## S.T.E.A.M. Children Engineer Academy-Greek lesson plans

LESSON PLAN: $\mathbf{2}^{\text {nd }}$ year -13 ${ }^{\text {th }}$ Lesson/Dec' 2018

| TITLE | Introduction to map scale/Calculating distances <br> cm on the map <br> km on the ground |
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| THEME | Science/Technology/Mathematics |
| GRADES | $5^{\text {th }}$ Grades |
| DURATION | 90' (2X45 minutes) |
| REALIAMATERIAS | - Internet <br> - Computers <br> - Interactive Board <br> - Wall maps <br> - https://www.youtube.com/watch?v=ixEcrWzli30 |
| OBJECTIVES | Through the lesson, pupils will: <br> 1. Locate the basic elements of a map (title, memorandum, scale and orientation) |


|  | 2. Recognize what the map scale is and mention its importance. <br> 3. Compare the map scales of two different maps. <br> 4. Estimate and calculate the real distance between two points on the map, at a straight line, based on the map scale. <br> 5. Collaborate in teams in order to solve problems/Verbally communicate talking about the results of their tasks |
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| DESCRIPTION | $1{ }^{\text {st }}$ Activity <br> Pupils divided into teams search different maps in order to find out if every map contains all elements necessary and fill their findings in their worksheets. <br> $2^{\text {nd }}$ Activity <br> All pupils are asked to work on the google map, focusing on the map of Greece. Pupils will find out that the more focus we have on a small area the most scale length increases. Pupils fill in their findings in their worksheets. |
|  | $3^{\text {rd }}$ Activity <br> Afterwards, a group of pupils will work on the geography book map, another group will do the same on the Greek wall map and the last one on their Geography school map book (ATLAS). Pupils will find out that the denominator of the scale fraction increases/decreases according to the kind of the map. <br> Pupils fill in their findings in their worksheets. |
|  | $4^{\text {th }}$ Activity <br> Pupils notice that the map scale is written in two different ways, as follows: |
|  | Scale=1: $\mathbf{2 5 0 . 0 0 0}$ Scale= 1/1.200.000 |


|  | $5^{\text {th }}$ Activity <br> Pupils calculate real distances using their rulers on their geography <br> maps. They write down the distance in centimeters then convert into <br> meters and then into kilometers, according to the following <br> equation: <br> Map distance <br> $\ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~$ <br> Real distance <br> In the same activity, pupils will be given the real distance between <br> two cities and they will have to find how it is depicted on the map, <br> solving the same equation, and converting kms into meters, <br> centimeters etc. |
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| EVALUATION | Evaluation indicators: <br> Pupils divided into groups will fill in the worksheets concerning the <br> above-mentioned activities. |

