

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 Biology 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 Biology assessment components. Click on each picture to explore more in Kognity Biology!



How does Kognity
help with formative
assessments?

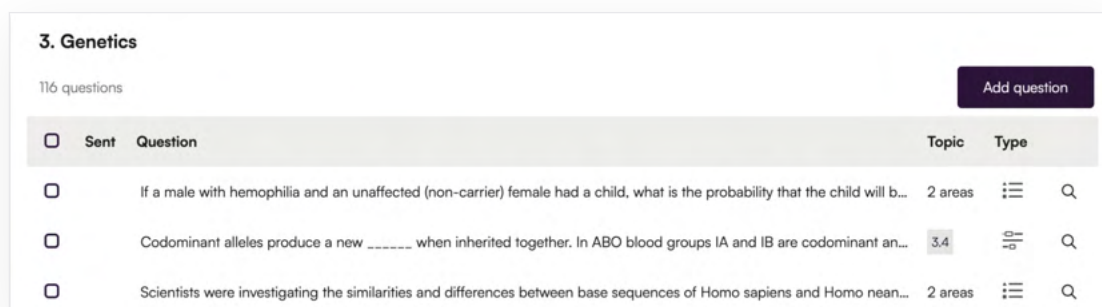


How does Kognity help
with IB Assessment
Preparation?

How does Kognity help with formative assessments?

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.

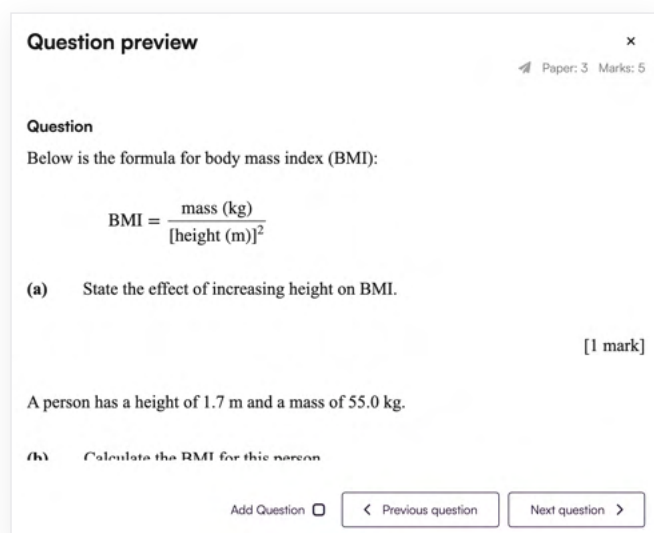


3. Genetics
116 questions Add question

<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	☰ Q
<input type="checkbox"/>		Codominant alleles produce a new _____ when inherited together. In ABO blood groups IA and IB are codominant an...	3.4	☰ Q
<input type="checkbox"/>		Scientists were investigating the similarities and differences between base sequences of Homo sapiens and Homo nean...	2 areas	☰ Q

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.



Question preview x
Paper: 3 Marks: 5

Question
Below is the formula for body mass index (BMI):

$$\text{BMI} = \frac{\text{mass (kg)}}{[\text{height (m)}]^2}$$

(a) State the effect of increasing height on BMI. [1 mark]

A person has a height of 1.7 m and a mass of 55.0 kg.

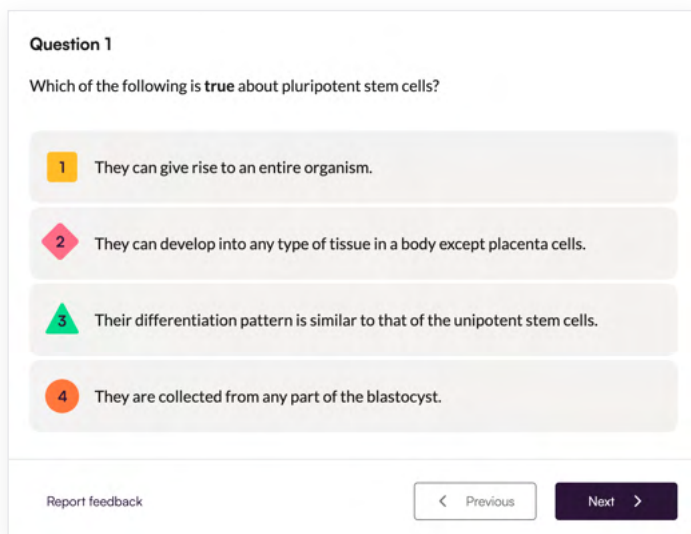
(b) Calculate the BMI for this person.

Add Question < Previous question Next question >

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.



Question 1

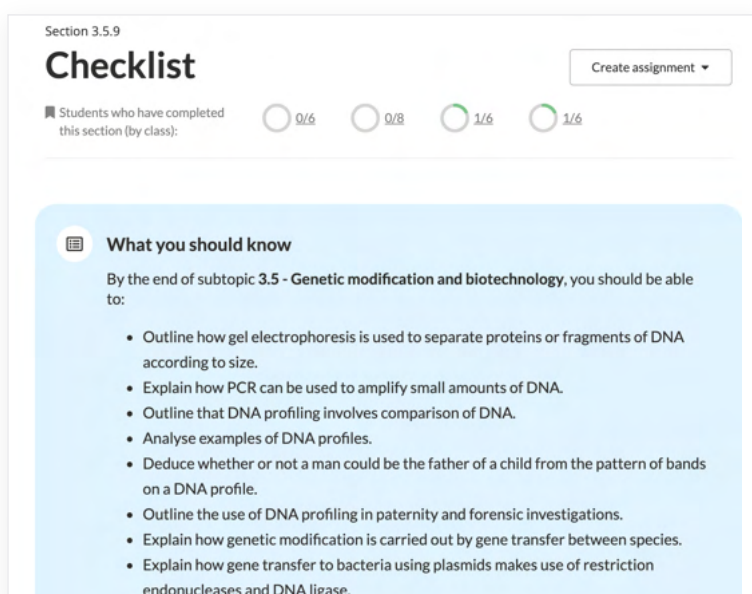
Which of the following is **true** about pluripotent stem cells?

- 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 >

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.



Section 3.5.9

Checklist

Create assignment ▾

Students who have completed this section (by class): 0/6 0/8 1/6 1/6

What you should know

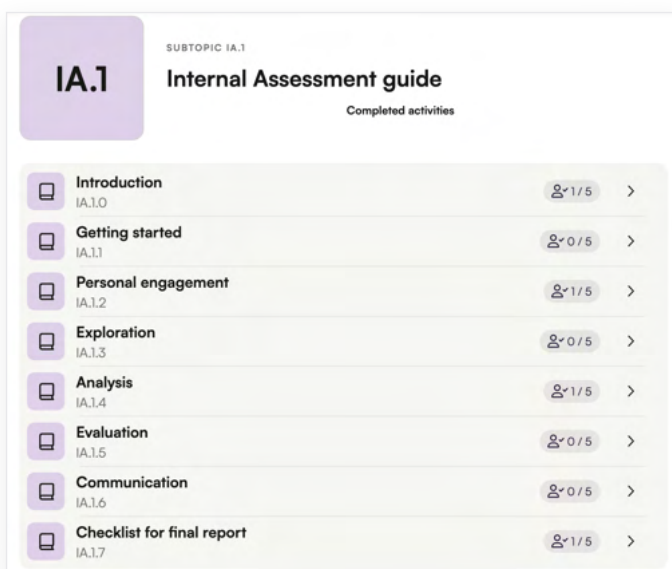
By the end of subtopic 3.5 - **Genetic modification and biotechnology**, you should be able to:

- Outline how gel electrophoresis is used to separate proteins or fragments of DNA according to size.
- Explain how PCR can be used to amplify small amounts of DNA.
- Outline that DNA profiling involves comparison of DNA.
- Analyse examples of DNA profiles.
- Deduce whether or not a man could be the father of a child from the pattern of bands on a DNA profile.
- Outline the use of DNA profiling in paternity and forensic investigations.
- Explain how genetic modification is carried out by gene transfer between species.
- Explain how gene transfer to bacteria using plasmids makes use of restriction endonucleases and DNA ligase.

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 screenshot shows a list of 12 exam-style questions for '2. Molecular biology'. The interface includes a table with columns for 'Add', 'Sent', 'Question', 'Paper', and 'Marks'. A button 'Add exam-style question' is visible in the top right corner.

Add	Sent	Question	Paper	Marks
<input type="checkbox"/>	<input checked="" type="checkbox"/>	(a) Draw the structure of glucose. [4 marks] (b) Glucose is the primary respiratory substrate within the body and can be ...	2	15
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Below is the formula for body mass index (BMI): $\text{BMI} = \frac{\text{mass (kg)}}{[\text{height (m)}]^2}$ (a) State the effect of increasing hei...	3	5
<input type="checkbox"/>	<input checked="" type="checkbox"/>	The image below represents the process of DNA replication: (a) State the name of the enzyme labelled 'X'. [1 mark] (b) ...	3	8
<input type="checkbox"/>	<input checked="" type="checkbox"/>	(a) Draw a labelled diagram showing the structure of DNA. [4 marks] (b) Outline how mitosis results in genetically identi...	2	15
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Paper 2: Data-based question Etomoxir is a drug that shows promise in the treatment of some cancers. This drug inhib...	2	16
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Paper 3, Section A Polyphenol oxidase is an enzyme present in plant tissues that causes fruit browning. When the fruit ...	3	6
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Paper 3, Section A A student wishes to compare the pigments present in two variants of leaves of wild strawberry, one ...	3	16

How does Kognity help with IB Assessment Preparation?

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.

Section P.1.1

Using microscopes to investigate stomata

Create assignment ▾

Students who have completed this section (by class): 0/6 0/8 0/6 0/6

Part of the wonder of biology is the complexity of some of the smallest structures in different organisms. The sperm cell is often the smallest cell in most organisms but the humble fruit fly (*Drosophila bifurca*) has a remarkable sperm cell that is supercoiled (very much like DNA itself) and, when uncoiled, is actually 15–20 times longer than the fly's body (**Figure 1**)!

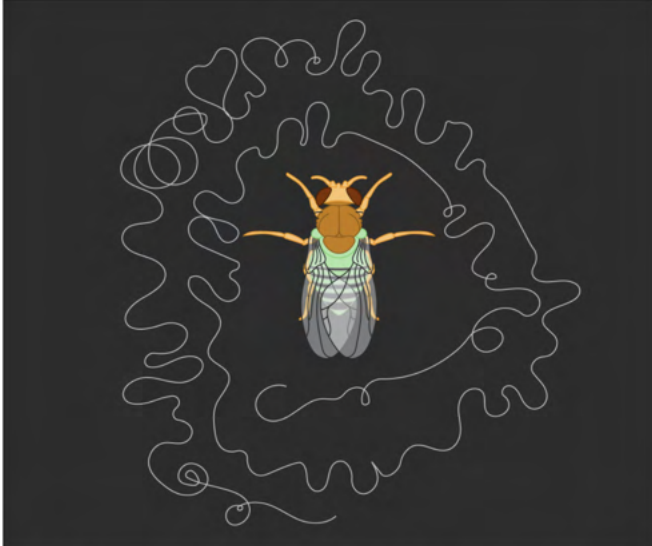


Figure 1. Comparison of the size of a fruit fly and its unravelled sperm cell.

