

# Assessment Prep with Kognity

## IBDP Biology

### 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 Biology?

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 DP Biology through completing a “worked example” question and then revealing the solution to receive immediate feedback on their response. In addition, at the end of each section, students can complete section questions that are auto-graded, allowing them again to receive feedback right away on their progress.

#### Worked example 1

How many millimetres are found in 76 000  $\mu\text{m}$ ?

Show or hide solution

There are 1000 micrometres ( $\mu\text{m}$ ) in one millimetre (mm).

To convert from micrometres ( $\mu\text{m}$ ) to millimetres (mm), divide your value by 1000.

$$\frac{76\,000\ \mu\text{m}}{1000} = 76\ \text{mm}$$



#### 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 colour coded visual representation of student success from a variety of sources including textbook exercise questions, quiz questions, strength tests and question assignments. 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 Biology assessment components. Click on each picture to explore more in Kognity Biology!



How does Kognity  
help with formative  
assessments?



How does Kognity help  
with IB Assessment  
Preparation?

# 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, found at the end of every subtopic section, before a test or exam to help students identify areas of weakness.

**Question 1**

Which of the following is **true** about pluripotent stem cells?

- 1 They can give rise to an entire organism.
- 2 They can develop into any type of tissue in a body except placenta cells.
- 3 Their differentiation pattern is similar to that of the unipotent stem cells.
- 4 They are collected from any part of the blastocyst.

Report feedback

< Previous

Next >

B4. Form and function: Ecosystems / B4.1 Adaptation to environment

## Checklist

1

**What you should know**

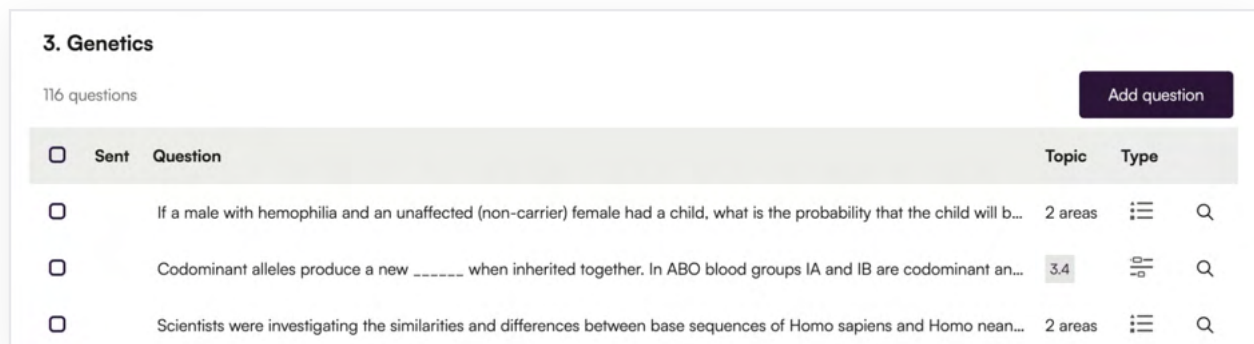
After studying this subtopic you should be able to:

- Define habitat as a place in which a community, species, population or organism lives.
- Define adaptation and discuss various ways that organisms have adapted to the abiotic factors of their habitat particularly the sand dunes and mangrove swamp.
- Explain how abiotic variables affect a species distribution and contribute to its range of tolerance.
- Use transect data to correlate the distribution of an organism using sensors and data loggers.
- State the conditions required for coral reef formation.
- Describe how abiotic factors act as the determinants of terrestrial biome distribution.
- Recognise biomes as groups of ecosystems with similar communities due to similar abiotic conditions and convergent evolution.
- State the adaptations to life in hot deserts and tropical rainforest.

# How does Kognity help with formative assessments?

## Revision Quizzes

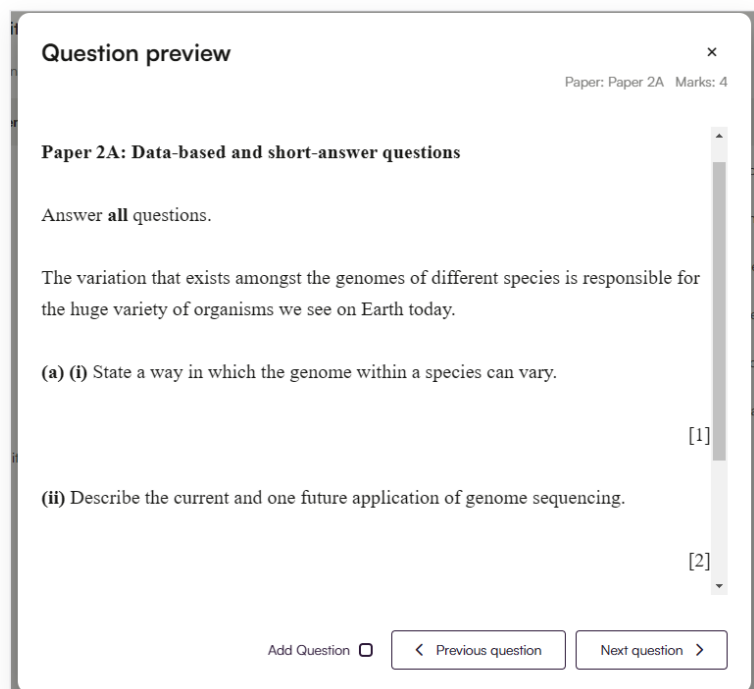
Kognity's question assignments can be used as revision quizzes for review at the end of a unit. Teachers can choose from a wide range of IB style questions on specific techniques, concepts and skills. All question assignments are auto-graded, so students and teachers can immediately receive the results. Teachers can then revise any common mistakes or misunderstandings before starting to teach new content.



<input type="checkbox"/>	Sent	Question	Topic	Type
<input type="checkbox"/>		If a male with hemophilia and an unaffected (non-carrier) female had a child, what is the probability that the child will b...	2 areas	☰ 🔍
<input type="checkbox"/>		Codominant alleles produce a new _____ when inherited together. In ABO blood groups IA and IB are codominant an...	3.4	☰ 🔍
<input type="checkbox"/>		Scientists were investigating the similarities and differences between base sequences of Homo sapiens and Homo nean...	2 areas	☰ 🔍

## Exam Practice Tasks

Kognity provides exam-style questions, markschemes and model answers that teachers can use in a variety of different ways with their students. For example, teachers can assign exam-style questions for students to do independently, in small, cooperative learning groupings or as a whole class. Answers and mark schemes can be reviewed with students.



**Question preview** ×

Paper: Paper 2A Marks: 4

**Paper 2A: Data-based and short-answer questions**

Answer **all** questions.

The variation that exists amongst the genomes of different species is responsible for the huge variety of organisms we see on Earth today.

**(a) (i)** State a way in which the genome within a species can vary. [1]

**(ii)** Describe the current and one future application of genome sequencing. [2]

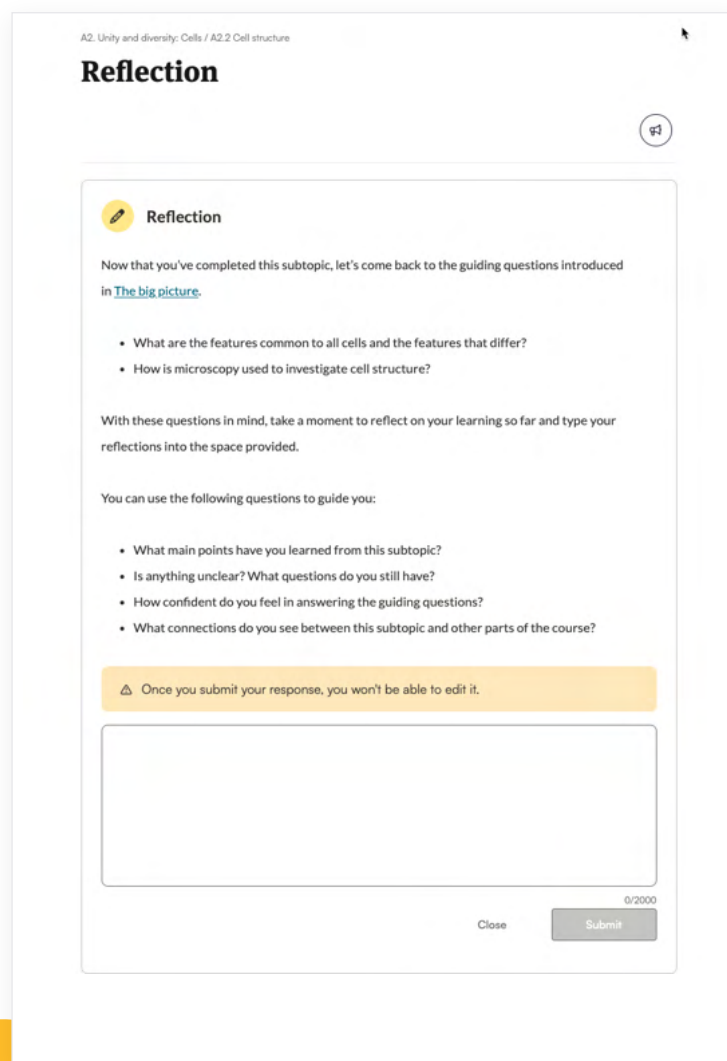
Add Question  < Previous question Next question >

# 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.



A2. Unity and diversity: Cells / A2.2 Cell structure

### Reflection

Reflection

Now that you've completed this subtopic, let's come back to the guiding questions introduced in [The big picture](#).

- What are the features common to all cells and the features that differ?
- How is microscopy used to investigate cell structure?

With these questions in mind, take a moment to reflect on your learning so far and type your reflections into the space provided.

You can use the following questions to guide you:

- What main points have you learned from this subtopic?
- Is anything unclear? What questions do you still have?
- How confident do you feel in answering the guiding questions?
- What connections do you see between this subtopic and other parts of the course?

⚠ Once you submit your response, you won't be able to edit it.

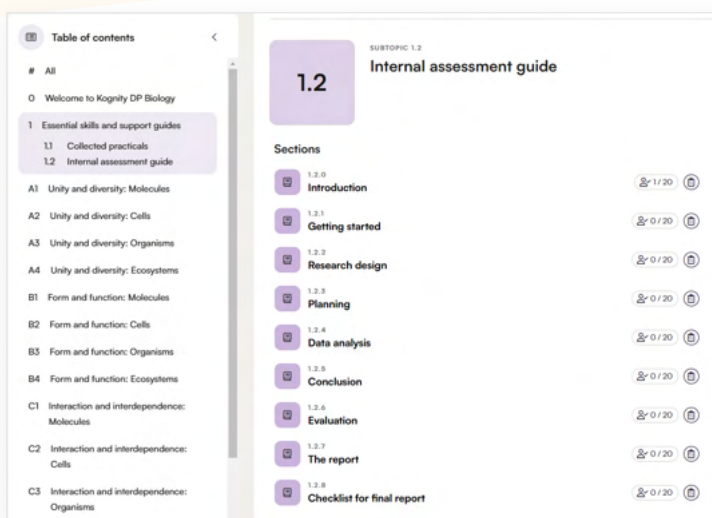
0/2000

Close Submit

# How does Kognity help with IB Assessment Preparation?

## Internal Assessment (IA)

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

Kognity's exam-style questions are all based on Papers 1B, 2A and B and contain questions and mark schemes that are written by subject matter experts and examiners just for Kognity! Using the mark schemes can provide students tips for success and a student can also add a timer when using an exam-style assignment to model real exam conditions!

A1. Unity and diversity: Molecules						
9 questions <span style="float: right;">Add exam-style question</span>						
<input type="checkbox"/>	Sent	Question	Level	Paper	Marks	
<input type="checkbox"/>		Paper 1B: Data-based questions Answer all questions. Water is a life supporting medium that possesses a number of physical and chemical properties. In a classroom	SL HL	Paper 1B	7	Q
<input type="checkbox"/>		Paper 2A: Data-based and short-answer questions Answer all questions. All living organisms contain genetic information in some or all of their cells. The diagram shc	SL HL	Paper 2A	4	Q
<input type="checkbox"/>		Paper 2A: Data-based and short-answer questions Answer all questions. The Gerridae, often referred to as pond striders, pictured, are a family of insects which live o	SL HL	Paper 2A	4	Q
<input type="checkbox"/>		Paper 2A: Data-based and short-answer questions Answer all questions. DNA is the genetic material found in all living organisms. (a) Explain the factors that contribu	HL	Paper 2A	7	Q
<input type="checkbox"/>		Paper 2A: Data-based and short-answer questions Answer all questions. DNA is the genetic material found in all living organisms. (a) (i) Identify a component of RNA	SL HL	Paper 2A	4	Q
<input type="checkbox"/>		Paper 2A: Data-based and short-answer questions Answer all questions. Water is referred to as the medium for life. (a) (i) Distinguish between adhesion and cohesion	HL	Paper 2A	4	Q
<input type="checkbox"/>		Paper 2B: Extended response questions Answer all questions. DNA is the genetic material found in all living organisms. (a) Compare and contrast DNA and RNA. [4] (	SL HL	Paper 2B	15	Q
<input type="checkbox"/>		Paper 2B: Extended response questions Answer all questions. Water is the medium for life. (a) Outline the effects of water molecule polarity. [4] (b) Explain the origins	SL HL	Paper 2B	15	Q
<input type="checkbox"/>		Paper 2A: Data-based and short-answer questions Answer all questions. (a) Define anabolism and give an example of an anabolic reaction in living organisms. [2] We	SL HL	Paper 2A	7	Q



# How does Kognity help with IB Assessment Preparation?

## Collected Practicals

The new DP biology syllabus guide does not have prescribed practicals but a greater focus on specific tools and techniques (i.e. prescribed skills). The practicals are therefore not to be seen as prescribed, but as a suggestion of practicals that will cover the prescribed tools and skills. Each of the practicals includes a 'Practical skills' box listing the particular experimental technique, technology and mathematical skills you require. Additionally, there are open-ended investigations that encourage students to develop their own experiments, promoting their inquiry skills to prepare for the IA.

### Study skills

As you work through the practicals in this subtopic you will develop your skills in research design, data analysis, concluding and evaluating. You will need all these skills in the internal assessment component of the IBDP Science assessment.

