



The Mediterranean Vegetation

Age group/class: 15 – 16 years old

Lesson title: The Mediterranean Vegetation

School Discipline: Biology

Key concepts: recognize the vegetation around us

Aims:

- Introduce the Mediterranean vegetation
- Recognize the flora around us
- Improve geographical skills

Skills developed: observation, analysis and research

Materials/Equipment needed:

- <https://www.youtube.com/watch?v=uk9Fyw2Okyw> (to be used in the introduction activity to provide some basic information about the Mediterranean vegetation)
- https://www.youtube.com/watch?v=LRZSsTZSC_4 (to be used for the practical VR experience)
- VR headset
- VR video / link
- world map

Lesson plan:

Stages	Description of activity	Time
Preparation before the lesson	<p>If this is a first VR experience for students – go through the safety rules:</p> <ul style="list-style-type: none"> – Learners are to sit down whilst using the VR glasses and not hold anything in their hands, unless the experience is of such a nature that it requires you standing, in which case, ensure enough space is allowed around all students. – Learners will be told to expect a feeling of vertigo. If it gets worse, students must remove VR glasses. – Learners need to know how to adjust the viewing focus before using the headsets. – Learners must not use the headset when they are: tired, need sleep, under emotional stress or anxiety, when suffering from cold, flu, headaches, migraines as this can worsen their susceptibility to adverse reactions. – Learners should be given the choice to opt out of using VR. 	
Introduction	<p>Share Learning Intentions with students</p> <p>The aims of the current lesson plan are the following:</p> <ul style="list-style-type: none"> – Introduce the Mediterranean vegetation – Recognize the flora around us 	5 min.





	<p>– Improve geographical skills</p> <p>Teacher is asked to provide students with some basic information about the Mediterranean vegetation, clarifying the typical mistake according to which this kind of vegetation flourishes just close to the Mediterranean sea. The following video could be useful for the purpose: https://www.youtube.com/watch?v=uk9Fyw2Okyw</p>	
Initial Immersive Experience	<p>“Let’s immerse into the Mediterranean vegetation”: https://www.youtube.com/watch?v=LRZSsTZSC_4</p> <p>Learners put on the VR headsets and explore the video at their own pace for about 10 minutes.</p>	10 min.
Guided Immersive Experience	<p>After a free exploration of the VR resource, the Guided Immersive Experience is aimed at identifying some features of the Mediterranean vegetation. Teacher presents the following text:</p> <p><i>“The Mediterranean vegetation is dominated by evergreen shrubs and sclerophyllous trees adapted to the distinctive climatic regime of summer drought and cool moist winters with only sporadic frost. The most favoured time for vegetative growth is spring, when the soil is moist and the temperatures are rising, or autumn, after the first rain. The winter temperatures of 10°C and lower are already too cool for growth. Life forms other than the trees and shrubs can be important in certain of the Mediterranean regions: bulb or tuber bearing herbs / annuals. Mediterranean flora comprises two main types: maquis = dense shrub formations and garrique = more open heathy and aromatic shrubs (lavender, thyme). Trees and shrubs include: Quercus ilex (Holm's oak), Quercus suber (cork oak), Pinus (pines), Ilex (holly), Cedrus atlantica (Atlas cedar), Buxus sempervirens (boxwood), Arbutus (arbutus, Ericaceae), Oleaceae (olive family). Heath layer includes: Erica (heath, Ericaceae), legumes (Cytisus, brooms; Ulex, common gorse), Cistaceae, Lamiaceae (mint family), Compositae, Ophrys (Orchidaceae)”.</i></p> <p>Then, teacher asks students to watch the video again and to identify the above mentioned features of the Mediterranean vegetation.</p>	20 min.
Follow up	<p>1) Let’s improve our skills in geography</p> <p>Once students have a clearer idea about the Mediterranean geography, it’s time to improve their skills in geography, identifying those countries where it is possible to find the Mediterranean vegetation.</p> <p>With the support of a world map, teacher presents the following text:</p> <p><i>“Major plant communities in the Mediterranean biome include:</i></p> <ul style="list-style-type: none"> <i>– Forest: Mediterranean forests are generally composed of broadleaf trees, such as the oak and mixed sclerophyll forests of California and the Mediterranean region, the Eucalyptus forests of Southwest Australia, and the Nothofagus forests of central</i> 	15 min.





	<p><i>Chile. Forests are often found in riparian areas, where they receive more summer water. Coniferous forests also occur, especially around the Mediterranean. Pine and deciduous oak forest are widespread across California.</i></p> <ul style="list-style-type: none"> – <i>Woodland: Oak woodlands are characteristic of the Mediterranean Basin and in California. Pine woodlands are also present in the Mediterranean Basin. California additionally has walnut woodlands.</i> – <i>Savanna and grassland: The California Central Valley grasslands are the largest Mediterranean grassland eco-region, although these grasslands have mostly been converted to agriculture. The remaining woodlands feature mainly oak, walnut and pine. The cork oak savanna in Portugal, known as montado, is a good example of a Mediterranean savanna.</i> – <i>Shrubland: Shrublands are dense thickets of evergreen sclerophyll shrubs and small trees. They are most common near the seacoast, and are often adapted to wind and salt air from the ocean. They are called chaparral (California and southern Portugal), matorral in Chile and southern Spain, garrigue or maquis in France, macchia or gariga in Italy, phrygana in Greece, tomillares in Spain, fynbos, renosterveld, Succulent Karoo, and strandveld in South Africa, kwongan in Southwest Australia and batha in Israel. Northern coastal scrub and coastal sage scrub, also known as soft chaparral, occur near the California coast. In some places shrublands are of the mature vegetation type, and in other places are the results of degradation of former forest or woodland by logging or overgrazing, or disturbance by major fires”.</i> <p>Each time a country is quoted, students are asked to identify it on the world map.</p>	
Formative Assessment	<ul style="list-style-type: none"> – “Which are the main features of the Mediterranean vegetation?” – “List 5 countries in which it is possible to find the Mediterranean vegetation” – “List 3 plant communities the Mediterranean vegetation can be like” 	5 min.

