



Gledhow Primary School

DT curriculum expectations

EYFS HT1	EYFS HT2	EYFS HT3	EYFS HT4	EYFS HT5	EYFS HT6
N-What are my favourites? R-What makes me special?	N- What do I know about night time? R-Who lives in the woods?	N- Who would I like to be? R-Who is a superhero?	N- What can I see all around me? R- What changes happen in spring?	N- How do I take care of me and my world? R- Who lived/lives on planet Earth?	N- What lives on land and what lives in the sea? R-Where can we go?
N Creative outcomes Children will get the chance to: Produce a porridge with toppings.	N Creative outcomes Children will get the chance to produce:	N Creative outcomes Children will get the chance to - Sample new food. - Try sewing. - Use 1 handed tools and equipment.	N Creative outcomes Children will get the chance to: - Care for frogspawn/tadpoles/frogs - Plant seeds for vegetables and salads.	N Creative outcomes Children will get the chance to: - Look after their environment - Continue to care for frogspawn/tadpoles/frogs	N Creative outcomes Children will get the chance to: - Make and eat a salad sandwich grown in the nursery garden. - Continue to care for frogspawn/tadpoles/frogs.
R Creative outcomes Children will get the chance to:	R Creative outcomes Children will get the chance to:	R Creative outcomes Children will get the chance to: Experience a visit to or from: Police/ fire/ nurses/ guide dogs.	R Creative outcomes Children will get the chance to: Observe an Incubator with duckling eggs then look after baby ducklings.	R Creative outcomes Children will get the chance to: - Take a trip to Nell Bank. - Take pride in looking after the environment.	R Creative outcomes Children will get the chance to: - Experience a Pilot Visit - Visit a mechanic and bespoke car creator - Visit a train driver.
<u>N - Core knowledge developed by the end of the year</u> - Develop manipulation and control over tools. - Take part in simple pretend play, using an object to represent something else even though they are not similar - Begin to develop complex stories using small world equipment like animal sets, dolls and dolls houses - Make imaginative and complex ‘small worlds’ with blocks and construction kits, such as a city with different buildings and a park - Explore different materials freely, to develop their ideas about how to use them and what to make - Develop their own ideas and then decide which materials to use to express them - Join different materials and explore different textures - Create closed shapes with continuous lines and begin to use these shapes to represent objects - Draw with increasing complexity and detail, such as representing a face with a circle and including details - Use drawing to represent ideas like movement or loud noises - Explore colour and colour mixing - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. - Share their creations, explaining the process they have used. - Make use of props and materials when role playing characters in		<u>R - Core knowledge developed by the end of the year</u> - Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. - Explore, use and refine a variety of artistic effects to express their ideas and feelings. - Return to and build on their previous learning, refining ideas and developing their ability to represent them. - Create collaboratively, sharing ideas, resources and skills. - That different lengths and styles of fabric can become capes/the roof of a small den / a picnic rug or an invisibility cloak etc - Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. Examples of how to support this			

narratives and stories. - Choose and use tools appropriately. EG- spade for digging. - Talk about collections of materials- recycling Examples of how to support this - Stimulate young children’s interest in modelling - Provide a wide range of found materials (‘junk’) as well as blocks, clay, softwood, card, offcuts of fabrics and materials with different textures - Provide appropriate tools and joining methods for the materials offered - Provide lots of flexible and open-ended resources for children’s imaginative play. - Help children to negotiate roles in play and sort out conflicts. - Notice children who are not taking part in pretend play, and help them to join in. - Provide glue and masking tape for sticking pieces of scrap materials onto old cardboard boxes - Provide hammers and nails - Provide glue guns - Provide paperclips and fasteners	- Teach children to develop their colour-mixing techniques to enable them to match the colours they see and want to represent, with step-by-step guidance when appropriate. - Provide opportunities to work together to develop and realise creative ideas. - Provide children with a range of materials for children to construct with. Encourage them to think about and discuss what they want to make. Discuss problems and how they might be solved as they arise. Reflect with children on how they have achieved their aims. - Teach children different techniques for joining materials, such as how to use adhesive tape and different sorts of glue. - Provide a range of materials and tools and teach children to use them with care and precision. Promote independence, taking care not to introduce too many new things at once. - Encourage children to notice features in the natural world. Help them to define colours, shapes, textures and smells in their own words. Discuss children’s responses to what they see	
<u>Continuous Provision</u> Do: - Studio area – continuous throughout the day - Colour station - Junk modelling - Easels - Mark making - Tools i.e. scissors/glue/sellotape/string/hole punchers - Different materials i.e. feathers, tissue paper, pipe cleaners, pom poms, lolly sticks, matchsticks, masking tape - Cardboard and plastic - Focused artists - Stimuli through art books - Books with step by step methods - Different coloured card and paper - PVA glue - Children’s work displayed - Key person time – review/share/evaluate models and creations	<u>Outdoor Learning</u> Do: - Creative shed - Natural resources - Larger scale of painting - Different types of brushes - Powder paints - Watercolours - Weather - Mud pictures - Sensory garden for inspiration	<u>Vocab</u> Colour, mix, shade, darker, lighter, pencil, paintbrush, observe, pattern, technique, detail, design, model, attach, join, construct, model, collage, material, texture, printing, chilling, claw grip, cleaning, cooking, cross-contamination, evaluate, food safety, improve, recipe, cut , fasten, finish, join, saw, shape , stick Pull, pulley, push, slot, wheels and axle, body, cab, dowel, gear, chassis, frame, human-made, natural, rigid, shell, solid, nail, drill, glue gun, hammer, hole punch, Embroidery, finish, join, knit, print, sew, stitch, thread, weave

Year 1 HT2	Year 1 HT4	Year 1 HT6
Puppets This unit’s theme is based on the children choosing a storybook character to base their puppet designs on. Textiles Core knowledge By the end of unit, children will know: - That ‘joining technique’ means connecting two pieces of material together. - That there are various temporary methods of joining fabric by using staples, glue or pins. - That different techniques for joining materials can be used for different purposes. - That a template (or fabric pattern) is used to cut out the same shape multiple times. - That drawing a design idea is useful to see how an idea will look. Creative Outcomes By the end of the unit, children will have produced: - A decorated puppet to match their design. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Pencil Pot Design and make a pencil pot for a particular user, choosing suitable materials and joining methods to create a stable structure. Structures Core knowledge By the end of unit, children will know: - That structures are built for a purpose. - That structures with wider bases are more stable than those with narrow bases. - That adding extra weight to the base of a structure can make it more stable. - That a product should be designed with a particular user and purpose in mind. - That sketches help communicate design ideas and that different joining methods suit different materials. Creative Outcomes By the end of the unit, children will have produced: - A pencil pot designed for a particular user, using a sketch to plan ideas, accurately cut and joined materials, and evaluated what they like and dislike about their finished product. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Smoothies Preparing foods by cutting and juicing and selecting fruits and vegetables to create a smoothie to meet a design brief. Food and nutrition Core knowledge By the end of unit, children will know: - That a blender is a machine which mixes ingredients together into a smooth liquid. - That a fruit has seeds and a vegetable does not. - That fruits grow on trees or vines. - That vegetables can grow either above or below ground. - That vegetables are any edible part of a plant. Creative Outcomes By the end of the unit, children will have produced: - A carton design for a smoothie; having decided on the recipe they liked best and discussed whether their smoothie fulfilled a design brief. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.

Year 2 HT2	Year 2 HT4	Year 2 HT6
Baby bear’s chair	Pouches	Moving monsters
Explore stability and methods to strengthen structures, to understand Baby Bear’s chair weaknesses and develop an improved solution for him to use.	Design and make a fabric pouch using a template, learning to sew a running stitch to join fabric and decorate a finished product.	Explore levers, linkages and pivots through existing products and experimentation, use this research to construct and assemble a moving monster.
Structures	Textiles	Mechanisms
Core knowledge By the end of unit, children will know: • That shapes and structures with wide, flat bases or legs are the most stable. • That the shape of a structure affects its strength. • That materials can be manipulated to improve strength and stiffness. • That a structure is something which has been formed or made from parts. • That a ‘stable’ structure is one which is firmly fixed and unlikely to change or move. • That a ‘strong’ structure is one which does not break easily. • That a ‘stiff’ structure or material is one which does not bend easily. Creative Outcome By the end of the unit, children will have produced: • A finished structure according to design criteria and evaluate its strength, stiffness and stability. Portfolio assessment expectations: • Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: • That sewing is a method of joining fabric and that joining means connecting two pieces of material. • That a template helps to cut out matching shapes accurately, and careful alignment and even stitches make joins neater and stronger. • That drawings can communicate ideas and that neat, balanced finishing improves a product’s appearance. Creative Outcomes By the end of the unit, children will have produced: • A decorated fabric pouch, designed using drawings, cut from a template and joined with neat, evenly spaced running stitches. Pupils will evaluate their pouch against simple design criteria and suggest improvements. Portfolio assessment expectations: • Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: • That mechanisms are a collection of moving parts that work together as a machine to produce movement. • That there is always an input and an output in a mechanism. • That an input is the energy that is used to start something working. • That an output is the movement that happens as a result of the input. • That a lever is something that turns on a pivot. • That a linkage mechanism is made up of a series of levers. Creative Outcomes By the end of the unit, children will have produced: • A moving monster having explored levers, linkages and pivots through existing products and experimentation. Portfolio assessment expectations: • Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.

Year 3 HT2	Year 3 HT4	Year 3 HT6
Eating seasonally	Constructing a Castle	Pneumatic Toys
Y3 will have the opportunity to learn about seasonal foods and create a seasonal food tart.	Identify and learn about the key features of a castle, before designing and making a recycled-material castle (structure).	Explore pneumatic systems, then apply this understanding to design and make a pneumatic toy including thumbnail sketches and exploded diagrams.
Cooking and nutrition	Structures	Mechanical Systems
Core knowledge By the end of unit, children will know: - That seasonal means foods that grow in a given season in a given country. - Some seasonal foods that grow in the UK and what season they grow in. - That eating seasonal foods can have a positive impact on the environment. - How to describe the flavour and texture of foods. - How to cut and peel safely. - That the appearance of food is as important as taste. - That similar coloured fruits and vegetables often have similar nutritional benefits. Creative Outcomes By the end of the unit, children will have produced: - A tart recipe using seasonal ingredients. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: - That wide and flat based objects are more stable. - The importance of strength and stiffness in structures. - The following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse – and their purpose. - That a façade is the front of a structure. - That a castle needed to be strong and stable to withstand enemy attack. Creative Outcomes By the end of the unit, children will have produced: - A recycled-material castle having learnt about the key features of a castle. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: - How pneumatic systems work. - That pneumatic systems can be used as part of a mechanism. - That pneumatic systems operate by drawing in, releasing and compressing air Creative Outcomes By the end of the unit, children will have produced: - A pneumatic toy having explored pneumatic systems. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.

Year 4 HT2	Year 4 HT4	Year 4 HT6
Pavilions	Digital World – Electronic Timer	Fastenings
Use CAD to design a Roman structure. Investigate and model frame structures to improve their stability, then apply this research to design and create a stable, decorated pavilion.	Investigate existing timers, program a virtual micro:bit timer and use 2D CAD to design a logo for the product.	Analyse and evaluate a range of existing fastenings, then devise a list of design criteria to design, generate templates and make a fabric book sleeve.
Structure	Digital World	Textiles
Core knowledge By the end of unit, children will know: - What a frame structure is. - That a ‘free-standing’ structure is one that can stand on its own. - That a pavilion is a decorative building or structure for leisure activities. - That cladding can be applied to structures for different effects. - That aesthetics are how a product looks. Creative Outcomes By the end of the unit, children will have produced: - A decorated pavilion having investigated strengthening and decorative techniques. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: - That timers are designed for different users and purposes, and existing products have strengths and weaknesses. - That a micro:bit can be programmed to monitor time using code, including loops and button inputs. - That a virtual micro:bit simulator can be used to test a timer and identify errors in code. - That 2D CAD software, such as Sketchpad, can be used to create and refine a logo for a product. - That research, design criteria and user feedback help designers create and improve products. Creative Outcomes By the end of the unit, children will have produced: - A programmed virtual micro:bit timer with a chosen countdown, tested and refined using the simulator, and a 2D CAD logo designed for the product and evaluated using user feedback. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: - That a fastening is something that holds two pieces of material together. - That different fastening types are useful for different purposes. - That creating a mock-up (prototype) of their design is useful for checking ideas and proportions. Creative Outcomes By the end of the unit, children will have produced: - A fabric book sleeve having analysed and evaluated a range of existing fastenings. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.

Year 5 HT2	Year 5 HT4	Year 5 HT6
Bridges Investigate different bridge structures and build a wooden truss bridge, using triangles to strengthen the structure so that it can support a load. Structures Core knowledge By the end of unit, children will know: - That beam, arch, truss and suspension bridges have different structures and ways of supporting loads. - That triangles and other reinforcements can make bridges stronger and help them support more weight. - That materials, including wood, have different functional properties which affect their suitability for a structure. - That measuring accurately, choosing suitable tools and using a saw safely are important when constructing a wooden bridge. - That testing a structure helps identify weak points which can then be reinforced and improved. Creative Outcomes By the end of the unit, children will have produced: - A wooden truss bridge, made from accurately measured and cut beams, using triangular supports and reinforcements to span a gap and carry a load. Children will test their bridge, identify weaknesses and suggest improvements. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Doodlers This unit explores series circuits further and introduces motors. Children explore how the design cycle can be approached at a different starting point, by investigating an existing product, which uses a motor, to encourage pupils to problem-solve and work out how the product has been constructed, ready to develop their own. Electrical systems Core knowledge By the end of unit, children will know: - That, in a series circuit, electricity only flows in one direction. - If there is a break in a series circuit, all components turn off. - An electric motor converts electrical energy into rotational movement, causing the motor’s axle to spin. - That a motorised product is one which uses a motor to function. Creative Outcomes By the end of the unit, children will have produced: - An electric doodler having after exploring series circuits and investigating an existing product, which uses a motor, to encourage pupils to problem-solve and work out how the product has been constructed. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Cooking – Adapting a Recipe Children research a traditional bolognese recipe, adapt its ingredients to improve nutritional value, and prepare and cook their own version safely. Cooking and nutrition Core knowledge By the end of unit, children will know: - That meat comes from animals and be able to describe the process of beef production. - That recipes can be adapted by adding, removing or substituting ingredients to meet nutritional needs and dietary requirements. - That nutritional information can be used to compare recipes and help make healthier ingredient choices. - That researching ingredients and planning equipment and steps supports successful food preparation. That knives, hot pans and hobs must be used safely and good food hygiene helps prevent cross-contamination. That changing the order of steps in a recipe can affect the final result. Creative Outcomes - By the end of the unit, children will have produced: An adapted bolognese recipe, informed by research and nutritional considerations, and a prepared and cooked bolognese sauce using safe food preparation techniques. Portfolio assessment expectations: Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.

Year 6 HT2	Year 6 HT4	Year 6 HT6
Come Dine with Me	Playgrounds	Steady hand game
Develop a three-course menu focused on three key ingredients, as part of a challenge to develop the best class recipes.	Research existing playground equipment and their different forms, before designing and developing a range of apparatus to meet a list of specified design criteria.	Understand what is meant by fit for purpose design and form follows function. Design and develop a steady hand game using a series circuit, including housing and backboard.
Cooking and Nutrician	Structure	Electric Systems
Core knowledge By the end of unit, children will know: - That ‘flavour’ is how a food or drink tastes. - That many countries have ‘national dishes’ which are recipes associated with that country. - That ‘processed food’ means food that has been put through multiple changes in a factory. - That it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. - What happens to a certain food before it appears on the supermarket shelf (farm to fork). Creative Outcomes By the end of the unit, children will have produced: - A recipe after exploring the key steps, method and ingredients. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: - That structures can be strengthened by manipulating materials and shapes. - What a ‘footprint plan’ is. - That in the real world, design can impact users in positive and negative ways. - That a prototype is a cheap model to test a design idea. Creative Outcomes By the end of the unit, children will have produced: - A range of apparatus having researched existing playground equipment and their different forms. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.	Core knowledge By the end of unit, children will know: - That ‘form’ means the shape and appearance of an object. - The difference between ‘form’ and ‘function’. - That ‘fit for purpose’ means that a product works how it should and is easy to use. - That ‘form over purpose’ means that a product looks good but does not work very well. - The importance of ‘form follows function’ when designing: the product must be designed primarily with the function in mind. - The diagram perspectives ‘top view’, ‘side view’ and ‘back’. Creative Outcomes By the end of the unit, children will have produced: - A steady hand game using a series circuit, including housing and backboard. Portfolio assessment expectations: - Quiz at the start of the unit to find out where pupils are in their learning and at the end of the unit to assess progress.