

# ICME 11 July 2008

## Monterrey — México

DG 4 - Reconceptualizing the mathematics curriculum

### **Key issues in the Portuguese mathematics curriculum (grades 1-9) recently reajusted**

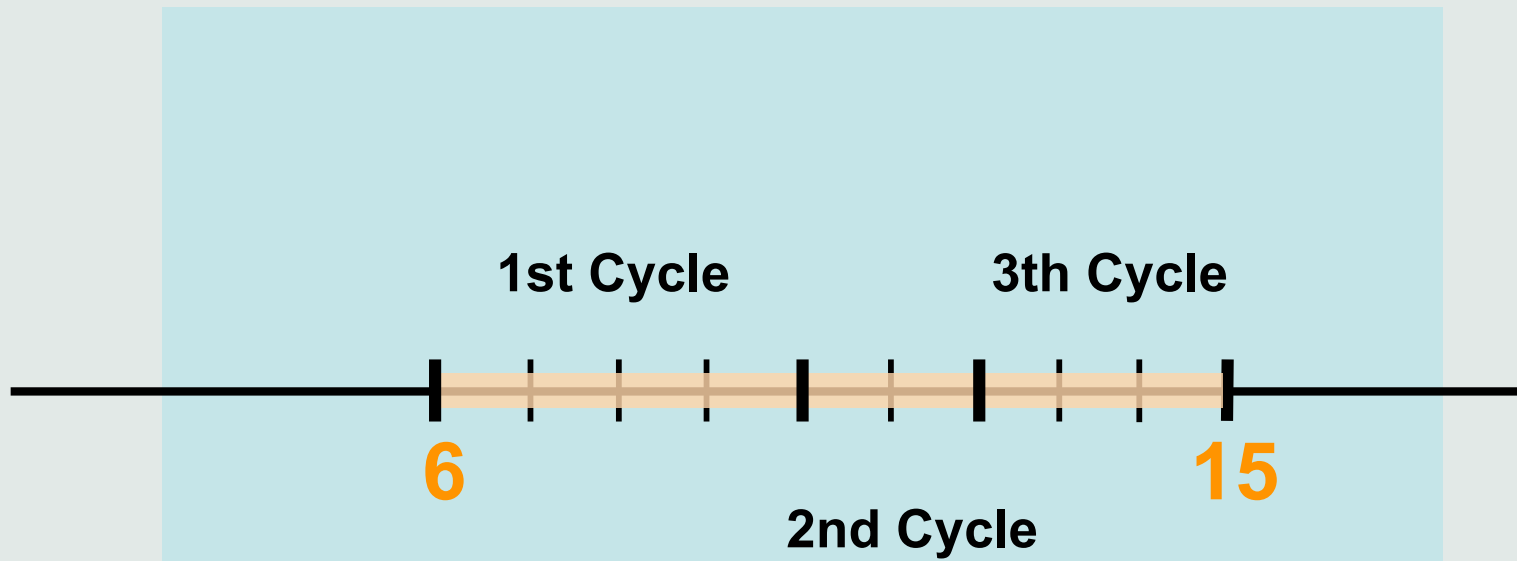
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# ■ Compulsory education in Portugal



# The Portuguese school system

**Articulation**

**Clarification**

**Actualization**

# The curriculum readjustment — underlying main purposes

**Articulation**

**Clarification**

**Actualization**

# Curriculum structure

Global  
programatics  
orientations

**Aims**  
**General objectives** of math teaching

**Math themes**  
**‘Capacidades transversais’**

**Metodological orientations**  
**Curricular planing**  
**Assesement**

Programatics  
Orientations  
by cycle

1th cycle

2nd cycle

3rd cycle

## ■ Aims of mathematics teaching

Promover “uma formação que permita aos alunos **compreender e utilizar** a Matemática (...)

**Understanding and using**  
uma **visão adequada** da Matemática e da actividade matemática, bem como o **reconhecimento do seu contributo** para o desenvolvimento científico e tecnológico e da sua importância cultural e social (...)

**Self confidence and positive attitudes**  
uma **relação positiva** com a disciplina e a **confiança** nas suas capacidades pessoais para trabalhar com ela.”

## ■ Aims of mathematics teaching

- a) To promote and develop in the students the **information, knowledge and experience** in mathematics and their hability to its integration and using in varied contexts
- b) To develop **positive attitudes** towards mathematics a the disposition to **valuing** this science

**Understanding and using**

**Vision and valuing**

**Self confidence and positive attitudes**

# ■ General objectives of mathematics teaching

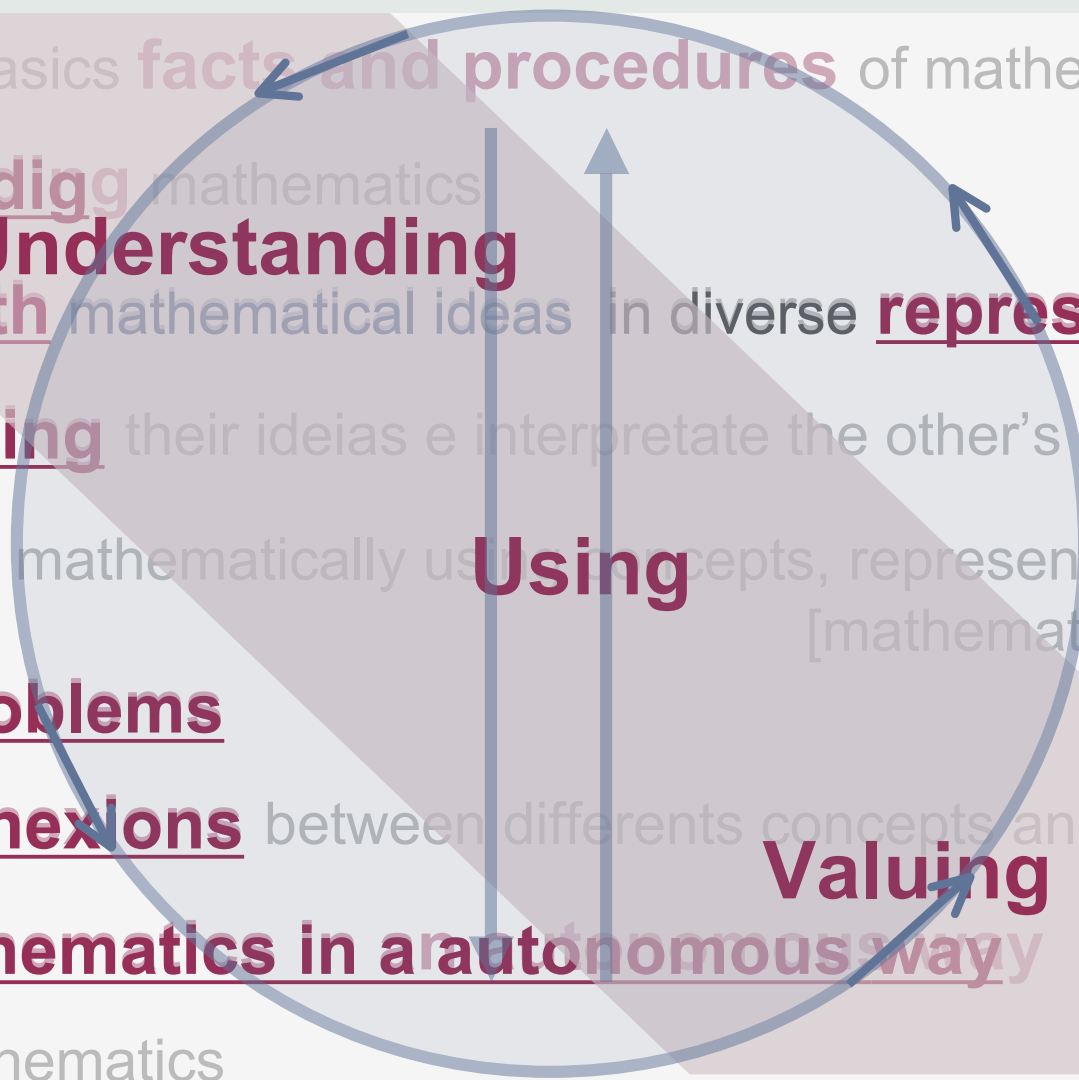
Understanding • Using • valuing

- Knowing basics facts and procedures of mathematics
- Understanding mathematics
- Dealing with mathematical ideas in diverse representations
- Communicating their ideas e interpretate the other's ones
- Reasoning mathematically using concepts, representations, an [mathematical procedures]
- Solving problems
- Making conexions between differents concepts and relations...
- Doing mathematics in an autonomous way
- Valuing mathematics

Understanding

Using

Valuing





# ■ Mathematical themes and **‘capacities’**

**Numbers and Operations**

**Geometry**

**Álgebra**

**Data analysis**

**Problem solving**

**Mathematical reasoning**

**Mathematical communication**

## ■ Teaching main purpose

Numbers and Operations

**Number sense**

Geometry

**Spacial sense and visualization**

Álgebra

**Algebraic thinking**

Data analysis

**Handling data and interperating**

# ■ **Methodological general orientations**

**Diversifying diverse tasks**

to acquire/develop

to practice/consolidate

to apply/mobilize

**Diversifying contexts and materials**  
(mathematical and non-mathematical)

**Diversifying the ways in communicating and  
interacting in the classroom**

# ■ **Methodological general orientations**

**Diversifying diverse tasks**

**to acquire/develop**

**to practice/consolidate**

**to aplicate/mobilize**

**Problem solving, Reasoning and Comunication**

**Conexions**

**Representations**

**Mental computation**