



Ferrari and the Main Components of a Car Engine

Age group/class: 15 – 16 years old

Lesson title: Ferrari and the Main Components of a Car Engine

School Discipline: Mechanics, Engineering

Key concepts: to understand how a car engine works and what are its main components

Aims:

- Understand how a car engine works
- Introduce the main elements of a car engine
- Understand the mechanic and engineering components of a car engine

Skills developed: observation, analysis and research

Materials/Equipment needed:







- https://www.youtube.com/watch?v=LU_Zn9Z3ibU
(to be used in the introduction activity to provide some basic information about how a car engine works)
- <https://www.youtube.com/watch?v=3SfqLJdvRD4>
- VR headset
- VR video / link
- a panel with car engine' main components

Lesson plan:

Stages	Description of activity	Time
Preparation before the lesson	If this is a first VR experience for students – go through the safety rules: <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	Share Learning Intentions with students The aims of the current lesson plan are: <ul style="list-style-type: none">– Understand how a car engine works	10 min.








	<ul style="list-style-type: none"> – Introduce the main elements of a car engine – Understand the mechanic and engineering components of a car engine <p>Teacher shows a video providing basic information about how a car engine works and which are its main components: https://www.youtube.com/watch?v=LU_Zn9Z3ibU</p> <p>In addition to the video, teacher asks students to read the following article: https://www.cars24.com/blog/how-a-car-engine-works/</p>										
Initial Immersive Experience	<p>“And now let’s go inside the atmosphere of the Ferrari museum”: https://www.youtube.com/watch?v=3SfqLJdvRD4.</p> <p>Learners put on the VR headsets and explore the video with the support of the teacher. This experience offers students the opportunity to concretely live the atmosphere, the sounds, and the emotions of the Ferrari museum.</p>	10 min.									
Guided Immersive Experience	<p>Teacher asks students to watch again the video from minute 5 to minute 8 (in which there is a specific focus on the Ferrari car engine). Teacher asks students to identify the main components which have been described in the previous video.</p>	10 min.									
Follow up	<p>1) Quiz time</p> <p>Teacher presents the following panel to the students:</p> <table border="1"> <thead> <tr> <th></th><th>Name</th><th>Function</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td></tr> <tr> <td></td><td></td><td></td></tr> </tbody> </table>		Name	Function							<p>20 min.</p> <p>5 min.</p>
	Name	Function									
											
											





				
				
				
	Students are asked to name each of the car components above and to define their functionality within a car engine.			
Formative Assessment	<ul style="list-style-type: none"> – “Which is the main process within a car engine?” – “Which are the 4 strokes of a car engine?” – “Which is the function of the oil sump?” 			

