

CLIL-ing me softly

Riflessioni ed esperienze di didattica CLIL

Subject : Math

Topic: Describing a Function



STUDENT GROUP PROFILE

For the class this is one of the first experience in CLIL, so they are not so used to CLIL methodology and to learners centered lessons

STUDENTS' PRIOR KNOWLEDGE, SKILLS, COMPETENCIES

MATH

The whole class has a sufficient level in Maths: most of the students know how to solve simple math problems applying correct algebra. They find some difficulties when they are asked to explain the process they applied in problem-solving exercises or to reflect on the results gained.

LANGUAGE

Most of the students have a B1 level of English.

They know the basic terminology in Maths, concerning how to read numbers, symbols and mathematical expressions.



LEARNING OUTCOMES EXPECTED FOR THIS LESSON

Most of students should **know**

- the meaning of the main terms used to describe a function
- the characteristic of functions, inferred by their graphics

Most of students should **be able to**

- identify the main properties of a function, analyzing its graph
- classifying/ grouping different functions by recognizing differences and similarities among their characteristics
- describe the graph of a function, already drawn, using both natural and symbolic specific language

ASSESSMENT

Most of student **can**

- explain the meaning of math-specific terminology
- give example of a graph, respecting given characteristics
- write a description of a function



METHODOLOGY

A Clil lesson is very different from a frontal lesson, in which teachers explain their topics, and students take notes and speak only when they are asked or during an oral test.

In this CLIL lesson students must work in pair, in little groups and they are asked to be the main protagonists of the lesson: in most of the activities, I get students to interact and work together as a **team** with a specific goal.

Collaborative activities let students get used to both new contents, with content specific glossary, and to increasing their English, in communication.



LANGUAGE

The language of mathematics can:

- **define** using the *simple present*, the *passive voice*, *comparatives* and *linking words*
- **give instruction** using *infinitives* and *imperatives* and *linking words* to number steps
- **explain** symbols using the *simple present*
- **predict** and **hypothesis** using the *future*, the *conditionals* and *modal verbs*



ACTIVITY 1

Aim: Introducing specific-terminology of the main characteristic of a function

Interaction: *Individual work*

Activity procedure

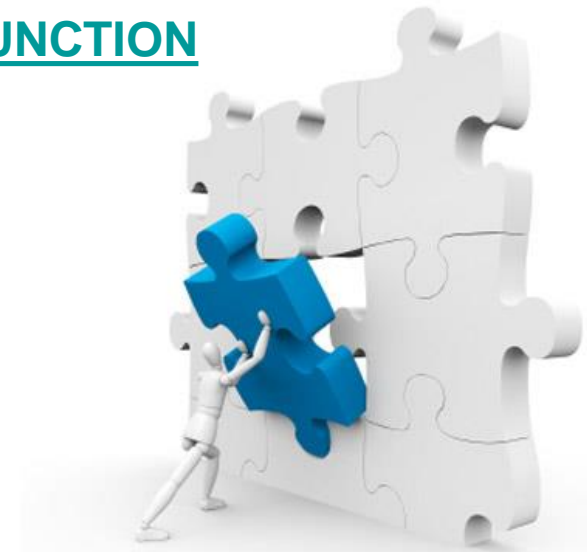
Each student has a worksheet with a table: in the first column there are 8 mathematical objects, in the second their definitions in mixed order.

Students have to *match* each word of the first column, with the correct definition of the second column.

Worksheet 1: TOWARD THE DESCRIPTION OF A FUNCTION

Timing: 5 min

Assessment : Teacher walks around the class answering possible questions about procedure



ACTIVITY 2

Aim: Checking the answers given in activity 1

Interaction: *Pair work*

Activity procedure

Students check their matches with the partner.

The teacher shows the correct matches on the interactive board.

TOWARD THE DESCRIPTION OF A FUNCTION check

Timing: 5 min

Assessment : peer assessment



ACTIVITY 3

Aim: Checking if students understood the meaning of new terms, including them in descriptions of linear and quadratic functions (already studied)

Interaction: *Individual work*

Activity procedure

The students are asked to complete a text with some missing words, not given.

Worksheet 2: DESCRIBING LINEAR FUNCTION AND PARABOLA

Timing: 10 min

Assessment : Teacher moves around the class answering possible questions



ACTIVITY 4

Aim: Checking the answers given in activity 3

Interaction: *Whole class*

Activity procedure

The teacher shows the correct answers and ask a student to read one sentence.

DESCRIBING LINEAR FUNCTION AND PARABOLA check

Timing: 5 min

Assessment : Teacher asks if everybody agree with the answer given by the mate



ACTIVITY 5 _ part 1

Aim: Showing differences between natural language and scientific language

Interaction: *Group work: 4 groups (4-5students in each group)*

Activity procedure

In both worksheets (A and B), there is a graph of a function, describing how the depth of the water in a leaky pool changes during a period of time.

Students are asked to number, in chronological order, descriptions (labelled a-f) of what is happening.

In worksheet A the natural language is used, in worksheet B the scientific language.

[The leaky pool A](#)

[The leaky pool B](#)

Timing: 7 min

Assessment : Teacher moves around the class answering possible questions



ACTIVITY 5 _ part 2

Aim: Showing differences between natural language and scientific language

Interaction: *Group work: 2 groups A & B*

Activity procedure

Groups A together and groups B together compare their answers

Timing: 3 min

Assessment : Teacher listens to the students giving some hints (if it is necessary) to let the discussion start or continue



ACTIVITY 5 _ part 3

Aim: Showing differences between natural language and scientific language

Interaction: *Whole class*

Activity procedure

Alternatively one student of group A and one student of group B read their first step: together they decide if the meaning of the two sentences is the same. This process is repeated checking steps one by one.

Timing: 10 min

Assessment : Teacher asks step by step if there is something students are not understood



ACTIVITY 6

Aim: Reflect on the language used

Interaction: *Individual work*

Activity procedure

Students are asked to complete a T-chart (natural language - scientific language) with some adjective in order to show the difference between the natural language and the scientific one.

Worksheet 4: NATURAL and SCIENTIFIC LANGUAGE

Timing: 5 min

Assessment : Teacher moves around the class answering possible questions



ACTIVITY 7

Aim: Checking the answers given in activity 6

Interaction: *Whole class*

Activity procedure

The teacher shows the correct answers and ask students to check their own work.

NATURAL and SCIENTIFIC LANGUAGE check

Timing: 5 min

Assessment : Teacher asks if everybody agree with the answer given



ACTIVITY 8

Aim: Check if students acquired new words connected with the topic of the lesson

Interaction: *Whole class*

Activity procedure

A crossword is solved together.

FUNCTION CROSSWORD

Timing: 10 min

ACTIVITY 9

Aim: Give homework

Activity procedure

Teacher gives a graph of a function.

Student must write a description of the function, trying to give a complete description of its characteristics



Thank for your attention

