| MODERN CLASSROOMS, MODERN EDUCATION |  |
|---|---|
| I. C. "DON MILANI" - LANCIANO <br> TEACHER: INES PALENA | |
| LESSON PLAN:MATH | RESOURCES: MINDMAPLE, GEOGEBRA |
| LEVEL: **LOWER SECONDARY** | |
| AGE OF STUDENTS: 11 | |
| UNIT: POLYGONS | |
| GENERAL GOALS: <br> Students will know definition, classification and properties of polygons, in particular the normal one | |
| VOCABULARY covered during the lesson: <br> Regular, irregular, diagonal, perimeter, convex, concave, exterior and interior angles | |
| REQUIRED PRE KNOWLEDGE: <br> general knowledge about plan geometry (segment, angle etc.) | |
| SPECIFIC OBJECTIVES (specify skills / information that will be learned): <br> Students recognize polygons, compare and classify them, calculate perimeter, draw diagonals, interior and exterior angles | |
| MATERIALS NEEDED: <ul><li>blackboard</li><li>LIM</li><li>Computers or tablet</li></ul> | OTHER MATERIALS NEEDED: (realia, apps or programs): <ul><li>Map "Polygons" on MindMaple (attached file)</li><li>Internet</li><li>Geogebra</li></ul> |

| TEACHER | STUDENT |
|---|---|
| **LEAD IN**:<br>The teacher start the lesson by inviting the students to play a game on Geogebra, about the famous Archimede puzzle **Stomachion**  (see the **solution**) | Students try to solve the puzzle |
| **DIGITAL LESSON**<br>After the game, the teacher asks what are all the shapes in the Stomachion, and introduce polygons lesson using a map created with MindMaple | Students listen and actively participate, practicing what learned with some online activity<br>interactive polygons<br>recognise polygons |
| **PRACTICAL ACTIVITY**<br>The teacher invite students to open Geogebra, and present step by step how to draw regular polygons, how to calculate perimeter, interior and exterior angles etc. as showed on this link regular polygon | Students follow step by step teacher's indication on Geogebra app, and practice by themselves in small group or in couple (it depends on the numbers of available computers or, if not available at all, on the other advice such as tablet or cell phone) |
| **CLOSURE:**<br>The teacher propose to the students some exercises to make on Geogebra:<br>diagonals<br>exterior angles | Students put in practice what they have learned by doing some online activities |