

Assessment Prep with Kognity

IBDP Chemistry

What is this guide for?

This guide is designed to help you make the most out of Kognity as a tool to prepare students for success both in formative assessments and IBDP exam preparation.

How does Kognity help with assessment preparation for IBDP Chemistry?

According to [John Hattie](#), Professor of Education and Director of the Melbourne Educational Research Institute at the University of Melbourne, Australia, feedback is an important driver for improving teaching and learning. Formative assessments play a large role in consistent feedback throughout the year as students prepare for their IBDP exams. Kognity provides efficient tools for immediate feedback to both the student and teacher.

“

“Think of feedback as received, not given.”

John Hattie

For students:

Students can test their problem solving, interpretation and analysis skills in Chemistry through completing worked examples and receiving immediate feedback on their responses. In addition, at the end of each section, students can complete section questions that are auto-graded, allowing them to receive feedback right away on their progress.



For teachers:

Teachers get immediate feedback on their students' progress through the Textbook and Questions data, located on the Insights page. Here, teachers can view a visual representation of student quiz and assignment scores. Teachers can then easily identify those students who need help, which makes intervention fast and efficient.

Below you will find some ways teachers can use Kognity's resources to successfully prepare their students for IBDP Chemistry assessment components. Click on each picture to explore more in Kognity Chemistry!



How does Kognity
help with formative
assessments?



How does Kognity help
with IB Assessment
Preparation?

How does Kognity help with formative assessments?

Revisions Quizzes

Kognity's question assignments can be used as revision quizzes for review at the end of a unit. Teachers can drill students on specific techniques and tools using multiple examples. All question assignments are auto-graded, so students and teachers can immediately receive the results. Teachers can then revise any common mistakes before starting to teach new content.

Question preview

Question

Which of the following statements is correct for 2-methylbutane?

- I. The ratio of areas under each signal in the ^1H NMR spectrum would be 6:1:2:3
- II. In the infrared spectrum, a broad peak would be observed at 3200 cm^{-1}
- III. In the mass spectrum, the molecular ion M^+ would have a peak at $\frac{m}{z} = 72$

+ Show answers

Exam Practice Tasks

Kognity provides exam-style questions, marks schemes and model answers that teachers can use in a variety of different ways with their students. For example, teachers can go over a practice paper as a class, write the answer together, and focus on examiner comments.

Exam-style questions

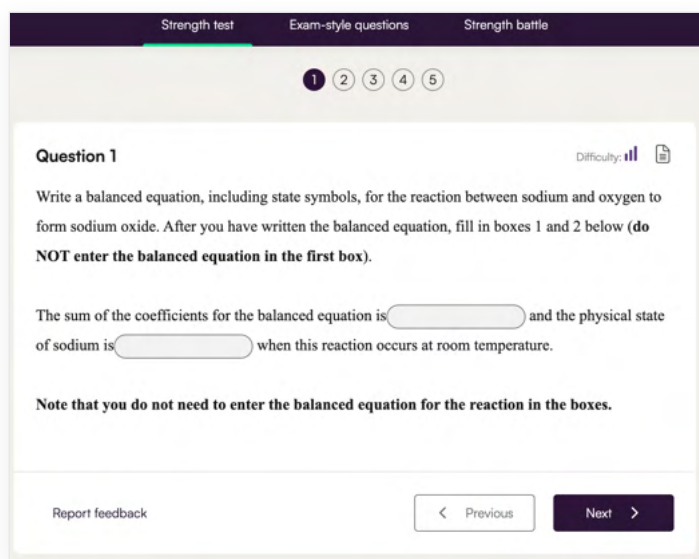
Exam-style questions become available once you have received them in an assignment from your teacher.

1. Stoichiometric relationships	12 / 12 questions	
2. Atomic structure 7 / 7 questions		
Question 2.1	Paper 2 4 marks	Opens in 'ESQ'
Question 2.2	Paper 2 5 marks	Opens in 'ESQ'
Question 2.3	Paper 2 3 marks	Opens in 'ESQ'
Question 2.4	Paper 2 6 marks	Opens in 'ESQ'
Question 2.5	Paper 2 4 marks	Opens in 'ESQ'
Question 2.6	Paper 2 5 marks	Opens in 'ESQ'
Question 2.7	Paper 2 18 marks	Opens in 'ESQ'

How does Kognity help with formative assessments?

Self-Study

To provide students with resources for self-directed active recall study, use Strength tests and battles. Students can also use self-assessment checklists before a test or exam to help students identify areas of weakness.



The screenshot shows a digital interface for a 'Strength test'. At the top, there are three tabs: 'Strength test' (selected), 'Exam-style questions', and 'Strength battle'. Below the tabs is a progress indicator with five numbered circles, the first of which is filled. The main content area is titled 'Question 1' and includes a difficulty level indicator (three bars) and a document icon. The question text reads: 'Write a balanced equation, including state symbols, for the reaction between sodium and oxygen to form sodium oxide. After you have written the balanced equation, fill in boxes 1 and 2 below (do NOT enter the balanced equation in the first box).' Below this, there are two input fields: 'The sum of the coefficients for the balanced equation is' followed by a box, and 'and the physical state of sodium is' followed by another box. A note at the bottom of the question area states: 'Note that you do not need to enter the balanced equation for the reaction in the boxes.' At the bottom of the interface, there is a 'Report feedback' link, a 'Previous' button with a left arrow, and a 'Next' button with a right arrow.

Mind Maps

Students can use the content in the Kognity book to make their own mind maps to review for a test or exam.

Notebook and Checklists

Kognity's notebook feature allows students to make their own notes and print out if necessary for consolidation. Students can use the notebook feature when they are performing self-assessment of knowledge and understanding at the end of each chapter with the checklists.



What you should know

At the end of this *Subtopic 4.2 - Covalent bonding*, you should be able to:

- Describe a covalent bond in terms of the electrostatic attraction between the nuclei of the atoms involved and shared pairs of bonding electrons.
- Outline that covalent bonding involves atoms gaining a noble gas arrangement of eight electrons in their outer shell by sharing electrons.
- Describe the formation of multiple covalent bonds in certain molecules.
- Explain the concept of polar and non-polar covalent bonds, which depend on the difference in electronegativity between the bonding atoms.

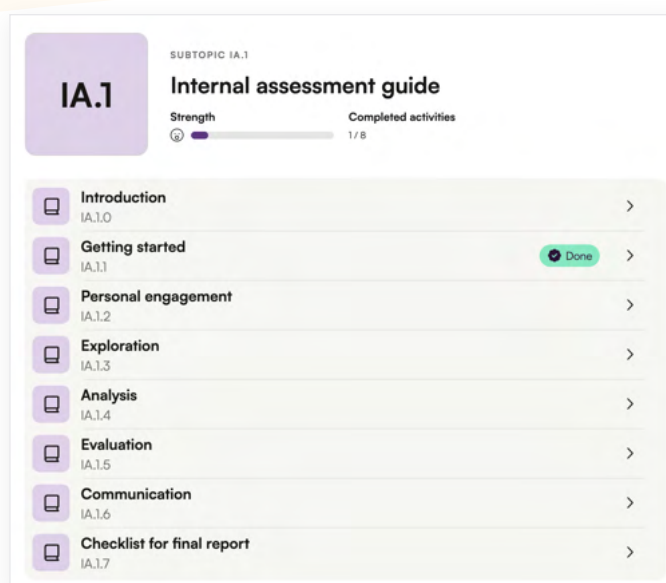
How does Kognity help with IB Assessment Preparation?

Internal Assessment

To ensure success in the IA, teachers must spend time introducing and explaining the criteria and responsibilities to their students.

Kognity's IA topic is a great resource for both teachers and students to understand the requirements and

see clear and detailed examples for each criterion, as well as formats for planning and reviewing their drafts.



IB Exam Papers

Exam tips are written by IB examiners and provide students with an understanding of what is expected of them in their exams. Kognity's exam-style assignments are all based on Papers 2 and 3 and contain questions, example answers and commented mark schemes that provide students tips for success that are written by examiners. Just add a timer when using an exam-style assignment to model real exam conditions!

The data in **Table 1** was collected to measure the enthalpy change of a reaction. The reaction was carried out in a coffee cup calorimeter that contained 50.0 cm^3 of water.

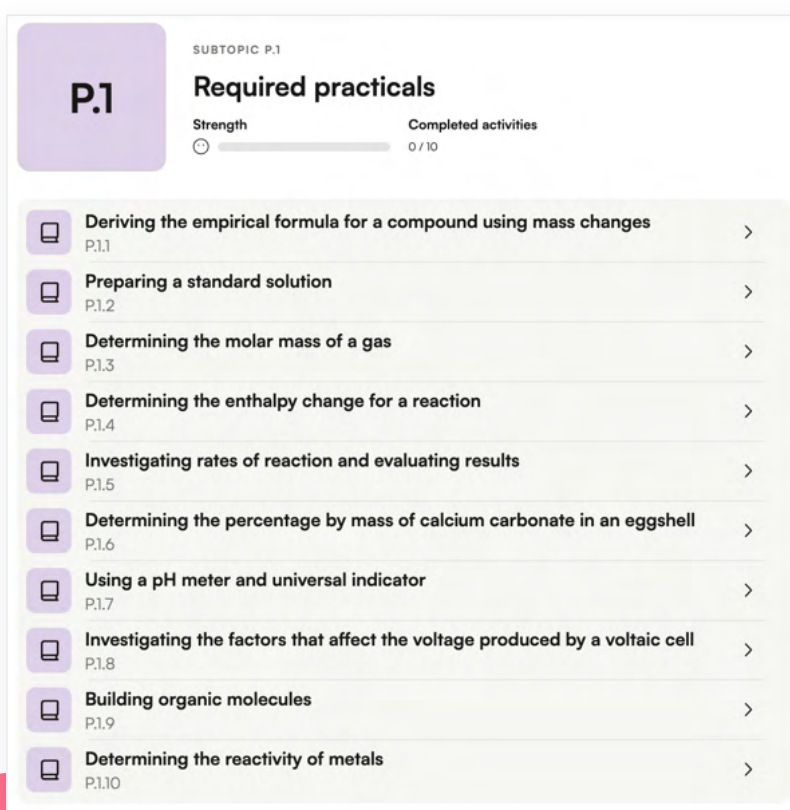
Trial	Initial temperature of water $\pm 0.5 \text{ }^\circ\text{C}$	Maximum temperature of water $\pm 0.5 \text{ }^\circ\text{C}$	Change in temperature $\pm 1 \text{ }^\circ\text{C}$
1	18.5	26.0	7.5
2	18.5	25.5	7.0
3	18.5	26.5	8.0

(a) Calculate the percentage uncertainty for the change in the temperature of the water in trial 1.

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









Prescribed Practicals

For the prescribed practicals, Kognity has examples of practicals for each of the topics. Each experiment has a detailed procedure together with a list of apparatus and chemicals. There are also practice questions that cover the skills and calculations required in each experiment.



P.1 SUBTOPIC P.1
Required practicals

Strength ○ Completed activities 0 / 10

-  **Deriving the empirical formula for a compound using mass changes**
P.1.1 >
-  **Preparing a standard solution**
P.1.2 >
-  **Determining the molar mass of a gas**
P.1.3 >
-  **Determining the enthalpy change for a reaction**
P.1.4 >
-  **Investigating rates of reaction and evaluating results**
P.1.5 >
-  **Determining the percentage by mass of calcium carbonate in an eggshell**
P.1.6 >
-  **Using a pH meter and universal indicator**
P.1.7 >
-  **Investigating the factors that affect the voltage produced by a voltaic cell**
P.1.8 >
-  **Building organic molecules**
P.1.9 >
-  **Determining the reactivity of metals**
P.1.10 >

