Summary

Topic 10 - Friction and Drag

Subject	Year	Start date	Duration
Sports, exercise and health science	IB1	Week 1, November	4 weeks 8 hours

Course Part

Topic 10 - Friction and Drag

Description

Students will explore and understand the effects that friction and drag has on performance. They will study ways in which fiction can be increased and reduced to improve performance and how different types of shapes and clothing has an impact.

Inquiry & Purpose

Inquiry / Higher Order Questions

Type	Inquiry Questions
Content-based	How do different types of clothing and shapes affect friction and drag during physical activity?

Curriculum

Aims

Appreciate scientific study and creativity within a global context through stimulating and challenging opportunities

Acquire a body of knowledge, methods and techniques that characterize science and technology

Apply and use a body of knowledge, methods and techniques that characterize science and technology

Develop an ability to analyse, evaluate and synthesize scientific information

Develop experimental and investigative scientific skills including the use of current technologies

Objectives

Demonstrate knowledge and understanding of

facts, concepts and terminology

methodologies and techniques

communicating scientific information

Apply

facts, concepts and terminology

methodologies and techniques

methods of communicating scientific information

Formulate, analyse and evaluate

hypotheses, research questions and predictions

methodologies and techniques

primary and secondary data

scientific explanations

ATL Skills

Approaches to Learning

Thinking

- In this unit, we will

ask students to formulate a reasoned argument to support their opinion or conclusion

give students time to think through their answers before asking them for a response

reward a new personal understanding, solution or approach to an issue

ask open questions

set students a task which required higher-order thinking skills (such as analysis or evaluation)

ask questions that required the use of knowledge from a different subject from the one you are teaching

Communication

- In this unit, we will

ask students to explain their understanding of a text or idea to each other

construct a task around the use of different vocabulary and examples when speaking to different audiences

have students give an oral presentation without reading from their notes

ask students to monitor and check the quality of their writing

assess or give feedback on speaking or writing concisely

ask students to formulate arguments clearly and coherently

encourage all students to contribute to discussions

Self-management

- In this unit, we will

  set deadlines for students to meet

  require students to revise and improve on work previously submitted

  ask students to set their own learning goals

  ask students to break down a larger task into specific steps

  ask students to look for personal relevance in the subject matter

  practise or discuss strategies to increase concentration

  give students feedback on their approach to a task

  model positive skills and behaviours such as being well organized and punctual

  help students to learn from failures or mistakes

  create an atmosphere where students do not think they have to get everything right first time

Research

- In this unit, we will

  require students to practise effective online search skills (for example, use of Booleans and search limiters)

Developing IB Learners

Learner Profile

Inquirers

Knowledgeable

Thinkers

Communicators

Risk-takers (Courageous)

Reflective