 4 bonds, endless chains.

Chapter 5: Life Processes

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Big idea: Nutrition, respiration, transport and excretion keep every organism alive.

Key points

- **Photosynthesis:** light absorbed → water splits → CO₂ reduced to sugar. Gases move through **stomata**.
- Stomach: HCl, pepsin, mucus. Small intestine: **bile emulsifies fats**; trypsin, lipase; **villi** absorb food.
- **Respiration:** glucose → pyruvate (cytoplasm) → CO₂ + water in mitochondria. Energy stored as **ATP**.
- No oxygen: yeast → ethanol + CO₂; muscles → lactic acid (cramps).
- **Alveoli** give a huge surface for gas exchange. Aquatic animals breathe faster — less dissolved O₂.
- 4-chambered heart, **double circulation**: keeps oxygenated blood separate — warm-blooded birds and mammals. Fish: 2 chambers.
- Plants: **xylem** carries water; **phloem** carries food (uses ATP).
- **Nephrons** filter blood; glucose, salts, water reabsorbed; urine stored in bladder.

Key equation

- $6\text{CO}_2 + 12\text{H}_2\text{O} \xrightarrow{\text{(chlorophyll, sunlight)}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 + 6\text{H}_2\text{O}$

Diagrams to practise

- Human heart; nephron
- Digestive system; stomata

Exam focus: how to score

- **Labelled diagrams** carry sure marks.
- Compare aerobic vs anaerobic; xylem vs phloem; arteries vs veins.

★ Important questions from CBSE sample papers

- Bile duct blocked — how is digestion affected? Why does intestine length differ with diet? (SQP 2026-27, 2 marks)
- Which heart do birds and mammals have, and how does it help keep body temperature? (SQP 2026-27, 5 marks)
- Which pair is reabsorbed in the kidneys: glucose and salts, glucose and starch, glycogen and salts, or glycogen and starch? (SQP 2026-27, 1 mark)

Remember: Eat, burn, carry, clean — the four jobs of life.

Chapter 6: Control and Coordination

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Big idea: Animals use nerves and hormones; plants use hormones and growth movements.

Key points

- **Neuron:** dendrite → cell body → axon; signal crosses the **synapse** as a chemical.
- **Reflex action:** quick, automatic. **Reflex arc:** receptor → sensory neuron → spinal cord → motor neuron → muscle.
- **Fore-brain:** thinking, voluntary acts. **Medulla:** involuntary acts (BP, salivation, vomiting). **Cerebellum:** balance.
- Muscle cells have special proteins that change shape when an impulse arrives.
- **Touch-me-not** leaves fold as cells lose water — not growth.
- **Tropisms:** shoot to light, root to gravity and water, pollen tube to ovule.
- Plant hormones: **auxin** (bends shoot to light), gibberellins (stem growth), cytokinins (cell division), abscisic acid (inhibits growth).
- Hormone levels are set by **feedback** (high blood sugar → more insulin).

Animal hormones

- Adrenaline (adrenal) — fight or flight
- Thyroxine (thyroid) — metabolism; needs iodine; lack → goitre
- Growth hormone (pituitary) — lack → dwarfism
- Insulin (pancreas) — blood sugar; lack → diabetes
- Testosterone / oestrogen — puberty changes

Exam focus: how to score

- Draw neuron, reflex arc or brain.
- Match hormone – gland – function.

★ Important questions from CBSE sample papers

- Which brain parts control actions without thinking? Name them and give two examples. (SQP 2026-27, 2 marks)
- How do muscles move at the cellular level on receiving messages from the brain? (SQP 2026-27, 3 marks)

Remember: Nerves are fast phone calls; hormones are slow letters.

Chapter 7: How do Organisms Reproduce?

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Big idea: Reproduction copies DNA; small copying variations help a species survive change.

Key points

- DNA copying is never perfect → **variation**, useful for survival.
- Asexual: **fission** (Amoeba, Plasmodium), **fragmentation** (Spirogyra), **regeneration** (Planaria), **budding** (Hydra, yeast), **spores** (Rhizopus).
- **Vegetative propagation**: Bryophyllum leaf, sugarcane, rose, banana.
- Flower: **stamen** (anther → pollen) and **pistil** (stigma, style, ovary).
- Pollination → pollen tube → **fertilisation** → zygote. **Ovule → seed, ovary → fruit.**
- Male: testes make sperm and testosterone → vas deferens → urethra.
- Female: egg fertilised in **oviduct**; embryo implants in uterus; **placenta** gives food and O₂.
- Contraception: condoms (also stop HIV-AIDS), pills, copper-T, vasectomy, tubectomy.

Diagrams to practise

- LS of flower; pollen tube
- Human reproductive systems

Exam focus: how to score

- **Labelled diagrams** of flower and reproductive systems.
- Asexual vs sexual; self vs cross pollination.
- Functions of testes, oviduct, placenta; ways to prevent STDs.

★ Important questions from CBSE sample papers

- What changes take place in the uterus after implantation? (SQP 2026-27, 2 marks)
- What common event do vasectomy and tubectomy prevent? (SQP 2026-27, 1 mark)
- Anthers of a mustard bud are removed and the bud bagged. Will seeds form? (SQP 2026-27, 1 mark)

Remember: Ovule becomes seed, ovary becomes fruit.

Chapter 8: Heredity

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Big idea: Traits pass to children through pairs of genes; Mendel's peas showed the rules.

Key points

- Sexual reproduction gives more variation than asexual.
- Each trait has two gene copies, one from each parent.
- Mendel used pea: tall/short, round/wrinkled, violet/white.
- **Dominant** shows in F1; **recessive** shows only as tt.
- $TT \times tt \rightarrow F1$ all Tt (tall); $F2 = 3 \text{ tall} : 1 \text{ short}$.
- Dihybrid F2 shows new combinations $\rightarrow$ traits **inherited independently**.
- A **gene** is DNA that makes a protein, e.g. an enzyme for growth hormone.
- Humans: women XX, men XY. **Father's sperm decides the child's sex.**

Ratios

- Monohybrid F2: phenotype 3 : 1, genotype 1 : 2 : 1
- Dihybrid F2: 9 : 3 : 3 : 1
- $XX \times XY \rightarrow 50\% \text{ girls}, 50\% \text{ boys}$

Diagrams to practise

- Punnett squares; sex determination chart

Exam focus: how to score

- Show crosses in a **Punnett square**.
- Why F1 shows one trait; why boy/girl chance is 50 : 50.

★ Important questions from CBSE sample papers

- White (vv) $\times$ violet (VV) peas: % violet in F1 and F2? $VVTT \times vvtt$: % tall white in F2? (SQP 2026-27, 4 marks)
- Apple male gamete has 17 chromosomes. How many in the female gamete and adult cells? (SQP 2026-27, 1 mark)
- How is equal genetic contribution of both parents ensured? (NCERT Exercises, Q4)

Remember: One from Mum, one from Dad: 3 : 1 and 9 : 3 : 3 : 1.

Chapter 9: Light - Reflection and Refraction

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Big idea: Mirrors reflect and lenses refract light to form images; formula + signs solve every numerical.

Key points

- Reflection: angle i = angle r ; rays and normal in one plane.
- Concave mirror converges, convex diverges. **$R = 2f$** .
- Concave: real, inverted images, except object inside $F \rightarrow$ virtual, erect, enlarged.
Convex: always virtual, erect, small.
- Uses: concave — torches, shaving mirrors; convex — **rear-view mirrors** (wide view).
- **Sign convention**: from pole; along incident light +; u always –.
- Refraction: light bends as speed changes; bends towards normal entering denser medium.
- **Snell's law: $\sin i / \sin r = \text{constant}$** (refractive index).
- Convex lens converges (f +); concave lens diverges (f –).

Formulas

- Mirror: $1/v + 1/u = 1/f$; $m = -v/u$
- Lens: $1/v - 1/u = 1/f$; $m = v/u$
- $m - \rightarrow$ real, inverted; $m + \rightarrow$ virtual, erect
- $n = c / v$; $n_{21} = v_1 / v_2$
- Power $P = 1/f$ (metres), unit dioptre

Diagrams to practise

- Ray diagrams: concave mirror, convex lens
- Glass slab refraction

Exam focus: how to score

- **Numericals with signs**; state image nature.
- Ray diagrams need arrows and labels.

★ Important questions from CBSE sample papers

- A lens (concave, in the figure) forms an image $1/3$ the size of an object placed 24 cm away. Find the image distance and focal length. (SQP 2026-27, 3 marks)
- State Snell's law; define refractive index. (SQP 2026-27, 2 marks)
- A: A coin in water looks less deep. R: Light bends away from normal, water to air. (SQP 2026-27, 1 mark)

Remember: Mirror: v PLUS u . Lens: v MINUS u .

Chapter 10: The Human Eye and the Colourful World

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Big idea: The eye lens adjusts its focus; prisms, raindrops and particles split and scatter white light.

Key points

- **Cornea** bends most light; **iris** sets pupil size; **retina** sends signals via optic nerve.
- **Accommodation**: ciliary muscles change lens focal length. Near point 25 cm, far point infinity.
- **Myopia**: can't see far; image before retina → **concave lens**.
- **Hypermetropia**: can't see near; image behind retina → **convex lens**.
- **Presbyopia**: ageing; bi-focal lenses. **Cataract**: cloudy lens; surgery.
- **Dispersion**: white light → VIBGYOR; **red bends least, violet most**.
- **Rainbow**: raindrops refract, disperse and internally reflect; opposite the Sun.
- **Blue sky**: air molecules scatter blue most. Tyndall effect: sunbeam in misty forest.

Key facts

- Danger lights are red — scattered least
- No atmosphere → sky looks dark in space

Diagrams to practise

- Eye defects and correction
- Prism and dispersion

Exam focus: how to score

- Defect + correction diagrams (3–5 marks).
- Explain blue sky, red signals, rainbow.

★ Important questions from CBSE sample papers

- What is accommodation? Near point of a normal eye? Lens for not seeing far objects — draw how it helps. (SQP 2026-27, 5 marks)
- What is dispersion? Which colour deviates least? Why is the sky dark for an astronaut? (SQP 2026-27, 5 marks)

Remember: Myopia - Minus lens; Hypermetropia - Plus lens.

Chapter 11: Electricity

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Big idea: Potential difference drives current; resistance controls it ($V = IR$).

Key points

- **Current:** flow of charge, ampere; ammeter in **series**.
- **Potential difference:** volt; voltmeter in **parallel**.
- **Ohm's law:** $V \propto I$ at constant temperature; straight V-I graph.
- R increases with length, decreases with thickness; depends on material and temperature.
- **Resistivity** depends only on material and temperature; nichrome high $\rightarrow$ heaters.
- **Series:** same current. **Parallel:** same voltage; total R less than smallest.
- Homes use **parallel wiring**: full voltage, separate switching.
- **Fuse:** low melting wire in series; melts on high current. Bulb filament: tungsten.

Formulas

- $I = Q/t$; $V = W/Q$; **$V = IR$**
- $R = \rho l / A$
- $R_s = R_1 + R_2 + \dots$; $1/R_p = 1/R_1 + 1/R_2 + \dots$
- $H = I^2 R t$
- $P = VI = I^2 R = V^2/R$
- $1 \text{ kWh} = 3.6 \times 10^6 \text{ J}$

Exam focus: how to score

- Resistor-combination numericals — every paper.
- Write formula and units at each step.

★ Important questions from CBSE sample papers

- A 1000 W appliance runs at 250 V. Find the current. (SQP 2026-27, 1 mark)
- State Joule's law of heating. Effect on heat if R is doubled? (SQP 2026-27, 2 marks)
- 15 V battery with 2 Ω , 3 Ω , 5 Ω in series: total R, current, voltage across 3 Ω . (SQP 2026-27, 3 marks)

Remember: $V = IR$ — cover the one you want.

Chapter 12: Magnetic Effects of Electric Current

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Big idea: Current makes a magnetic field; a current in a field feels a force.

Key points

- A current deflects a compass needle — electricity and magnetism are linked.
- Field lines: N to S outside; closed curves; **never cross**; crowded = strong.
- Straight wire: circular field lines; weaker farther from the wire.
- **Right-hand thumb rule**: thumb = current, curled fingers = field.
- **Solenoid**: uniform field inside, like a bar magnet; soft iron core → electromagnet.
- **Fleming's left-hand rule**: First finger = Field, second finger = Current, thumb = Motion (force).
- Home wiring: live (red), neutral (black), **earth (green)** stops shocks; fuse guards against overload and short-circuit.

Key facts

- AC reverses direction; India 220 V, 50 Hz
- AC can travel far with little energy loss
- Stronger solenoid: more current, more turns, iron core

Diagrams to practise

- Field lines: bar magnet, wire, solenoid

Exam focus: how to score

- Draw field lines with arrows.
- Apply thumb rule and Fleming's rule.

★ Important questions from CBSE sample papers

- State the right-hand thumb rule. How does the field change with distance? (SQP 2026-27, 3 marks)
- A door lock uses a solenoid to pull an iron bolt. Why an iron core? Effect of current 1 A → 2 A? (SQP 2026-27, 4 marks)

Remember: Right hand → field. Left hand → force.

Chapter 13: Our Environment

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Big idea: Energy flows one way through food chains; our waste can harm ecosystems and the ozone layer.

Key points

- **Ecosystem** = living things + non-living factors (soil, water, temperature).
- **Producers** make food; **consumers** eat; **decomposers** recycle nutrients.
- **Food chain** steps are **trophic levels**: producer → herbivore → carnivore.
- Plants capture **1% of sunlight**; only **10% of energy** passes up each level.
- Energy flow is one-way, so chains have only 3-4 levels.
- **Biological magnification**: pesticides build up, highest at top.
- **Ozone** blocks UV; damaged by **CFCs**; UNEP 1987 agreement.
- **Biodegradable** waste breaks down; **non-biodegradable** (plastic) persists.

Key facts

- $O_2 \xrightarrow{(UV)} O + O$; $O + O_2 \rightarrow O_3$
- 10% law: $10,000 \text{ J} \rightarrow 1,000 \rightarrow 100 \rightarrow 10 \text{ J}$

Diagrams to practise

- Food chain with trophic levels

Exam focus: how to score

- **10% law calculations.**
- Why decomposers matter; why chains are short.
- Biodegradable vs non-biodegradable examples; harm from ozone loss.

★ Important questions from CBSE sample papers

- If the 4th trophic level has 10 kJ, energy at producers? Which level gets most pesticide? (SQP 2026-27, 3 marks)
- A fish eats insect larvae that eat algae. Its trophic level? (SQP 2026-27, 1 mark)
- A: 1% of energy passes from one trophic level to the next. R: About 10% of food eaten is available as chemical energy for the next level. (SQP 2026-27, 1 mark)

Remember: Sun → 1% → plants → 10% each step up.