

Summary

Topic 3.1 - Nutrition

| Subject | Year | Start date | Duration |
|-------------------------------------|------|-----------------|------------------------|
| Sports, exercise and health science | IB1 | Week 2, January | 2 weeks 4 hours |

Course Part

Topic 3 - Nutrition and Energy Systems

Description

In this topic students will develop an understanding of the relationship between the human body, external environment, nutritional requirements and health. They will understand the importance of maintaining a balanced diet in order to develop, maintain good health and perform to a high level. Students will study the different energy systems within the body and how each system contributes to different activities.

Inquiry & Purpose

Inquiry / Higher Order Questions

| Type | Inquiry Questions |
|--------------|--|
| Skills-based | Why is it important to maintain a healthy balanced diet? |
| Skills-based | How do different athletes gain the energy required for their activities? |

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 a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities

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

Develop and apply 21st-century information and communication skills in the study of science

Become critically aware, as global citizens, of the ethical implications of using science and technology

Develop an appreciation of the possibilities and limitations of science and technology

Develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge

◇ 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

📖 Syllabus Content

Core

Topic 3: Energy systems

3.1 Nutrition

3.1.1 List the macronutrients and micronutrients.

3.1.2 Outline the functions of macronutrients and micronutrients.

3.1.3 State the chemical composition of a glucose molecule.

3.1.4 Identify a diagram representing the basic structure of a glucose molecule.

3.1.5 Explain how glucose molecules can combine to form disaccharides and polysaccharides.

3.1.6 State the composition of a molecule of triacylglycerol.

3.1.7 Distinguish between saturated and unsaturated fatty acids.

3.1.8 State the chemical composition of a protein molecule.

3.1.9 Distinguish between an essential and a non-essential amino acid.

3.1.10 Describe current recommendations for a healthy balanced diet.

3.1.11 State the approximate energy content per 100 g of carbohydrate, lipid and protein.

3.1.12 Discuss how the recommended energy distribution of the dietary macronutrients differs between endurance athletes and non-athletes.

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)

build on a specific prior task

help students to make their thinking more visible (for example, by using a strategy such as a thinking routine)

include a reflection activity

make a link to TOK



Social

- In this unit, we will

have students work in small groups

allocate, or ask students to allocate among themselves, different roles in a classroom discussion or activity

have students peer assess their group performance or process

give a group assessment task

give students feedback on how they worked as a group

have students discuss their understanding of a text or idea among themselves and come up with a shared understanding

provide opportunities for students to make decisions

IB DP Sports Exercise and Health Science (IB1)



Communication

- In this unit, we will
 - ask students to explain their understanding of a text or idea to each other
 - encourage or require students to plan a response before they begin
 - ask students to formulate arguments clearly and coherently
 - encourage all students to contribute to discussions



Research

- In this unit, we will
 - require students to formulate/construct a focused research question (either in class or in a homework assignment)



Developing IB Learners

☆ **Learner Profile**



Inquirers



Knowledgeable



Thinkers



Communicators



Open-minded



Balanced



Reflective