

## ERASMUS+PROJECT

Learning  
with the  
Arts



### MATHS MODULE

(see photos at our site )

<http://learningwiththeartsgreece.weebly.com/maths-tasks.html>



**TOPIC of the module**

Motifs

**Age of students**

11

**Number of students**

25

**Required prior knowledge**

They have done motifs in Art & History

**Objectives**

- To recognize, compare/contrast and analyze motifs
- To discover the simple rule governing simple and complex geometric and arithmetic motifs
- To reproduce or continue a particular motif
- To reproduce their own motif
- To describe and explain the order in a motif
- To cooperate in groups of 4 in order to create and extend geometric and arithmetic motifs

**Opportunities**

To learn relevant vocabulary and follow instructions in English

To further consolidate the notion of motifs through Art, PE, Literature (creating poems in English) and Music

### **Arts involved (more school subjects)**



Art, Music, PE

Music-kinesthetic Education: Rhythm

Art: Motifs found in: paintings, ancient vessels of geometric era, frescoes, mosaics, traditional costumes, embroidery, etc

### **Resources**

Student book, worksheets, computer, projector, computer games and applications located in particular sites, colouring pencils, crayons

sites

<http://pbskids.org/cyberchase/math-games/pattern-quest/>

[http://www.hbschool.com/activity/paul\\_pattern/](http://www.hbschool.com/activity/paul_pattern/)

<https://www.funbrain.com/games/number-cracker-game>

<http://www.abcya.com/patterns.htm>

[http://www.abcya.com/shape\\_patterns.htm](http://www.abcya.com/shape_patterns.htm)

<http://www.softschools.com/math/patterns/game/>

<http://www.free-training-tutorial.com/pattern/towncreator/tc-pattern.html>

### **Time frame**

1 teaching hour (45 min)-Maths

1 teaching hour -English

1 teaching hour-Art

1 teaching hour-P.E.

1 teaching hour-Music

### **Methods of work**

group work/pair work/individual work

### **Maths lesson**

#### **Procedure / steps**

Ss cooperate in order to do the activities on the worksheets. The activities are quite simple.

Initially they have to recognize the motif and then to complete it. They have to cooperate and create their own motifs.

The first motif is geometric and the second one has patterns from ancient Greece (in particular the motifs they used in order to decorate their vessels).

Just before the end of the lesson the Ss play computer games on geometric and arithmetic motif combinations.

#### **Suggested activities:**

Creation of bookmarks, making a chaplet with colorful beads following a particular pattern

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

Before teaching the particular Maths module, students were given a worksheet including motif activities. Primary school learners start doing motifs at 1st grade (simple patterns of course), therefore we did not expect them to meet difficulties.

As soon as they completed the worksheet and answered some questions in a test-like form (pre-test), the lesson started.

Reflecting upon the whole procedure, we can claim that our pupils seem to have enjoyed the lesson, as a great amount of the teaching time was dedicated to art-like and ICT activities. The fact that they were challenged to learn geometric and arithmetic motifs through the use of various computer games and drawing/painting activities, made them really happy.

Moreover, the integration of Art, Music, P.E. and English appears that it assisted them in fully consolidating the topic, as it is also obvious from the results of the post -test given to them by the Maths teacher, as soon as the 5-hour-teaching process was completed.

## PHYSICAL EDUCATION



→Much easier variations of the above basic actions were applied in PE. Pupils enjoyed the lesson a lot!

## ENGLISH LESSON

### CREATING POEMS INSPIRED BY MOTIFS

1. Motifs can be strange  
motifs can be great  
motifs can be amusing  
or they can be confusing!
2. I'm a good pupil  
and I like motifs  
At school we do them  
in Maths, in History and  
in other Subjects or topics  
Oh, how much I love motifs!
3. Motifs are good  
motifs are wonderful  
Maths helps us  
be Maths-powerful!
4. This is my class  
and all pupils are my friends  
In my class  
we do maths  
and guess what?  
science & Maths are my favourite ones!

5. We like motif combinations  
At school we do maths  
and you know what?  
motifs are my favourite ones!
  
6. I am a good student at maths  
and I know how to make good motif combinations  
We repeat the same process  
not only in Greece but in all nations!
  
7. We make motifs and we like them so much!  
We try to make some  
on our tablet 'touch'!
  
8. Motif combinations are very interesting  
and I like doing them a lot  
we repeat the same process  
on and on!
  
9. We use motif combinations on clothes  
we use them in maths  
we use them in geometry  
we use them in computer apps!
  
10. At school we play games on the computer  
we all like motifs  
motif combinations are quite strange  
motifs are interesting  
motifs are a game!

## ART LESSON

Painters, through time have used mathematical notions & geometrical shapes to express their inspiration and imprint it on the canvas:

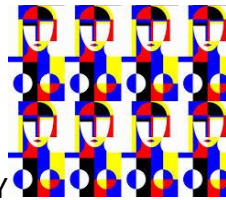
The students create shapes and colourful patterns influenced by the artists **Klee, Vasarely, Esher, Kandinsky, Mondrian**. They recognize geometrical shapes, name them, design them in different dimensions and then, having those artists' works of art in mind & using their fertile imagination, they make a motif of their preference.



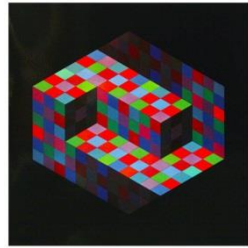
KLEE



KANDINSKY



MONDRIAN



VASARELY



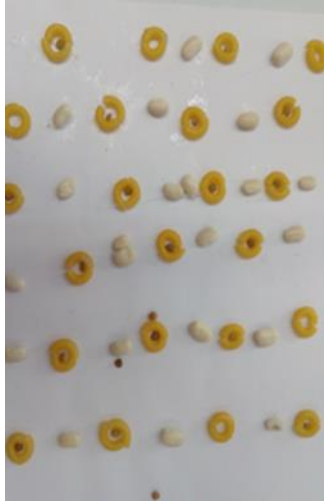
ESHER





## OUR PUPILS' WORK





Penelope-Irene

