

# CLIL MultiKey lesson plan

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## LESSON PLAN

Subject: IT (Information Technology) and ICT (Information and Communication Technologies).

Topic: Using Microsoft Excel to plot a chart.

Age of students: 16/17 Students of 1st grade, CLIL beginner stage

Language level: B1

### **Time**

45-60 minutes

### **Theme (methodical unit)**

Using Microsoft Excel to plot a chart.

### **Content aims**

After completing the lesson, the student will be able to:

Define the chart type and category of XY axis.

List different types of graphs used to display data.

Differentiate drawing a graph on the computer from drawing on papers.

Plot a chart from Excel data table.

Use the chart wizard to create the chart.

Format the chart elements (chart axis, change the units, legends, fonts).

Select proper chart for different data.

### **Language aims**

After completing the lesson, the student will be able to:

Use subject vocabulary.

Explain how to plot a chart using Microsoft Excel.

### **Materials:**

### **Materials needed**

Computer stations with installed Microsoft Excel 2007 or higher.

Printed or made in Microsoft Excel worksheet file with examples data tables.

### **Optional materials**

Network to access the Internet

## Organization of lesson:

### Introduction

Teacher asks students questions:

- How can I represent data? (table, graph).
- Have you ever made the charts on the computer?
- On what subjects can I meet with presentation of the results on a graph? (physics, mathematics)?
- What is different about drawing a graph on the computer from drawing on papers?
- On what the chart types can I present data?

### Procedure

Lead-in:

- Teacher tells the students what a chart/graph is.
- Teacher informs about kinds of graphs used to display data.
- Teacher shows how to plot a chart from Excel data table.
- Teacher explains terms: a data series (a group of cells in a single row or column as the base for plotting the chart)

Practice/task:

- Students sit at dedicated computer station. Open Microsoft Excel file (students.xlsx) created in the previous lesson.
- Teacher supplies printed materials with tasks for students (student handout).
- Teacher shows students how to use the chart wizard to create the chart step by step. Students view the various types of charts selecting the right to represent the data.
- Students themselves create a chart from series data table specified in Microsoft Excel file (class.xlsx).
- Teacher shows how to format the chart elements (chart axis, change the units, legends, fonts).
- Automatic updating chart - students come to an important conclusion that a changed value of the data series affects the chart.

### Summary

After completing the exercise and save file.

Remind:

- how to create a chart in Microsoft Excel,
- how to change the format of chart elements,
- how to customize a chart type to the data,

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## Student handout<sup>1</sup>

Create table 1 and table 2 in Microsoft Excel if it were not created in the previous lesson. Microsoft Excel spreadsheet save as name given below each table.

### FIRST TASK

Represent the number of students at the classes in a pie chart. The percentage of students from the same village represent in a bar chart. Suggest, as you think, the best way to presenting data series for students from the same village and students from the outside village on the same chart.

class name	number of students	students from the same village	%	students from the outside village	%
IA	31	28	90,3%	3	9,7%
IB	30	20	66,7%	10	33,3%
IIA	28	16	57,1%	12	42,9%
IIB	29	12	41,4%	17	58,6%
IIC	26	20	76,9%	6	23,1%
IID	30	30	100,0%	0	0,0%
IIIA	26	24	92,3%	2	7,7%
IIIB	27	19	70,4%	8	29,6%
IVA	24	23	95,8%	1	4,2%
IVB	25	17	68,0%	8	32,0%
<b>Total</b>	<b>276</b>	<b>209</b>		<b>67</b>	

Table 1: students.xlsx



### SECOND TASK

represent total number and arithmetic average in a line chart.

	2011	2012	2013	2014	2015	Total	arithmetic average
class I	86	90	80	110	96	462	92,4
class II	115	104	96	99	91	505	101,0
class III	91	94	106	91	91	473	94,6
class IV	86	82	97	88	79	432	86,4
<b>Total</b>	<b>378</b>	<b>370</b>	<b>379</b>	<b>388</b>	<b>357</b>	<b>1872</b>	

Table 2: class.xlsx

<sup>1</sup>Helpful resources are available on the website at <http://chemed.chem.purdue.edu/genchem/lab/datareports/excel/intro.html>