

Assessment Prep with Kognity

IBDP Environmental Systems and Societies

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 ESS?

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 ESS 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 ESS assessment components. Click on each link to explore more in Kognity ESS!



How does Kognity
help with formative
assessments?




How does Kognity help
with IB Assessment
Preparation?

How does Kognity help with formative assessments?

Revision 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 see their students' performance using the insights tab. They can then revise any common mistakes before starting to teach new content

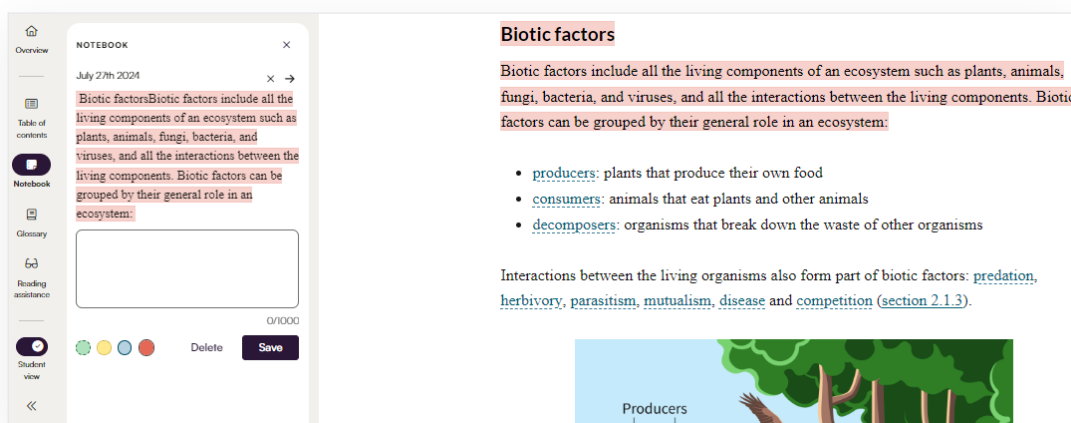


The screenshot shows the 'Insights' page in Kognity. It has tabs for 'Reflections', 'Textbook', 'Questions', and 'Last activity'. Below the tabs are filters for 'Show all students' and 'Show all topics in...'. The main table displays student performance across various topics. The table has columns for 'Student', 'Level', and nine topics: '1.1 Perspectives', '1.2 Systems', '1.3 Sustainability', '2.1 Individuals an...', '2.2 Energy and ...', '2.3 Biogeochemi...', '2.4 Climate and ...', and '2.5 Zonation, su...'. The rows show 'All students: Flagged', 'All students: Submissions', and individual student data for Rachel Adams and Rachel Bellman. Each cell in the table contains a score and a percentage, such as '2x 4/4' or '2x 11/7'.

Student	Level	1.1 Perspectives	1.2 Systems	1.3 Sustainability	2.1 Individuals an...	2.2 Energy and ...	2.3 Biogeochemi...	2.4 Climate and ...	2.5 Zonation, su...
All students: Flagged									
All students: Submissions		2x 4/4	2x 4/4	2x 4/4	2x 4/4	2x 4/4	2x 4/4	2x 4/4	2x 4/4
Rachel Adams	SL	2x 11/7	2x 12/9	2x 13/10	2x 21/10	2x 22/9	2x 23/8	2x 24/7	2x 25/7
Rachel Bellman	HL	2x 11/7	2x 12/9	2x 13/10	2x 21/10	2x 22/9	2x 23/8	2x 24/7	2x 25/7

Notebook and Checklists

Kognity's notebook feature allows students to make their own notes which they can then print out.



The screenshot shows the Kognity Notebook interface. On the left is a sidebar with navigation options: Overview, Table of contents, Notebook, Glossary, Reading assistance, and Student view. The main area displays a notebook page titled 'NOTEBOOK' with a date of 'July 27th 2024'. The page contains a note about biotic factors, which is highlighted in red. The note text is: 'Biotic factorsBiotic factors include all the living components of an ecosystem such as plants, animals, fungi, bacteria, and viruses, and all the interactions between the living components. Biotic factors can be grouped by their general role in an ecosystem:'. Below the note is a large empty text box. At the bottom of the notebook page are three colored circles (green, yellow, red) and buttons for 'Delete' and 'Save'. On the right side of the screenshot, there is a preview of the notebook page content. It shows the title 'Biotic factors' and the text: 'Biotic factors include all the living components of an ecosystem such as plants, animals, fungi, bacteria, and viruses, and all the interactions between the living components. Biotic factors can be grouped by their general role in an ecosystem:'. Below this text is a bulleted list: '• producers: plants that produce their own food', '• consumers: animals that eat plants and other animals', and '• decomposers: organisms that break down the waste of other organisms'. Further down, it says: 'Interactions between the living organisms also form part of biotic factors: predation, herbivory, parasitism, mutualism, disease and competition (section 2.1.3)'. At the bottom of the preview is an illustration of a forest with trees and a hand pointing to a tree, with the word 'Producers' written below it.

How does Kognity help with formative assessments?

Students can also keep track of their learning by making sure that their notes include all of the end of subtopic checklist points. This ensures that the student has covered and gained mastery of the topic.

What you should know

At the end of this subtopic 6.4 you should understand:

- The Sun emits electromagnetic radiation in a range of wavelengths, from low frequency radio waves to high frequency gamma radiation. (6.4.1)
- Shorter wavelengths of radiation (namely, UV radiation) have higher frequencies and, therefore, more energy, so pose an increased danger to life. (6.4.2)
- Stratospheric ozone absorbs UV radiation from the Sun, reducing the amount that reaches the Earth's surface and, therefore, protecting living organisms from its harmful effects. (6.4.3)
- The relative concentration of ozone molecules has stayed constant over long periods of time due to a steady state of equilibrium between the concurrent processes of ozone formation and destruction. (6.4.5)
- UV radiation reduces photosynthesis in phytoplankton and damages DNA by causing mutations and cancer. In humans, it causes sunburn, premature ageing of the skin, and cataracts. (6.4.4)
- Ozone-depleting substances (ODSs) destroy ozone molecules, augmenting the natural ozone breakdown process. (6.4.6)
- Ozone depletion allows increasing amounts of UVB radiation to reach the Earth's surface, which impacts ecosystems and human health. (6.4.7)
- The Montreal Protocol is an international treaty that regulates the production, trade, and use of chlorofluorocarbons (CFCs) and other ODSs. It is regarded as the most successful example yet of international cooperation in management and intervention to resolve a significant environmental issue. (6.4.8)
- Actions taken in response to the Montreal Protocol have prevented the planetary boundary for stratospheric ozone depletion being crossed. (6.4.9)

Higher level (HL)

- Polar stratospheric ozone depletion occurs in the spring due to the unique chemical and atmospheric conditions in the polar stratosphere. (6.4.11)
- ODSs release halogens, such as chlorine and fluorine, into the stratosphere, which break down ozone. (6.4.10)
- Hydrofluorocarbons (HFCs) were developed to replace CFCs as they can be used in similar ways and cause much less ozone depletion, but they are potent GHGs. They have since been controlled by the Kigali Amendment to the Montreal Protocol. (6.4.12)
- Air conditioning units are energy-intensive, contribute to GHG emissions, and traditionally have contained ODSs. (6.4.13)

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.

Overview Book Practice Assignments Insights

Strength test Exam-style questions Strength battle

1 2 3 4 5

Question 1 HL

Complete the sentence below using one word only.

In large water bodies, there is a transition layer between a warmer, mixed layer on top and cooler water below. The transition layer is called the _____.

Report feedback < Previous Next >

Strength battle

Battle an opponent, or view your current and past battles.

New battle

1. Pick an opponent

☒ Battle the Kogbot

☐ Battle a classmate (Only available for students)

2. Choose topic

Choose a topic Random topic

3. Start Battle!

Start battle

Your battles

Battles won: 0

Current battles

You have no current battles. Start one now!

Past battles ▾

How does Kognity help with formative assessments?

Reflections

Reflections provide students with an opportunity to reflect on their learning. They encourage students to return to the subtopic's guiding questions, consider what they've learned, and write down their thoughts.

Reflections are an excellent assessment tool for gauging students' development and engagement with the material. As a teacher, you can use the Reflections submitted by your students as an additional tool to assess their conceptual understanding of the course.

Reflection



Figure 1. Reflect on what you have learned.

Credit: mgstudyo, Getty Images

In this [subtopic 2.1](#) on Individuals and Populations, Communities and Ecosystems, you learned about the components of ecosystems and how they interact. Using information that you learned in this subtopic, choose one of the following prompts to reflect on:

Perspectives: How has the information in this subtopic changed your own perspectives and worldviews about *DP Environmental systems and societies*? Has your thinking about the human-nature relationship changed from earlier in the course (and how)? Have any of your perspectives been strengthened (and how)?

Systems: Use information from this subtopic to think about connections between two or more elements from the Doughnut Economics model (**Figure 2** and [section 1.3.6](#)). Draw annotated causal loop diagrams (with or without feedback loops – see [section 1.2.5](#)) to illustrate your understanding.

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 guide is a great resource for both teachers and students to understand what the internal assessment entails. The internal assessment guide covers each of the IA criterion in detail.

The guide walks students step by step on how to:

- Formulate a research question and develop a strategy.
- Develop a method: This section helps students define variables and provides guidelines on various methods that students may use to obtain data specific to their research question.
- Treat their data: This section provides students with a thorough guide on how to present their raw and processed data. Additionally, there is also information on statistical analysis techniques that the student may use.
- Perform analysis and conclude on their findings in addition to performing a thorough evaluation of their internal assessment.

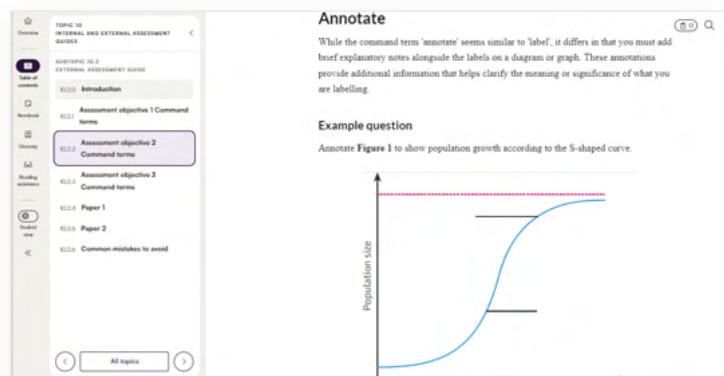
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IB Exam Papers

Subtopic 10.2 is the External Assessment Guide that is a useful resource that the students can refer to any time.

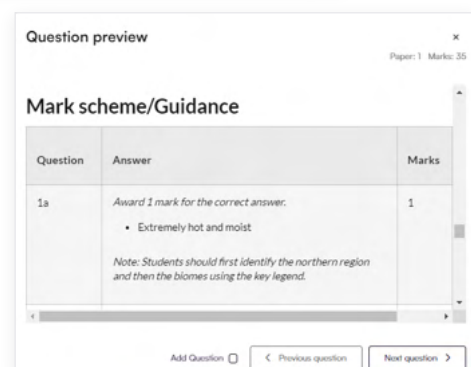
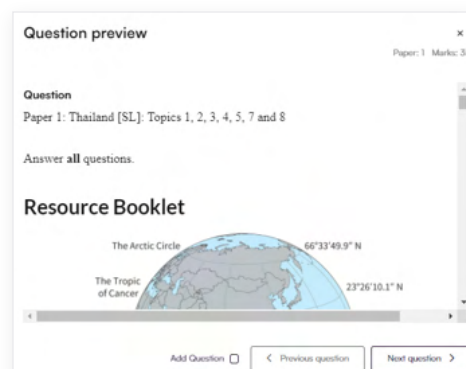
This guide includes:

- An overview of all of the command terms that the student may encounter in the exam. Command terms are organised based on that assessment objective they fall under. Each command term explanation is followed by a worked example question for students to truly deepen their understanding of that specific command term. Understanding these command terms is critical for students' ability to answer questions effectively.
- A detailed explanation of Papers 1 and 2
- A section on common mistakes that students should avoid.



Paper 1

Students have access to a whole guide on Paper 1 in section 10.2.4. This paper consists of an unseen case study in which the student may be presented with a range of sources including maps, graphs, diagrams, pictures, fact files, and/or data tables. Throughout the ESS book, students will be exposed to case studies and practice questions. In addition, there are also numerous sample questions for the students to access in the exam style questions.



How does Kognity help with IB Assessment Preparation?

Paper 2

Students have access to a whole guide on Paper 2 in section 10.2.5. There are also numerous sample questions for the students to access in the exam style questions. Paper 2 consists of Paper 2A which consists of short answer and data-based questions. Paper 2B has structured essay questions. Paper 2A questions can vary in mark allocation while each essay a student might answer in Paper 2B will always be worth 20 marks.

Question preview

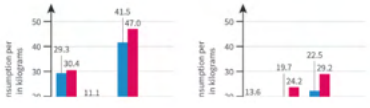
Paper: Paper 2A Marks: 8

Question

Paper 2A: Topics 1 and 5

Answer all questions.

(a) Refer to Figure 1.



Category	Consumption per kilogram
1	29.3
2	30.4
3	11.1
4	41.5

Category	Consumption per kilogram
1	19.7
2	24.2
3	13.6
4	22.5

Add Question < Previous question Next question >

Question preview

Paper: Paper 2A Marks: 8

Mark scheme/Guidance

Question	Answer	Marks
(a) (i)	<p>The command term "outline" means students must give a brief account or summary.</p> <p>Award 2 marks max for the correct answer.</p> <p>An increase in meat consumption/Demand in all BRICS countries is expected from 2010-2012 to 2022.</p>	2

All Kognity practice questions are in the format of IB questions and have a full mark scheme provided so that the student can double check their work.