STEM – ERASMUS+ KA2 PROJECT

Cyprus – Bulgaria – Greece – Italy – Lithuania – Poland

SCHOOL: GYMNASIO VALTINOU TRIKALON Date: ……

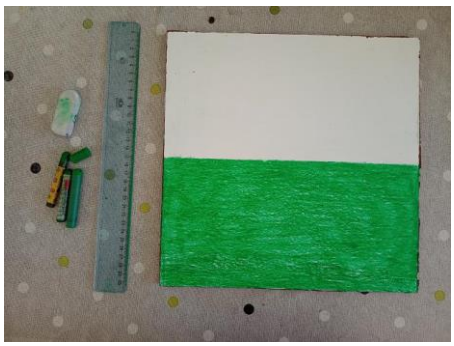
Learning Process

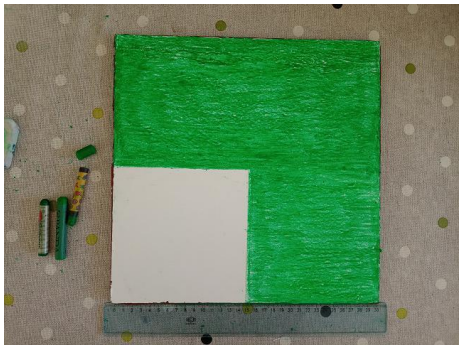
NAME	DESCRIPTION
Object name	The concept of fraction
Curriculum lessons engaged	Mathematics
Prerequisite Knowledge	Natural numbers, knowledge of basic geometric shapes
Learning Goals/Outcomes	Students will be able to - Comprehend the concept of fraction through processes of dividing the "whole" into parts - Comprehend the concept of fraction through the process of searching for a relationship between similar quantities - Compare a fraction with the unit - Calculate the value of a part of the "whole" - Calculate the value of the “whole” given the value of a part of it

Lesson Process

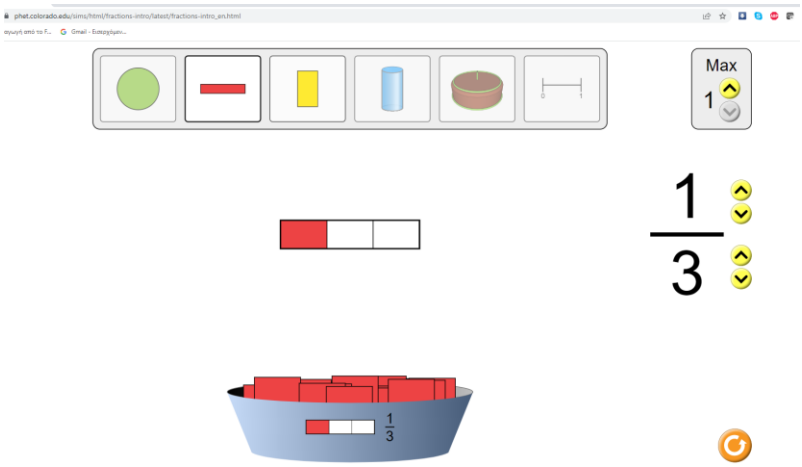
Lesson	Mathematics
Class/Age/Grade	1st grade(Age 12-13years old)
Estimated time to complete	2 x 40’
Method of work	Collaborative teams of two/each student alone/whole class
Procedure	1. Introduction (theory) The concept of fraction has been taught in elementary school.The theory is repeated by viewing a video https://www.youtube.com/watch?v=yT1WuyxTCmo 2. The concept of fraction For the construction of the yard, the students have brought recyclable and reusable materials. Among them are two pieces of plywood with dimensions 30 cmx 30 cm. These two pieces are used to teach the concept of fraction. Initially the students notice that the whole "yard" is divided into two equal parts and find out which part of the yard each of them is.

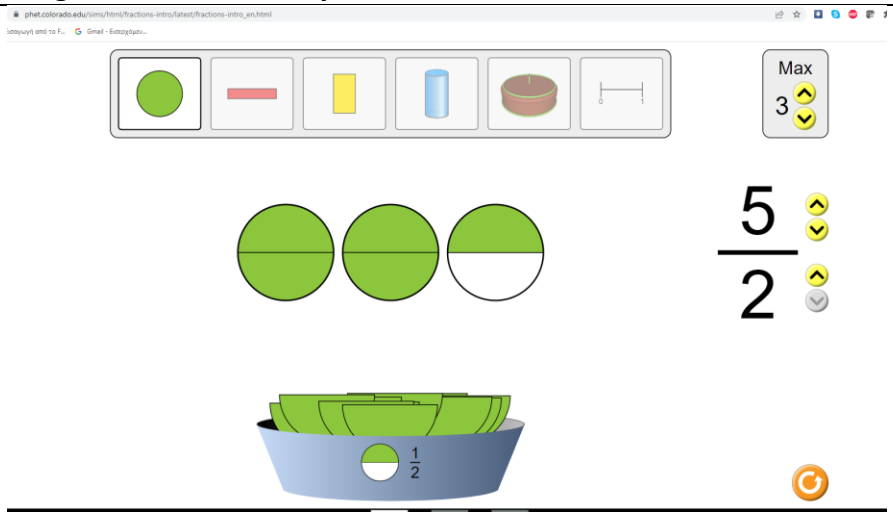
Then part of each section of the yard is painted and students are asked to find out which part of the yard the painted section is.



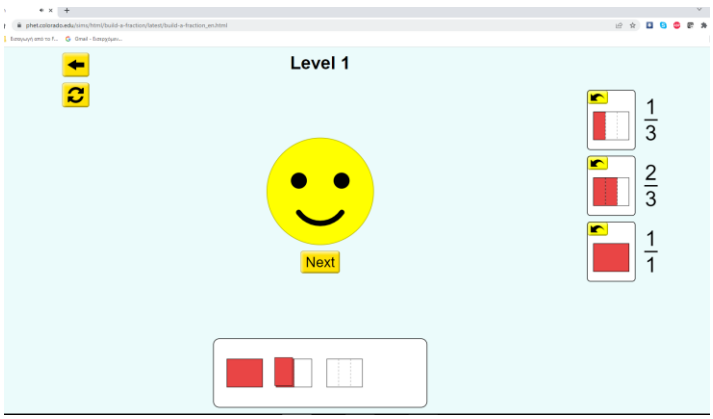


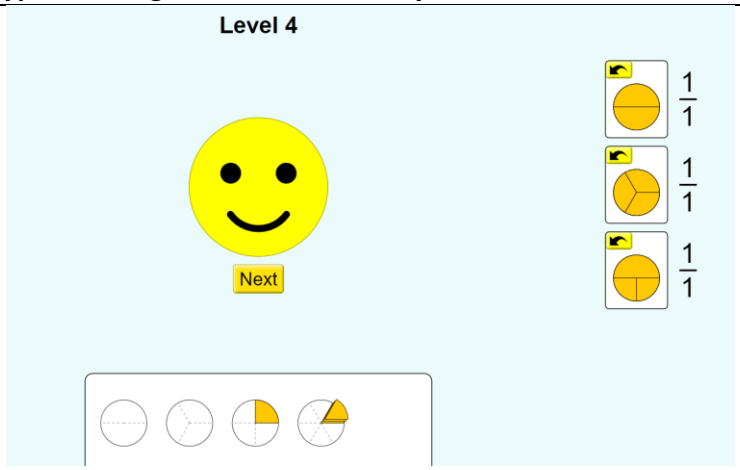
Then the students, divided into groups of two, using the following link https://phet.colorado.edu/sims/html/fractions-intro/latest/fractions-intro_en.html understand the meaning of the fraction through the process of dividing the "whole" into parts.

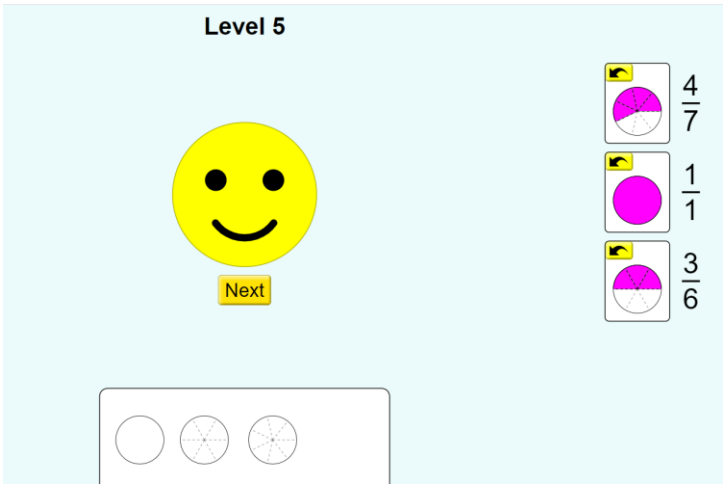


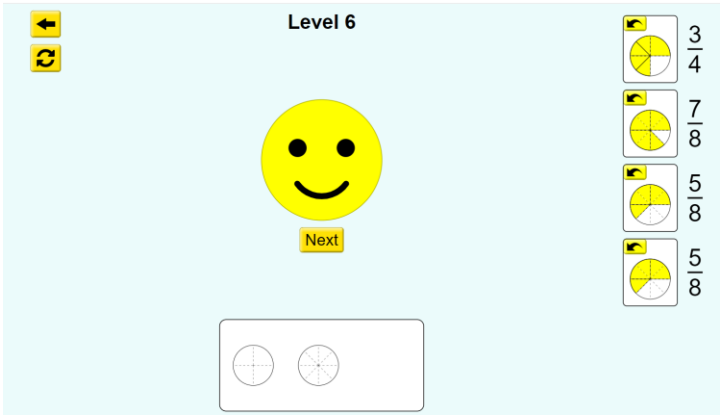


Students “play” with fractions using the link below:
https://phet.colorado.edu/sims/html/build-a-fraction/latest/build-a-fraction_en.html









3. Calculation of the value of a part from the "whole" with the method of reduction to the unit
   To find the value of the part we start from the value of the "whole" which is the unit. There is a class discussion with simple examples (eg try to share three chocolates to eight children). Students are asked in groups of two to solve problems on the worksheet given to them.
4. Calculation of the value of the "whole" from the value of a part of it
   To find the value of "whole" we start from the value of the part and calculate valueof the unit. Students are asked to solve problems of varying difficulty on the worksheet given to them first in groups of two and then each on their own.

	5. Revision, class discussion

Item Construction Process:

Dimensions	**Height (cm)**	**Length (cm)**	**Depth (cm)**
Material(s)	School text book (pages 34-37) Pieces of plywood Paper Worksheets Simulations of Colorado's University https://phet.colorado.edu/en/		