Construction KS4 Curriculum Map

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|  | | HT1  Basic Skills for Brickwork | HT2  Basic Skills for Woodwork | HT3  Basic Skills for Plastering | HT4  Basic Skills for Painting & Decorating. | HT5  Basic Skills for Tiling | HT6  Practical Assessments |
| Learning outcomes/ composite knowledge:  Pupils will be able to… | | Pupils will learn what Personal Protective Equipment(PPE),tools and materials are required to safely and correctly carry out basic brickwork activities.  Pupils will be able to set out & maintain a safe, tidy work area and (load up/dry bond) in preparation for a brickwork activity.  Pupils will be able to use a cement mixer safely & correctly to mix mortar to the correct ratio and consistency.  Pupils will be able to cut,roll and spread mortar correctly to form a mortar bed.  Pupils will be able to construct a basic brickwork pyramid in stretcher bond.  Pupils will be able to measure, mark and cut bricks to form a stop end to brickwork.  Pupils will be able to measure, mark and cut bricks to form a basic wall in stretcher bond.  Pupils will be able to apply a half-round jointed finish to their brickwork. | Pupils will learn what PPE is required to safely and Correctly carry out basic woodwork activities.  Pupils will begin with the basics of woodwork, first learning the correct methods of measuring, marking and cutting timber using hand tools, before learning how to construct a variety of woodworking joints.  Pupils will learn how to use different fastening methods to connect and hold timber components together, before moving on to constructing small projects.  Understand the difference between imperial and metric measurements and be able to interpret them .  Develop measuring and marking skills with some accuracy.  Develop cutting and finishing skills by hand.  Understand the meaning of a specification and working tolerances.  Interpret working drawings/diagrams and construct pieces of work to a given specification.  Pupils will apply stain and varnish to a piece of timber and will use a finishing wax on a timber construct. | Pupils will learn what PPE,tools, equipment and materials are required to carry out Plastering activities.  Pupils will learn about the importance of, and how to set up and maintain a clean working environment.  Pupils will be able to prepare  background surfaces through a variety of methods (cleaning the surface, scutching, dampening down and proprietary adhesive).  Pupils will learn how to prepare a background surface to receive a render scratch coat, apply the render to the correct depth and then apply a scratch key without penetrating the background surface.  Pupils will learn how to apply a top coat of render, flatten it off and float it up to a finishing specification.  Pupils will learn how to measure, cut and fix plasterboards to studwork.  Pupils will learn how to apply a two coat finish to plasterboards.  Pupils will learn how to make patch repairs to a plasterboard ceiling and wall. | Pupils will learn what (PPE), tools, equipment and materials are required to carry out painting & decorating tasks.  Pupils will be able to set up and maintain a clean and safe working environment.  Pupils will be able to prepare background surfaces through a variety of methods(stripping, sanding etc.)  Pupils will be able to repair and fill damaged woodwork ready for painting.  Pupils will learn the appropriate paint to use on appropriate surfaces (eg undercoat, gloss or emulsion)  Pupils will be able to develop cutting in and application skills.  Pupils will be able to prepare a background surface for wallpapering.  Pupils will be able to prepare a background surface and hang lining paper horizontally.  Pupils will be able to prepare surfaces and hang wallpaper vertically.  Pupils will learn how to trim wallpaper to leave a neat finish to the edges. | Pupils will learn what (PPE), tools and materials are required to safely and correctly carry out basic tiling activities.  Pupils will be able to set up and maintain a safe and tidy working area and set out/prepare surfaces for tiling.  Pupils will be able to calculate the number of tiles they need for the activity.  Pupils will be able set out for work by fixing a batten and centre line before applying a scratch key.  Pupils will be able to tile a flat wall using appropriate spacing and perform accurate cuts where required.  Pupils will be able to clean newly tiled areas before applying grout correctly.  Pupils will be able to trim and shape tiles around fixtures and fittings eg around a washbasin.  : | Pupils will learn about the assessment process and will participate in assessment activities by conducting self and peer assessment on a range of work.  Pupils will gain a broader understanding of the assessment practice with the aim of enabling critical thinking and knowledge of assessment expectations and standards. |
| Knowledge Components | Declarative knowledge  (know what) | * I Know what personal protective equipment (PPE) is required to carry out brickwork activity safely. * I know what the common tools and equipment used for bricklaying activities are. * I know what risks and hazards are associated with bricklaying activities. * I know what the thickness of mortar beds should be and what tolerances are. * I know the names of the different parts of a common brick. * I know what dry bonding is and how to do it. * I know what materials are required to make mortar correctly and what a ratio is. * I know what the different styles of pointing are and why they are used. | * I Know what personal protective equipment (PPE) is required to carry out woodwork activity safely. * I know what the procedure is for cutting timber to a specified size. * I know what a Tee-halving joint is. * I know what a cross halving joint is. * I know what a dovetail halving joint is. * I know what a bridle joint is. * I know what a mortise and tenon joint is. * I know what the common woodworking hand tools are. * I know what the common woodworking power tools are. * I know what is required to fasten timber components securely. * I know what the common woodworking marking tools are. | * I Know what tools, materials and equipment are used for plastering and rendering activities. * I know what (PPE) is required to carry out plastering activities safely. * I know what the process is of preparing to render/plaster surfaces. * I know what the risks and hazards are associated with plastering activities and I know what is the correct method to dispose of waste materials. * I know what materials can be used on appropriate surfaces eg Board finish,multi finish, bonding and sand and cement. | * I Know what tools, materials and equipment are required to carry out painting and decorating activities. * I know what PPE is required to keep myself clean & safe when undertaking painting and decorating activities. * I know what the process of preparing and painting surfaces is. * I know what the process is of preparing surfaces, materials and hanging wallpaper. * I know what the difference is between undercoat and gloss when painting wooden surfaces. * I know what the health & safety risks and hazards are in relation to painting activities. * I know what risks & hazards are associated with wallpapering activities. | * I Know what (PPE) is required to carry out tiling activities safely. * I know what tools, materials and equipment are used for tiling activities. * I know what the health and safety hazards are of working with sharp tools and adhesives. * I know what the process is of preparing and applying adhesive materials for tiling. * I know what the process is of battening out and creating a centre line for tiling. * I know what the process is of marking and cutting tiles correctly. | * I Know what the assessment process is. * I know what is required and expected during formal assessments. * I know what to expect during formal assessments. * I know what an appeals process is and how to make an appeal if I am unhappy with an assessment decision. |
| Procedural knowledge  (know how) | * I Know how to set up a safe working area and load up/set out for a bricklaying activity correctly. * I know how to use a cement mixer (safely) and correctly and how to mix mortar to the correct ratio for bricklaying. * I know how to interpret a working drawing. * I know how to prepare and spread mortar for brickwork. * I know how to construct brickwork in a stretcher bond with a half-jointed finish. * I know how to make brickwork level. * I know how to plumb brickwork and where the plumbing points are. * I know how to gauge brickwork. * I know how to range brickwork. * I know how to use a string lineand pins | * I know how to measure timber. * I know how to mark timber correctly. * I know how to cut timber using hand tools.   I Know how to use a bandsaw.  I know how to use a scroll saw.  I know how to use a sanding station.  I know how to construct a Tee-halving joint.  I know how to construct a cross halving joint.  I know how to construct a dovetail halving joint.  I know how to construct a bridle joint,  I know how to construct a mortise and tenon joint.  I know how to use fixings to fasten timber.  I know how to interpret a working drawing or diagram.  I know how to stain and varnish timber and apply wax to timber. | * I Know how to prepare a variety of surfaces for plastering. * I know how to mix plaster and render and prepare materials before applying to surfaces. * I know how to measure,cut and fix plasterboard studwork correctly. * I know how to cut and apply scrim/jointing tape to plasterboards. * I know how to apply materials to surfaces correctly to form an undercoat. * I know how to apply a scratch coat to render. * I know how to apply a finishing coat to render and plasterboards. * I know how to patch and repair a plasterboard wall and ceiling. | * I Know how to select and use (PPE) appropriate for preparing surfaces for painting and decorating activities.   I know how to protect surrounding surfaces and objects prior to carrying out painting and decorating activities.  I know how to select materials required to prepare and paint surfaces.  I know how to select tools and equipment required to paint surfaces.  I know how to prepare materials correctly before applying to surfaces or wallpapers.  I know how to apply paste and wallpaper correctly.  I know how to trim wallpaper neatly, safely and correctly.  I know how to correct creases and air bubbles in wallpaper.  I know how to clean tools, equipment and brushes correctly after use in painting and decorating activities.  I know how and when to use step ladders correctly. | * I know how to set up and maintain a work area safely and tidily. * I know how to calculate the number of tiles required for the activity. * I Know how to prepare surfaces for tiling. * I know how to create a centre line and battening to tile from. * I know how to apply tiling with correct spacing. * I know how to measure, mark and cut tiles correctly and safely. * I know how to grout, clean and polish tiling correctly. * I know how to clean tools and dispose of waste correctly. | * I Know how to assess my own work, as well as that of others. * I know how to mark my own work and how to spot mistakes, which I can then correct. * I know how to be self critical of my own work. * I know how to judge standards of work correctly. |
| National Curriculum reference | | * AQA Developing Basic Bricklaying Skills * AQA Building a brick pyramid * Maths- Area and perimeter, measurements, ratios, time , length, weight and pricing * English-Extract and interpret information from drawings and diagrams. | * AQA Basic Woodwork Skills. * AQA Making a Wooden Tool Box * Maths- Measurements, calculations, angles,degrees. * English-Extract and interpret information from drawings/diagrams. | * AQA Basic Plastering Skills * Maths- Measurements, ratios, areas, perimeters, costings and timings. | * AQA Painting and Decorating * Maths-Area,perimeter, measurements, timings and pricing. * English-Extract and interpret information from drawings/diagrams. | * AQA Tiling A Flat Area * Area, perimeter, measurements, weights and costings. * English-Extract and interpret information from drawings/diagrams. | * Relevant AQA Awards |
| Common misconceptions | | * The term Construction refers to the Brickwork trade alone. * All walls are built in the same manner, with the same techniques and materials | * Woodworking is outdated. * Woodwork is about hammers and nails. * You need lots of expensive tools. * Woodworking is dangerous. | * Plastering is difficult to do. * All walls are plastered using the same materials. * Plastering is very messy and it is difficult to repair plaster. | * All paints are the same. * Paint never goes off/out of date. * You don’t need to prime surfaces before painting. * Women are better at wallpapering than men. | * You don’t have to prepare the surface before tiling. * You can grout tiles as soon as you have fixed an area. * Tiles break easy and you can’t fix onto them. | * Assessments are tests. * All assessments are the same. * You cannot change the outcome of an assessment. |
| Exemplar Composite Task(s) | | * Construct a brickwork pyramid in stretcher bond. * Measure mark and cut bricks and form a stop end wall. * Measure mark and cut bricks to form a double stopped end wall to a tolerance of +- 10 mm. * Measure mark and cut bricks to form a wall in stretcher bond to a tolerance of +- 10 mm. * Construct a pyramid in stretcher bond to a tolerance of +- 5mm with a half-rounded jointed finish. * Peer and self-assess work, using criterion given. * Q&A throughout lessons to monitor understanding of tasks. * Completion of worksheets at end of lessons. * Retrieval activities at the start of lessons to monitor retention & identify gaps in learning. | * Construct a Tee-halving joint to a specification of +/-2 mm tolerance. * Construct a cross-halving joint to a specification of +/- 2mm * Construct a dovetail halving joint to a specification of +-2mm * Construct a bridle joint to a specification of +-2mmy. * Construct a mortise and tenon joint to a specification of +/- 2mm. * Construct a wooden toolbox to specification. * Construct timber framework to specification. * Peer and self assess work using criterion given. | * Prepare surfaces for rendering/plastering. * Apply the render scratch coat correctly. * Apply the render finishing coat and float up correctly. * Apply two coat plaster to plasterboards correctly. * Peer and self assess work using given criteria. * Q&A throughout the lesson to monitor understanding. * Completion of worksheets at end of lesson. * Retrieval activities at the start of lessons to monitor retention & identify gaps in learning. | * Prepare and paint skirting boards and architraves. * Prepare and paint ceiling and walls using both a brush and roller. * Prepare surfaces and apply lining paper to walls horizontally. * Prepare surfaces and apply wallpaper to walls vertically. * Peer and self assess work using criterion given. * Retrieval activities at the start of lessons to identify gaps in learning. * Q&A throughout the lesson to monitor understanding. * Completion of worksheet at end of lessons. | * Prepare surface, materials and tile a flat wall. * Form straight cuts manually and create bonds with tiles. * Correctly grout and polish tiling to create a smooth clean finish. * Peer and self assessment using criterion given. * Retrieval activities at the start of lessons. * Q&A throughout the lesson to monitor understanding. * Competition of worksheets at the end of lessons. | * Practical assessments and completion of AQA units. |