

Year 9					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Topic: Knowledge and skills covered: Health and Safety in the workshop (AO1.1) (AO1.2)(AO1.3), Understanding the layout of the garage, Knowledge of the different fire extinguishers, Basic tool skills, SOL Intent: To inform the students and show them how to work safely and effectively in the workshop, while taking caution to safety. Also being able to use basic tools safely with causing risk to others.</p>	<p>Topic: Knowledge and skills covered: Welding, Using basic lifting equipment, Removal and installation of brake pads, How to check brake pads, Team work, Designing, Fabrication (AO 2.1)(AO2.3)(AO2.4) SOL Intent: To develop the student's practical skills in different areas such as: Engineering, Motor vehicle, wood work and designing processes.</p>	<p>Topic: Knowledge and skills covered: Using basic lifting equipment, Removal and installation of brake pads/discs and suspension systems, How to check brake pads and discs, Team work, Designing(AO2.2), Fabrication(AO 2.1)(AO2.3)(AO2.4) SOL Intent: To develop the student's practical skills in different areas such as: Engineering, Motor vehicle, wood work and designing processes.</p>	<p>Topic: Knowledge and skills covered: Using basic lifting equipment, Removal and installation of brake pads/discs, How to check brake pads and discs, Team work, Designing(AO2.2), Fabrication(AO 2.1)(AO2.3)(AO2.4) SOL Intent: To develop the student's practical skills in different areas such as: Engineering, Motor vehicle, wood work and designing processes.</p>	<p>Topic: Knowledge and skills covered: Correct lifting methods (AO1.2)(AO1.3), What to take inconsideration when moving an object, SOL Intent: To inform the students how to correctly move objects without causing harm to themselves or others.</p>	<p>Topic: Knowledge and skills covered: Soldering and its uses, Go through how to disassemble and reassemble a 4 stroke engine to the correct specification using the correct tools. SOL Intent: To develop their practical skills by teaching the students what soldering is and how to do it. To enable them to disassemble and reassemble to a professional standard.</p>
<p>Milestones/outcomes: HPA: To know how to correctly use a vernia calliper and be able to use both metric and imperial measurements. MPA: To know the different types of fire extinguishers and be able to select the correct extinguisher for the theoretical fire, Transition: To know what health and safety precautions are in place and be able to follow them.</p>	<p>Milestones/outcomes: HPA: To know how the welding process works and to be able to explain what causes porosity in welds. MPA: To be able to design a gravity go-cart with sufficient strength, and be able to work effectively in a team. Transition: To know how to check brake pads for wear and to be able to replace them with the appropriate parts.</p>	<p>Milestones/outcomes: HPA: To know how the suspension system work in a car and to be able to explain how it works. MPA: To know how the lifting equipment works and to be able to load and operate them with minimal support Transition: To know how to check for problems with the break disc and to be able to replace them</p>	<p>Milestones/outcomes: HPA: To know how the breaking system works in a car and to be able to explain how it works. MPA: To know how the lifting equipment works and to be able to load and operate them with minimal support Transition: To know how to check for problems with the break disc and to be able to replace them</p>	<p>Milestones/outcomes: HPA: To know what LOLER is and to be able to explain what how it applies to the Unit MPA: To know what lifting equipment is and to be able to operate it safely Transition: To know how to correctly move objects and to be able to do so without presenting risk to themselves or others.</p>	<p>Milestones/outcomes: HPA: To know where to find the engine specifications and to be able to apply this knowledge when reassembling it. MPA: To know how to strip and rebuild the engine and to be able to do so safely. Transition: To know what the tools are called and to be able to use them in the correct manor.</p>
<p>End of Year Milestones/Outcomes: HPA: To know how to use the advanced tools in all areas and to be able to explain what can cause problems when using the equipment in a wrong way. Also be able to work efficiently and safely while leading a team of colleagues in a group activity. MPA: To know how to work efficiently while working in a practical area and to be able to correctly use equipment to their intended purpose. Transition: To know how to safely work inside of a practical work place and to be able to work efficiently with your group.</p>					

Year 10					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Topic: Knowledge and skills covered: How an engine works. How power transitions from the engine to the wheels. SOL Intent: To enable the student to understand how an engine produces power and how it transitions to the axle in a convention rear wheel drive vehicle.</p>	<p>Topic: Knowledge and skills covered: Understand how suspension works, To be able to disassemble and reassemble the suspension system, Learn principles of technical drawing.(AO2.1)(AO2.3)(AO2.4) SOL Intent: To allow the students to be able to understand the suspension system and how it disassembles and reassembles. To understand what technical drawing is used for and be able replicate a drawing of the sliding block.</p>	<p>Topic: Knowledge and skills covered: Technical drawing skills Understanding technical information in different forms. (AO2.1)(AO2.3)(AO2.4) SOL Intent: To be able to replicate the technical drawing of the sliding bevel gauge to the highest of standard with all the relevant symbols and dimensions.</p>	<p>Topic: Knowledge and skills covered: Unit 32 Information SOL Intent: Understand common techniques that are used when reassembling components, and understand the general of a motor vehicle.</p>	<p>Topic: Knowledge and skills covered: Material Applications (AO3.1)(AO3.2)(AO3.3)(AO3.4) Unit 32 information Mock exam preparation. (AO1.1)(AO1.2)(AO1.3)(AO2.1)(AO2.2)(AO2.3)(AO2.4)(AO3.1)(AO3.2)(AO3.3)(AO3.4) SOL Intent: To enable the students to understand why objects are made of a specific material, and prepare students for up and coming mock exams.</p>	<p>Topic: Knowledge and skills covered: Engine removal Mock exam prep (AO1.1)(AO1.2)(AO1.3)(AO2.1)(AO2.2)(AO2.3)(AO2.4)(AO3.1)(AO3.2)(AO3.3)(AO3.4) SOL Intent: To allow students to learn how to safely remove an engine from a car.</p>
<p>Milestones/outcomes: HPA: To know the 2 types of engines and to be able to explain how each works MPA: To know what the four cycles of a four stoke engine and to be able to demonstrate these cycles. Transition: To know how an engine produces power and to be able to explain what is need for combustion.</p>	<p>Milestones/outcomes: HPA: To know how different types of suspension works and to be able to explain how this improves the handling of a vehicle. MPA: To know what a McPherson strut is and to be able to explain why it is commonly used in small cars Transition: To know what the purpose of suspension systems are and to be able to explain how it stop the vehicle from being damaged.</p>	<p>Milestones/outcomes: HPA: To know what all the technical symbols mean and be able to replicate the drawing to 0.2mm tolerance. MPA: To know what key information is required and to be able to replicate the drawing to 0.5mm tolerance Transition: To know how to use the equipment competently and be able to use them in the correct places</p>	<p>Milestones/outcomes: HPA: To understand the principles of how an engine works and to be able to explain the timing on an engine is set. MPA: To know why is important to include oil upon assembly of products and to be able to explain why this is done. Transition: To know how power transfers from the engine to the wheels and to be able to demonstrate it.</p>	<p>Milestones/outcomes: HPA: To know what material requirements are needed and to be able to give an optimal solution to the product. MPA: To know what process that can effect materials and to be able to explain how they work. Transition: To know what materials capabilities and to be able to justify their choice.</p>	<p>Milestones/outcomes: HPA: To know what preparation happens when lifting an engine and to be able to organise a team to work effectively together. MPA: To know how to position the engine crane safely and to be able to identify pinch points Transition: To know how to remove an engine safely and to be able to identify the tools required.</p>
<p>End of Year Milestones/Outcomes: HPA: To know how different types of engine work and how to correctly replicate the given technical drawing and to be able to explain in depth all the different process covered when technical drawing. MPA: To know what information is required when technical drawing and to be able to use equipment in a safe manor while taking inconsideration other peoples safety. Transition: To know how basic vehicle components work and to be able to able to replicate technical drawing that has the relevant information to replicate a part.</p>					
Year 11					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic:	Topic:	Topic:	Topic:	Topic:	Topic:

<p>Knowledge and skills covered: SOL Intent: To prepare the students for their real exam and imbed all knowledge into long term memory</p>	<p>Knowledge and skills covered: SOL Intent: To prepare the students for their real exam and imbed all knowledge into long term memory</p>	<p>Knowledge and skills covered: SOL Intent: To prepare the students for their real exam and imbed all knowledge into long term memory</p>	<p>Knowledge and skills covered: SOL Intent: students to continue with body repair</p>	<p>Knowledge and skills covered: SOL Intent: Allowing students to keep developing practical skills to a better quality.</p>	<p>Knowledge and skills covered: practical skills SOL Intent: Allowing students to develop their practical skills to a higher level.</p>
<p>Milestones/outcomes: HPA: To know advance techniques inside an engineering workshop and to be able to archive 70% on the exam. MPA: To know how an engineering firm works and to be able to explain different forms of communication. Transition: To know what forms of communication are used in a workshop and to be able to utilise this information.</p>	<p>Milestones/outcomes: HPA: To know advance techniques inside an engineering workshop and to be able to archive 70% on the exam. MPA: To know how an engineering firm works and to be able to explain different forms of communication. Transition: To know what forms of communication are used in a workshop and to be able to utilise this information.</p>	<p>Milestones/outcomes: HPA: To know advance techniques inside an engineering workshop and to be able to archive 70% on the exam. MPA: To know how an engineering firm works and to be able to explain different forms of communication. Transition: To know what forms of communication are used in a workshop and to be able to utilise this information.</p>	<p>Milestones/outcomes: HPA: To be able to repair a body panel to a high quality without assistance. MPA: To be able to repair a body panel to a high quality with assistance. Transition: To be able to repair a body panel to a good quality with assistance</p>	<p>Milestones/outcomes: HPA: To be able to repair a body panel to a high quality without assistance. MPA: To be able to repair a body panel to a high quality with assistance. Transition: To be able to repair a body panel to a good quality with assistance</p>	<p>Milestones/outcomes: HPA: To know how the process of plasma cutting works and to be able to operate with confidence and precision. MPA: To know how to correctly use the plasma cutter and to be able to use it with guidance. Transition: To know how to use the plasma cutter and to be able to use it safely</p>
<p>End of K.S. Milestones/Outcomes:</p>					
<p>HPA: To be able to perform a body to the highest of quality and achieve 80% or higher and understand how advances manufacturing processes work.</p>					
<p>MPA: To be able to perform a body to the highest of quality with help and achieve 60% or higher and be able to use advanced manufacturing process</p>					
<p>Transition: To be able to perform a body to a good of quality with help and achieve 40% or higher and be able to perform body repairs on a car.</p>					