**03.2 Framework of the lesson plan**

**Age group/grade:** 15 y. o. / 9th Grade

**Lesson title:** Regular pyramid

**Subject:** Mathematic

**Key concepts:** pyramid, altitude, surface area, volume

**Objectives:**

* Understand the concept of a regular pyramid;
* Learn to apply knowledge about the altitude and apothem of the regular pyramid in solving mathematical tasks;
* Learn to calculate surface area and volume of a regular pyramid.

**Skills developed:**

application of theoretical knowledge; correct use of mathematical concepts; cooperation.

**Materials/Equipment needed:**

Computer with video projector;

VR glasses;

VR video/link: <https://eloquent-ramanujan-887aa5.netlify.app/architectural-buildings.html>

**Lesson Plan**

|  |  |  |
| --- | --- | --- |
| **Stages** | **Description of activity** | **Time** |
| **Preparation before the lesson** | Students already know and have learned what a regular pyramid looks like. During the lesson, students will learn new formulas and how to apply them in practice.  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** | Teacher demonstrates a regular pyramid on the projector.  Teacher asks the following questions:  What features indicate the name of the pyramid?  What geometric shapes can make up a pyramid?  What already known formulas we can apply in solving pyramid tasks? | 5 min |
| **Initial Immersive Experience** | Teacher suggests students using VR glasses watch the video and find geometric shapes in the video:  <https://eloquent-ramanujan-887aa5.netlify.app/architectural-buildings.html> | 5 min |
| **Guided Immersive Experience** | Teacher gives students a task: select several geometric shapes from the video, redraw them in their notebooks and perform calculations according to the given formulas.   |  |  |  | | --- | --- | --- | | Pythagorean  theorem  Transparent Math Equation Png - Pythagorean Theorem Transparent Background,  Png Download , Transparent Png Image - PNGitem | Area of a Triangle | Surface Area of a Pyramid    Surface area of a pyramid= Base area + Lateral area | | 15 min |
| **Follow up** | After completing the given task, the teacher reviews how the students performed and divides the students into groups. Students share in their groups the drawings and calculations they made using VR video.  Then in the groups students get a new task: to find in the VR video geometric shapes and perform calculations using a new formula:      After completing the given task, teacher reviews the group work and answers the students' questions on the application of the regular pyramid formulas. | 15 min |
| **Formative Assessment** | Teacher distributes to the groups of students the tables with three types of pyramids:   |  |  |  | | --- | --- | --- | | *Surface area of a pyramid:* | *Surface area of a pyramid:* | *Surface area of a pyramid:* |   Under each pyramid students must right down the formulas for calculation of the Surface area of a pyramid and .  Teacher monitors the students’ work and makes corrections in the formulas if needed. | 5 min |