

Design Technology

The Unit Award Scheme is a unique way to record learner achievement, it allows all students to engage with learning and have their achievements formally recognised. Learners are rewarded with a certificate each time they successfully complete a unit of learning. They can build up a portfolio of certificates to evidence their skills, knowledge and experience In resistant materials, plumbing, joinery, painting and decorating, construction and electrical skills. This portfolio is then assessed with AQA and learners achieve accreditation to show their skills in a number of key areas.

The unit award scheme boosts confidence, increases engagement and improves motivation, helping learners to make progress on their design and technology journey at KS4.

Year 10

Autumn One	Plumbing- washing machine installation. 120760 Pupils will show knowledge of: - how to turn off a water system and drain it down - identify an appropriate section on a circuit to tee off - fit a quarter turn isolation valve to the cold-water feed - fit the washing machine hose and check for a secure connection - fit the drainage hose securely to the correct waste pipes	Construction-Basic DIY tools.117353 Pupils will be able to demonstrate the ability to: - identify at least five common hand tools used for DIY, - identify at least two common electric tools and their uses - shown knowledge of3. the main health and safety guidelines for using DIY tools, eg eye protection, ear defenders, overalls - demonstrated the ability to4. use a tape measure and cut a piece of wood with a hand saw accurately to a given length, - experience using an electric saw to cut a piece of wood, - using a hammer and screwdriver correctly, - the main types of DIY job that should be carried out by a professional, - the potential costs and consequences of DIY activities going wrong.	Maintenance- Assembling flat pack furniture. 114147 Pupils will demonstrate: - taking part in a discussion on health and safety issues related to assembling flat pack furniture - the ability to unpack and check the contents of an assembly pack, - selecting the correct tools for the assembly of the furniture - following the manufacturer's instructions to assemble the furniture item, - disposing of the packaging in the correct way by separating the recyclable and non-recyclable items
Autumn Two	Plumbing- Basic domestic plumbing. 118718 Pupils will demonstrate: - the importance of onsite safety, - the classification of safety signs, - the ability to create and secure a watertight pipe run using a 15 mm speed fit pipe and connectors, - How to securely fit a radiator to a wall using radiator brackets - plumbing in a functioning sink and tap, - how to dress a radiator	Construction – P.P.E and safety wear in construction. 117300 Pupils will be able to demonstrate the ability to: - identify the relevant personal protective equipment (PPE) to use when working in construction, - show knowledge of what PPE is and why we use it	Joinery – Carpentry and joinery basics 115310 Demonstrate the ability to show: - knowledge of at least two different types of wood that can be used in carpentry - Information about at least two materials other than wood that are used in carpentry, eg glue, varnish, sealer, and why they are used - at least three tools used in basic carpentry and what their purpose is - at least three different types of joints used in woodwork and what each one is commonly used for - Knowledge of at least three pieces of personal protective equipment (PPE) used in basic carpentry processes, - five health and safety considerations for woodworking
Spring One	Electrical- Wiring a 3-pin plug. 85613 Pupils can demonstrate the ability to: - label a diagram of a three pin plug - wire a three pin plug correctly, - use different fuses for different appliances	Joinery – Construction using power tools for carpentry. 120157 Pupils will show knowledge of: - at least three tools used in basic carpentry including saws, hammers, chisels, bevels and squares - the tools presented and if they are fit for purpose - carpentry tools to perform at least two basic tasks - two health and safety issues relating to carpentry tools and their use, and how to minimise risk where appropriate - leaving the work area clean and safe for others - how to decide if a tool is fit for purpose - at least five health and safety issues associated with tools and the workplace, - how the condition of a tool impacts on its usefulness, - the importance of cleaning and safe keeping of tools and equipment.,	Maintenance – Re –conditioning a piece of furniture. 73655 Pupils will be able to demonstrate the ability to: - choose a piece of furniture to re-condition - choose a clear working space in which to work - strip off the original finish with sandpaper - sand down to a final finish by hand, - use all tools correctly and safely, - work with due care for own safety, - work with due care for the safety of others, - clear away equipment and clean up appropriately after sessions, - follow two health and safety issues to be aware of whilst sanding - Follow two health and safety issues to be aware of whilst using paints and varnishes,

			Purchase materials to re-condition a piece of furniture
Spring Two	Electrical – Replacing a light fitting. 120633 Pupils will show knowledge of: - safe isolation and how to work safely with electrics - when a light fitting may need replacing, - how to demonstrate the ability to prepare 1.5mm Twin and earth cables for terminations on at least one occasion, - terminating the cables into a light fitting, - how to fix the light fitting into place	Painting and Decorating- Basic painting and decorating skills. 120277 Pupils will be able to demonstrate the ability to: - use appropriate tools and equipment to adequately prepare a surface or material ready for painting, - select the appropriate paint, - stir the paint to the correct consistency - apply the paint evenly, as directed, avoiding drips and spills wherever possible - clean brushes and other equipment correctly, - working independently whilst painting and decorating	Joinery- wood turning. 87634 Pupils will be able to: - dress appropriately for the operation of the lathe - select turning tools in the correct order - select speed, securely fix wood in the lathe, set the rest and operate the lathe, - produce own design over a given length of wood, - use callipers to determine spigot size for fixing to base - fix wood blank to base plate, chuck and turn to own design - drill hole in base and in spindle, - finish and assemble turned pieces
Summer One	Plumbing- Plumbing outside tap installation. 120758 Pupils will be able to demonstrate: - what an outside tap is useful for - how to turn off a water system and drain it down - how to drill a hole through an external wall for a water pipe - how to select the correct pipes to extend a water circuit - how to fit a push-fit equal tee join to spur off a water circuit - how to attach an outside tap to the circuit and fix it securely	Painting and Decorating- Designing a bedroom. 85803 Pupils will be able to experience: - drawing a simple scale drawing of a bedroom - selecting at least two items of furniture for the bedroom and mark them on the plan - selecting at least two items of soft furnishings for the bedroom and mark them on the plan - choosing a colour scheme for the bedroom, - visiting a large DIY superstore to gather relevant information discussing the reasons for his/her choice of bedroom design	Construction- Sanding using a belt sander. 74932 Pupils will demonstrate the ability to: - choose the appropriate glasspaper for a specific task - change the glasspaper on the belt sander - use the correct method for sanding, eg appropriate direction and pressure, - operate the belt sander safely and correctly.,
Summer Two	Joinery- Basics of carpentry and 2nd fix joinery. 116947 Pupils will demonstrate how to: - follow verbal and written instructions to complete given carpentry and joinery tasks - rebate and fit a hinge in either a door or window frame or a mock up of a door or window frame - use a plane to reduce a piece of wood, door or window sash to a desired size and finish - produce at least one example each of a mitre, rabbet and a mortise and tenon joint - safely and confidently use the appropriate tools, including battery drill, hand saw, clamp, tape measure, try square, plane, chisels and mallet.,	Maintenance- Fitting guttering. 120953 Pupils can explain and show: - when guttering needs replacing or installing - at least two types of guttering, eg half round, square guttering, - planning a drainage route with adequate fall and drainage, - measuring and cutting the guttering with accuracy, - joining the guttering using a union bracket, - fixing the guttering securely to a wall or fascia using the correct brackets, - fitting stop ends to the guttering, - fitting stop end outlets to the guttering, - fitting the down pipe to a gutter outlet, - fixing the down pipe to a wall using clips, - use an offset bend to change the course of a downpipe.,	Construction – COSHH regulations. 117303 Pupils will be able to: - identify the substances covered by the Control of Substances Hazardous to Health (COSHH) regulations - identify the main COSHH warning labels on substances used in the construction industry, what COSHH stands for, explain how to identify if a substance is covered under COSHH

Year 11

Autumn One	Electrical- Extending a lighting circuit. 120634 Pupils will show knowledge of: - safe isolation and how to work safely with electrics, - preparing 1.5mm Twin and Earth cables for terminations on at least one occasion, - Spurring off a light fitting with safe terminations, - using cable clips to keep the cables tidy and organised	Joinery- Laying a laminate floor. 115315 Pupils will demonstrate how to: - decide which room the flooring will be laid in - remove the existing flooring and clean the area ready for work - ensure they have the correct equipment for the task, - lay and secure the underlay to the area of flooring to be covered - safely use tools, including an electric jigsaw, to cut and measure the pieces - lay the laminate, carefully ensuring each piece is connected to the next, until the floor has been covered - clean the work area on completion	Painting and decorating – Repairing Garden furniture. 74443 Pupils will apply knowledge of how to: - sand down the original finish on a piece of garden furniture with sandpaper by hand - prepare the wood for painting - make any repairs or replacements to damaged wood - paint or stain the wood - check the item of furniture to ensure it is safe to reuse
Autumns Two	Plumbing- Basic pipe fittings used in plumbing. 71969 Pupils will be able to: - prepare a board to mount a display of pipe fittings - fit pipe clips to the board, Summary sheet - mount the correct fittings on the board, ie 90 degree elbow, T-piece, straight connector, compression joint and Yorkshire joint - label the fittings on the board.	Painting and Decorating-Emulsion a room. 73448 Pupils will demonstrate the following: - follow health and safety procedures when emulsioneing a room, - clean a wall in preparation for painting, - fill any holes with plaster or filler and sand the wall flat, - select the appropriate paint type, eg matt, eggshell, emulsion, for the surface to be painted - apply two coats of the emulsion, - clean tools and workstation according to health and safety regulations, - experienced working safely in a workshop	Electrical Setting up a simple circuit. 72736 Pupils will provide evidence to: - set up a circuit with a bulb and a switch, - set up a circuit which can respond to sound, - select required components for each specified circuit, - identify at least three electrical symbols, - describe the function of three electrical components, eg fuse, switch.,
Spring One	Plumbing –Cold water circuit. 120757 Pupils will be able to explain and demonstrate: - what a cold water circuit is used for, - how to turn off a water system and drain it down, - how to select the correct pipes for a water circuit - measuring and cutting lengths of the pipe with accuracy, - fitting a 90° elbow connector to join plastic pipes in a water circuit, - fitting a push-fit equal tee join to spur off a water circuit, - fitting a push-fit stop end at the end of a water circuit, - cutting pipes to insert a push-fit isolating valve in a circuit, - joining copper piping to plastic using push-fit connectors.,	Construction- Emergencies and working safely in construction. 117302 Pupils will be able to identify: - identify the main hazards when working in construction, - identify the key warning and safety signs used in the construction industry, - the main ways of working safely in construction, - at least two types of emergencies that may occur when working in construction.,	Recognise hand tools and materials used in construction. 112161 Pupils will be able to explain how to: - identify and name at least five painting and decorating tools and materials most frequently used in decorating - identify and name at least five tools and pieces of equipment most frequently used in construction - identify and name at least five materials used most frequently in construction, - identify and name at least five carpenter tools, - Identify the main health and safety issues to be aware of when using construction tools and equipment, and given at least two examples.,
Spring Two	Joinery – Constructing a cross-halving joint. 112305 Pupils can demonstrate how to: - choose at least two appropriate tools and materials for the task, - determine the position of the joint and mark off the materials accurately, - use appropriate equipment safely and correctly to cut the materials for the joint, - assemble the joint using clamps and the correct sized fixings, - check the completed joint is square and positioned correctly.,	Construction- 3D shapes and Nets. 117801 Pupils will be able to explain: - the difference between 2D and 3D shapes, - how to identify and name at least five different 3D shapes, - how to draw nets of at least three different 3D shapes, - how to use nets to construct at least three different 3D shapes, - how to sketch or describe the 2D plans and elevations of at least three different 3D shapes.,	Painting and Decorating- Study of a Banksy painting. 118781 Pupils will provide evidence and show how to: - read through given information on Banksy, - choose a painting by Banksy, - sketch out the chosen Banksy painting in pencil, - observe the painting closely and try to imitate Banksy’s brush strokes, - use different shades of colours as in the chosen Banksy painting, - complete a painted drawing inspired by Banksy.,

Summer One	Electrical-Spurring off a socket for a new electrical point. 120939 Pupils will explain how to: - demonstrate isolation and how to work safely with electrics - prepare at least three cables for terminations, - spur a cable from a socket in a ring circuit, - prepare the cables for terminations, - secure and prepare a socket pattress with accuracy - terminate the cables into the new socket,7. use cable clips to keep cables neat and tidy	Maintenance – Dismantling pallets. 111738 Pupils can clearly demonstrate: - use appropriate personal protective equipment when dismantling pallets, - select and safely use suitable tools to dismantle wooden pallets, - safely remove any protruding nails or screws from pallets and place in the appropriate recycling container - use a hand saw to cut pallets - replace all tools and equipment at the end of the shift - clean the work area, ensuring it is safe for future use - work safely in a practical environment, - explain at least two kinds of artefacts that can be made from recycled wood	Joinery- Constructing a dovetail joint 74930 Pupils can explain and show: - how to choose appropriate tools and materials for the task - how to determine the position of the joint and mark off the materials accurately, S - use of the equipment safely and correctly to cut the materials for the joint - how to assemble the joint using clamps and the correct sized fixings - ways to check the completed joint is square and positioned correctly
Summer Two	Plumbing – Replacing a tap. 120951 Pupils will explain: - when a tap may need replacing - how to turn off a water system and drain it down - how to check for leaks and know the main reasons why they occur, - how to clean around the sink holes for secure fixings, the water pipes into a tap, Summary sheet - how to fix a tap onto a sink	Construction- Behavioural safety in the workplace. 70072 Pupils will demonstrate the understanding of: - how their behaviour in the workplace can reduce the risk of accidents - at least two reasons why people behave unsafely on a construction site - the four layers of protection between the person and a potential hazard - the difference between genuine error, sabotage and the appropriate punishments for each - effective safety conversation on a construction site	Maintenance- Building Maintenance. 116456 Pupils will show: - the importance of and need for good building maintenance - the different levels of urgency in building maintenance jobs - the personal protective equipment needed to work on at least two specific building maintenance tasks - how to identify a minimum of three building maintenance jobs as part of a site survey, - ways to prioritise the maintenance jobs according to their urgency - how to plan the materials, tools and time needed for three maintenance jobs and how to calculate the costs involved - how to complete three maintenance jobs to a suitable standard - how to taking part in discussions about safe working practices before and during building maintenance work