**03.2 Framework of the lesson plan**

**Age group/grade:** 13 y. o. / 8 grade

**Lesson title**: Pythagoras Theorem

**School Discipline:** Mathematic

**Key concepts:** Math

**Objectives:**

* Explore the Pythagoras theorem.
* Apply the Pythagoras theorem in different contexts

**Skills developed:** The students will understand how the theorem can be applied. Apply the concepts to real problems.

**Materials/Equipment needed:**

* Computer with video projector;
* VR glasses;
* VR video/link: [https://eloquent-ramanujan-887aa5.netlify.app/architectural-buildings.html](https://eloquent-ramanujan-887aa5.netlify.app/math.html)

**Lesson plan:**

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| **Stages** | **Description of activity** | **Time** |
| **Preparation before the lesson** | Introducing students to VR glasses if this is their first VR experience.  Proper and safe use of VR glasses;  Potential adverse effects of VR glasses;  Students should be given the choice to opt out of using VR. |  |
| **Introduction** | Discusses with students and reminds them key concepts associated to triangles (types and characteristics). | 5 min |
| **Initial Immersive Experience** | Teacher suggests students using VR glasses and in the provided video to find the formulas they need for this lesson: [https://eloquent-ramanujan-887aa5.netlify.app/architectural-buildings.html](https://eloquent-ramanujan-887aa5.netlify.app/math.html)  See also <https://youtu.be/_87RbSoELW8> | 5 min |
| **Guided Immersive Experience** | Consider the rectangular triangle. Where *c* and *b* are cathenos and a is the hypotenuse. The Pythagoras theorem says:      Theorem: In a right angled triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides. | 5 min |
| **Follow up** | The students identify some examples on their classroom. The teacher divides the students into groups.  Next task is, applying the Pythagoras theorem where it is unknown each side of the triangle.  The teacher reviews the work. Students share the results.  Next task is that each group solves a complex problem associated to Pythagoras theorem as for example:    The teacher fixes different values for different student’s groups. | 10 min |
| **Formative Assessment** | Teacher collects the students’ responses and makes corrections if needed. | 5 min |