Chemistry in the kitchen

Introduction

Lorena Payà Vayà
Llicència C
Curs 2007/2008
Introduction

This project has been realized during the 2007-2008 school year thanks to a paid study leave granted by the Catalan Department of Education.

These teaching materials have been designed in order to introduce the chemistry to students of first year in the secondary school using English as teaching language. The methodology of the activities is bases in CLIL (Content and Language Integrated Learning). The activities have been organised in 4 units and they are designed to be done in 35 hours, this means, in 3 hours a week during one trimester.

It has been chosen a quotidian context in order to motivate the students to ask themselves different questions related on chemistry and to be more implicated in the process of learning. This quotidian context is the kitchen. In the kitchen, we found substances and different processes and transformations are taking place as in the chemistry lab.

The structure of the teaching materials is:

<table>
<thead>
<tr>
<th>UNITS</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1. Can we do chemistry in the kitchen?</td>
<td>5</td>
</tr>
<tr>
<td>Unit 2. How do we measure in the kitchen?</td>
<td>8</td>
</tr>
<tr>
<td>Unit 3. Let’s go to investigate about solids, liquids and gases.</td>
<td>13</td>
</tr>
<tr>
<td>Unit 4. Let’s go to mix up the ingredients!</td>
<td>9</td>
</tr>
</tbody>
</table>

First unit is an introduction to the chemistry and a justification of the context used to teach the chemistry, the kitchen. Here it’s introduced lab equipment vocabulary that it’s going to be needed for the next units.

In the second unit, the measurements of substances is introduced and also a very important concept, the density, that can be mistaken with weight.

Third unit is about states of matter and changes of states. In this unit is introduced the particle theory as a model to explain the behaviour of the matter.

Fourth unit is about mixtures, how we can classify mixtures, how we can separate the components of a mixture...
As these materials are aimed to first year, they don’t include a unit of chemical changes as it happens in the curriculum of science for first year. Nevertheless it would be very interesting introducing some chemical changes in the kitchen if there is time enough.

The project includes:

- **Student’s book.** It contains the sheets to be handed out to the students. Most of the activities can be directly done in these sheets.
- **Teacher’s guidelines.** It contains the aim of the sequence of activities, teaching objectives (content, communication and cognition), outcomes of the lesson, developing of activities, timing, resources and bibliography of each lesson. It also includes flashcards and other sheets to be handed out to the students in some activities.
- **PowerPoint presentations.** Lessons of first unit have a presentation that can be used for the lesson.