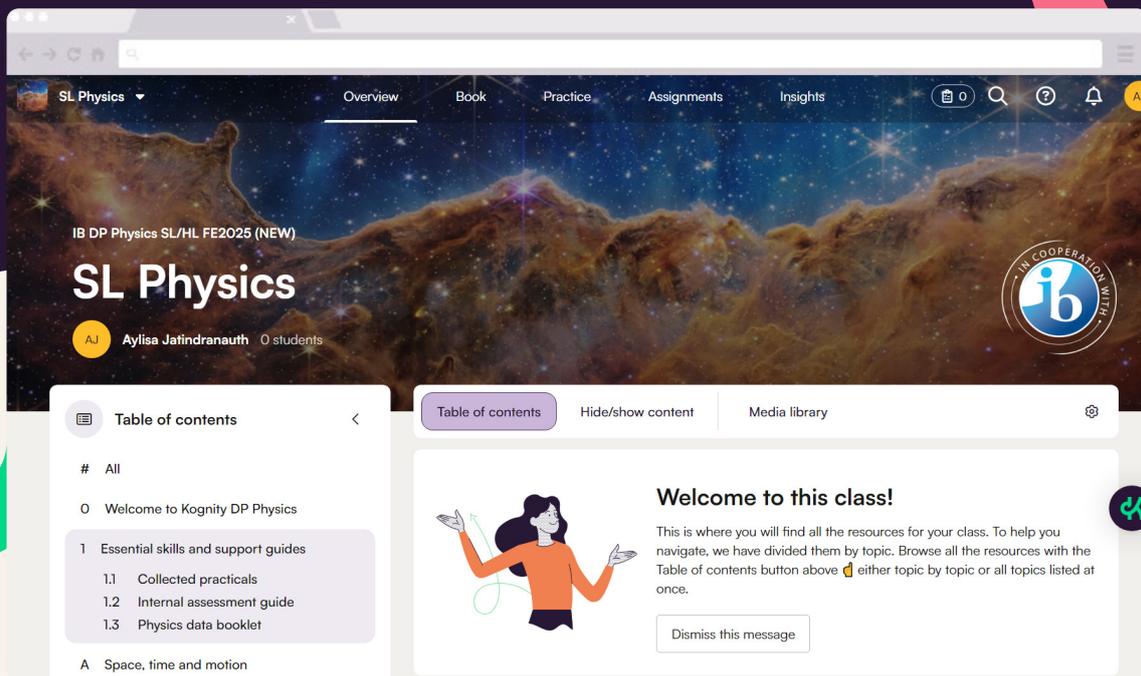


# IBDP Physics

Kognity IBDP Physics SL / HL subject supports the full DP syllabus for the first examination in 2025. It is a comprehensive, interactive resource that supports students' understanding Physics theories and laws while developing skills in inquiry, analysis and evaluation.



## Key Features

### Essential skills and support guides:

The Collected Practicals section offers 10 practicals and focuses on guiding questions, targeting prior learning, required study and practical skills needed to be successful in the Internal Assessment. The instructions guide students through research design, data collection and analysis, conclusion and evaluation. The practicals present different alternatives, such as hands-on experiments and the use of a simulator.

## Investigating the relationship between velocity and the horizontal distance travelled by a projectile

### ? Guiding question(s)

- How can we predict exactly where a projectile will hit the ground?

### ☰ Prior learning

Before attempting this practical, you should be familiar with the following concepts:

#### A.1 Kinematics

- The equations of motion for solving problems with uniformly accelerated motion ([section A.1.3](#)).
- The behaviour of projectiles in the absence of fluid resistance ([section A.1.4a](#)).
- The application of the equations of motion resolved into vertical and horizontal components ([section A.1.4a](#)).

In Kognity Physics, you'll discover TOK boxes that aid students in linking Theory of Knowledge with Physics. These boxes offer engaging discussion topics and examples of knowledge questions. Furthermore, Nature of Science boxes clarify the application of TOK to the Natural Sciences. The content also integrates Creativity, Activity, Service, making connections to students' daily experiences.

### 🔗 Nature of Science

[Show or hide attributes](#)

Aspect: Models

In one of his lectures, world famous physicist Richard Feynman pointed out the abstract nature of the principle of conservation of energy, and he explained this fundamental law using a simple model. He asked his students to imagine a boy playing with 28 indivisible and identical blocks in his room. Even though the boy might be hiding some blocks under a rug or accidentally throwing some out of the window, the overall number of blocks will always be 28.

You can read the full lecture on [Caltech's Division of Physics, Mathematics and Astronomy website](#).

### 🔗 Theory of Knowledge

#### Interpretation

The term *power* is often related to authority and influence. This is very different to the meaning the word *power* has in physics.

Why do scientists need to have explicitly defined terms? How do scientists use language differently from other disciplines?

## Creativity, activity, service



### Creativity, activity, service

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Strand: Activity

Learning outcome: Demonstrate how to initiate and plan a CAS experience

Wasted energy is unwanted and unusable output energy that is transferred to the surroundings and cannot be recovered to do useful work. Therefore, the lower the amount of energy wasted, the better.

You could set up a CAS project to raise awareness of energy wasted as a result of poor behaviour by consumers, and to inform the school community of energy-saving behaviours that could be adopted in everyday life.

Activities could include:

- creating a monthly leaflet to be sent via email to all students and teachers
- organising talks and inviting external speakers
- creating visuals to be displayed around the school.

In addition to the fully syllabus-aligned book, Kognity Physics includes a detailed support guide for the Internal Assessment as well as a fully-equipped practice centre.

## 1.2

SUBTOPIC 1.2

### Internal assessment guide

Completed activities  
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#### Sections

1.2.0	<b>Introduction</b>	
1.2.1	<b>Getting started</b>	
1.2.2	<b>Research design</b>	
1.2.3	<b>Planning</b>	
1.2.4	<b>Data analysis</b>	
1.2.5	<b>Conclusion</b>	
1.2.6	<b>Evaluation</b>	
1.2.7	<b>The report</b>	
1.2.8	<b>Checklist for final report</b>	



## Interactive simulations, animations, GGB applets and active learning worksheets

Diagrams, illustrations, 3D models, photos, and videos offer a visual grasp of essential syllabus concepts. Kognity Physics features interactive applets that make learning enjoyable and engaging, alongside downloadable worksheets with step-by-step solutions and section questions accompanied by accepted answers and explanations.

