

I love candy! And they keep telling me not to eat it!

Developer: Teachers at Vikingaskolan (Contact through Johan Krantz and Per-Magnus Persson)

Institute: Vikingaskolan

Country: Sweden

Subject: Biology, Chemistry, Domestic Science

Grade level: 7-8

Curriculum content: Characteristics of different foodstuffs, human metabolism, diet and human health.

Kind of activity: Library search, work in the domestic science room, laboratory investigation, group discussion to make a justified socio-scientific decision

Anticipated time: 6 lessons

Objectives/competencies: Students are expected to be able to:

- Seek and select appropriate information related to the study of caries, nutrition (GI, obesity) from books, computers networks and web pages.
- Explain the advantages and disadvantages of different diets, relating the explanation to the chemical compositions of different foodstuffs.
- Explain the role of carbohydrates in human metabolism and relate it to the role of fats and proteins. Explain the difference with respect to human metabolism between polysaccharides on the one hand and mono- and oligosaccharides on the other hand.
- Plan a healthy diet, a healthy meal and prepare such a meal.
- To cooperate with partners in the group in planning a diet, a meal and preparing this meal.
- To design and carry out experimental determinations of the chemical compositions of different foodstuffs.
- Decide, with reasons, what is a healthy diet and what place refined sugar can have in this diet.

Teacher guide

Candy is something many children and youngsters love. At the same time it is responsible for caries, obesity and indirectly for a sizeable portion of the mortality due to cardiovascular diseases. Many students eat too much candy than they should. How to make them stop it and eat more sensibly? At any rate, they should attain a level of knowledge which permits them to lead informed discussions which can underpin their choice of diet and the place candy has in it. Many people eat candy when they are “feeling peckish”. This can mean a low blood glucose level or underhydration. People should be informed about

this, and what that means in physiological terms. It is essential to promote the habit to lead informed discussions and make them decisions, better for their health, it could lead. They should learn about diets which are both healthy and tasty and learn to prepare meals which can qualify as healthy and tasty.

Learning outcomes by lesson

Lesson 1

At the end of this lesson, students are expected to be able to:

- Discuss the scenario and the problem
- Put forward suggestion of where to seek information.

Lesson 2

At the end of this lesson, students are expected to be able to:

- Suggest advantages and disadvantages of different diets.
- Put forward tests on various foodstuffs.

Lesson 3

At the end of this lesson, students are expected to be able to:

- Carry out tests in the school laboratory.
- Obtain results of the tests on different foodstuffs

Lesson 4 and 5 – Work in the domestic science room

At the end of this lesson, students are expected to be able to:

Plan and prepare a healthy meal.

Lesson 6

At the end of this lesson, students are expected to be able to:

- Discuss which diet is appropriate
- Make decision
- Write the report

Teaching strategies

The teacher:

Pose the problem to the students given by the scenario

- Prepare students for the task injecting in the students a feeling of labour responsibility, activity for which we also have to prepare them.
- Introduce the group work through which students determine the source of information needed for their investigation, being critical as regards the texts/internet etc to be used, valuing them from the scientific point of view.

- Facilitate the reading and interpretation of the bibliography consulted, as well as the interchange of ideas among members of the same group and others. Orient and collaborate with getting and preparing the work material for the field visit and for the lab analysis.
- Coordinate the work in the domestic science room.
- Guide the experimental work in the laboratory; and also guide the students making the comparatives tables and charts.
- Direct the plenary debate, encouraging the questions and analysis of findings, which each groups got, with the aim to get a general conclusion.
- Suggest the criteria to taking account to elaborate the final report to be given to Sugar Sweetmouth.

Scope of the objectives

Objective	Achieved by means of
1. Seek and collect information relate to the study of foodstuffs, from the books, computers networks and web pages.	<ul style="list-style-type: none"> • Seek, presentation and analysis of information, from the collected material.
2. Explain the advantages and disadvantages of different diets.	<ul style="list-style-type: none"> • Construction of comparatives tables and charts, with the information gotten from different sources.
3. Explain how the presence of different nutrients (protein, carbohydrates, fats) in foodstuffs can be determined.	<ul style="list-style-type: none"> • Seek in sources of information and election of the techniques to be used.
4. Explain how the presence of different nutrients (protein, carbohydrates, fats) in foodstuffs can affect their impact on human health.	
5. Explain the importance of different nutrients (protein, carbohydrates, fats) in human metabolism.	
6. To cooperate with partners in the group in undertaking an experimental investigation.	<ul style="list-style-type: none"> • Group work about: investigation, organisation of the work in situ and work in the lab.
7. To design and carry out work in the domestic science room.	<ul style="list-style-type: none"> • Preparation and work in the domestic science room.
8. Decide, with reasons, how much candy Sugar Sweetmouth should eat.	<ul style="list-style-type: none"> • Discussion of the findings and writing the final report for candy Sugar Sweetmouth in which the reasons for the decision made is given.