

CBSE and ICSE: Science Lesson Plans - Planning template

Class 10 | Two 40-minute planning examples

Planning field	Your lesson
Board / programme, class and subject	_____
Book, chapter and selected pages	_____
Syllabus point and lesson scope	_____
Two observable learning outcomes	_____
Prior understanding	_____
Teacher action and pupil task	_____
Evidence / exit check	_____
Follow-up for the next lesson	_____

CBSE - Class 10 Science: pH and neutralisation

40-minute planning example | Printed observations and classroom discussion

Learning outcomes

1. Classify solutions using pH evidence.
2. Explain neutralisation using an example and a balanced equation.
3. Justify a treatment for an acidic sample.

Teaching sequence

Stage	Min	Teacher and pupil activity
Engage	5	Show printed pH cards: 3, 7 and 10. Ask which sample is acidic and what evidence supports the choice.
Investigate	8	Pairs classify pH cards and match supplied litmus observations. Record an initial explanation, not just an answer.
Explain	10	Connect the observations to hydrogen and hydroxide ions. Model $\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ and the meaning of neutralisation.
Apply	12	Give two soil pH values, 4.5 and 8.0. Ask which could be treated with limestone and why. Compare explanations as a class.
Check and close	5	Exit slip: choose one sample, cite its pH and explain the expected action of the treatment. Collect one response per pupil.

Evidence to collect

Expected evidence: identifies pH 4.5 as acidic, links limestone to reducing acidity, and does not recommend the same treatment for pH 8.0.

ICSE - Class 10 Chemistry: acids, alkalis and ions

40-minute planning example | Printed observations and classroom discussion

Learning outcomes

1. Relate acid and alkali properties to the ions in aqueous solution.
2. Interpret supplied indicator observations.
3. Represent neutralisation using a balanced equation.

Teaching sequence

Stage	Min	Teacher and pupil activity
Recall	5	Ask pupils to distinguish a substance, a solution and an ion. Record everyday descriptions before introducing precise terms.
Interpret	8	Use printed indicator results for named dilute acid, alkali and neutral solutions. Ask pairs to explain their classifications.
Explain	10	Use the terminology in the current ICSE syllabus and the school textbook to connect aqueous acids, hydronium/hydrogen ions, alkalis and hydroxide ions.
Practise	12	Pupils explain a named acid-alkali reaction and balance $\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$. Ask them to connect ions with the observed change.
Evaluate	5	Exit slip: identify an acid or alkali from an observation, name the relevant ion and give a supporting explanation.

Evidence to collect

Expected evidence: identifies the solution from the indicator evidence and correctly relates the property to ions in aqueous solution.