

# Learning with the arts

Mahs (5<sup>th</sup> year)

## Numbers and Operations NO5 - Non-negative rational numbers

**TOPICS of the module**-Non-negative rational numbers

**Age of students** – 10 – 12 years

### **Prior knowledge**

Pupils should be able to:

Fraction as a measure of length and other quantities; fractional numerals;

Representation of fractions in the number line

Equivalent fractions and notion of rational number

Ordination of rational numbers represented by fractions with the same numerator or the same denominator.

### **Objectives**

Pupils will be able to:

- Simplify fractions;
- Obtain irreducible fractions;
- Reduce two fractions to the same denominator
- Sort rational numbers represented by fractions
  - Add, subtract, multiply and divide non-negative rational numbers represented in fraction form;
- Represent rational numbers in the form of mixed numerals
- Add and subtract rational numbers represented by mixed numbers
- Approximations and rounding of rational numbers;
- Solve multi-step problems involving rational numbers represented in the form of fractions, decimals, percentages and mixed numerals.

**Opportunities** - develop creativity, autonomy, self-confidence, interpersonal relationship, group work.

**Descriptors-** Express in symbolic language the rules for calculating the measurements of the areas of parallelograms and triangles in square units, given the measures of length of a base and corresponding height in a given unit, in the case where they are both rational.

**Resources** – paper, colored pens, cardboard boxes, cardboards, nylon wire, camera, computer, digital tool (APP) "Vizia", glue, ...

**Time frame** - Four Lessons, 50 minutes.

**Arts involved** – Drama, Visual Arts, puppets

**Methods of work** – Individual work, peer work and team work.

### **Introducing stimulus (Warm up)**

Learning math in a playful way is a proposal that is made to students in order to motivate them to learn. Recognizing that we are able to invent new ways of learning, making learning simpler and more fun in order to make it more effective contributes to developing in students a taste for learning and a willingness to learn to make knowledge more consistent.

### **Summary of the activity**

The 5<sup>th</sup> graders, in the frame of our Erasmus+project “Learning with the arts”, were familiarized with the notion of fraction, quotient, decimal fraction, numerator, denominator, equivalent fraction, improper fractions, mixed numeral, etc.

## Evaluation summary and comments about how the module went:

Most of the students showed great interest and commitment in the accomplishment of the activities, showing great involvement in learning. The students who applied the least showed that they wanted to be part of the different work teams, with more commitment and involvement. The contents involved were acquired more easily by having been worked over and over again.

## Preparation:



## Presentation to school classes

