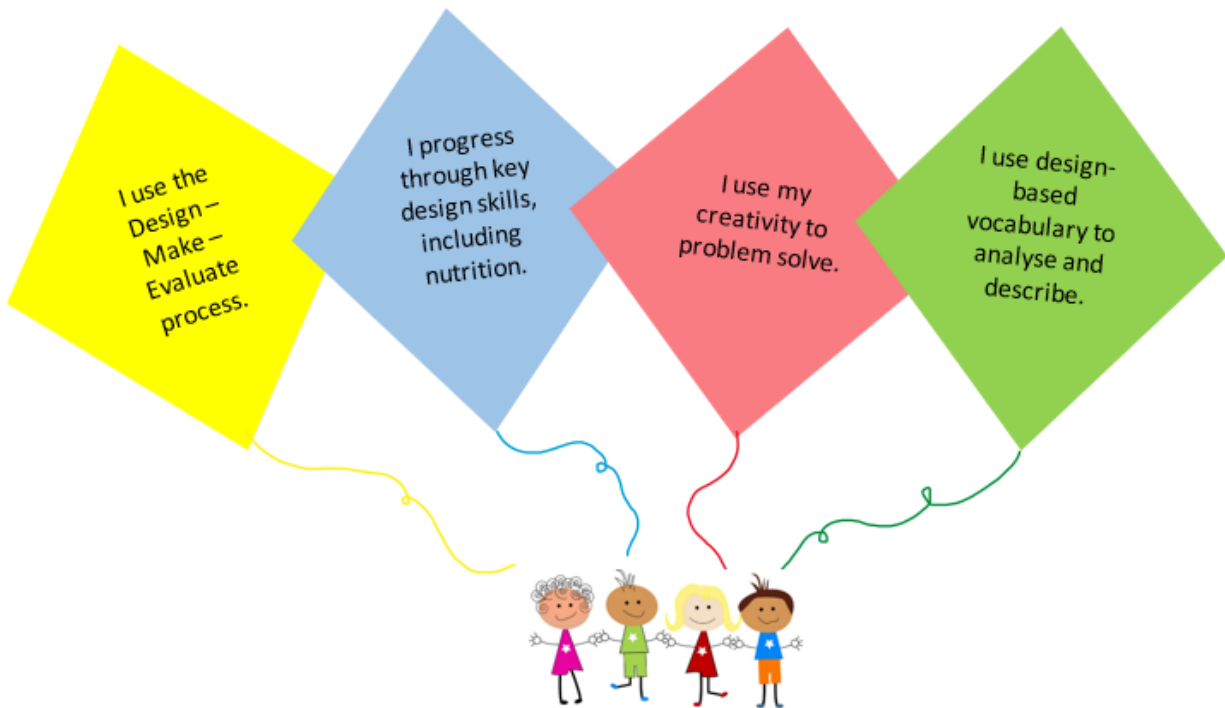**A Great Heights Academy Trust School**

How to teach
Design & Technology
at Bowling Green
Academy

Design and Technology

Design & Technology Unit Focus Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Construction: Post a Pringle/egg		Food: Fruit salad		Construction: Building Structures	
Year 2	Food: Cupcakes		Mechanics, Electrics and Computing: Design a car		Textiles: Make a book bag	
Year 3	Textiles: Class banner (patchwork quilt)		Spr 2 - Construction, Mechanisms and materials Create a working catapult			
Year 4	Food: Yorkshire puddings		Electronics and construction: Lighthouse		Computing and materials: Robot	
Year 5			Food: Fruit crumble		Construction: Bug hotel Electronics and construction: Emley Moor mast*	
Year 6	Textiles: Bayeux tapestry		Construction and mechanics: CAM toy		Computing: 3D digital construction	

What does Design and Technology look like in EYFS?

Design and Technology in Reception is building the foundation skills needed for Design and Technology.

Our Design and Technology scheme for the EYFS is centred around play-based activities that focus on building children's fine motor skills, curiosity and creativity and problem solving.

Design and Technology in the Early Years can mean:

- Junk modelling
- Fine motor skills (using scissors)
- Folding, joining, connecting, sticking, scrunching etc. paper.
- Puppets for role play
- Baking,
- playdoh - modelling, rolling, chopping,

Allowing children the opportunity to explore Design and Technology in this carefree and often child-led way, means that not only will they develop a familiarity with equipment and vocabulary but they will have a strong start in Key Stage 1 Design and Technology and all that it demands.

Lesson sequence

Design and Technology lessons at Bowling green consist of learning and recapping new vocabulary, followed by new learning material/skill and a series of activities to implement new learning/skill.

Lesson Example

Flashback and Vocabulary	Introducing new skill	Activities related to new skill	Reflection.
Flashback including retrieval questions such as: Last lesson, Last week, Last unit, Last Year as well as Key knowledge. Recap of previously learnt vocabulary. And introducing new vocabulary.	Skill introduction, Where, Why, When – discussing future Job opportunities that could arise from practising or using new skill. Children taught new learning material with modelling.	Children implement learning through a series of different challenges/activities.	Children reflect on learning and vocabulary taught in lesson.

Unit example

Introduction to all skills and vocabulary.	Practise each skill.	'Design and build for purpose' phase. Developing success criteria.	Reflection on learning and new skills. Evaluating item based on success criteria and purpose.

NB. Teachers should always check the lesson plans thoroughly to familiarise themselves with the lesson content and activities.

Assessment

BGA – DT Assessment

In DT, through a variety of creative, skill-based tasks, children are able to design, make and evaluate their projects against a specific purpose. Core knowledge and vocabulary is revisited at the beginning of lessons in 'Flashbacks' or other retrieval practices. Units of work are thoughtfully planned out through the use of bespoke knowledge organisers.

- *Teacher observations*
- *Self-assessment and peer assessment against agreed criteria, e.g. hinges or ingredients used*
- *Questioning, such as Hinge questions e.g.What does the pulley system help with? (Year 4).*
- *Retrieval practice – through Flashbacks, quizzes etc.*

At the end of each term, Teachers should input data onto Arbor and assess each child based on WTS or EXP standard.

Food		Textiles		Mechanics		
AUTUMN		SPRING		SUMMER		
WT	A	WT	A	WT	A	

Food
How to weigh out ingredients independently.
How flour is produced.
Know where sugar is grown & produced.
Start to use a range of kitchen equipment safely and confidently.
Keep myself and others safe in the kitchen.
Understand the importance of food hygiene.
Explain what is good about my cup cake.
Identify how to improve my cup cake.

Textiles
How to design and develop an idea
How to use tools safely and accurately
How to use a running stitch
Select the correct tools and material for the final purpose
How to test a product to see if it is fit for purpose
Identify ways to improve my product
Decorate a bookbag

Mechanics, Electrics and Computing
Test if a battery works
The key features of a battery (+ and – terminal)
Write simple commands to program a beebot
Use scratch to drive a car
How to join two pieces of material together
How to construct a car and axle.

Please see the example below to help assessment.

Academic Year		Autumn		Academic Year	
Baseline	▼	Design and Technology Tea... ▼		Year Target	▼
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	
			∨	3 EXS	

Using the drop-down menu on Arbor, teachers can choose whether a child has met objectives and is EXP or whether they are WTS.

How are SEND and the lowest 20% supported?

What knowledge must learners acquire?

- Develop creativity and imagination.
- Key vocabulary.
- build and apply a repertoire of knowledge, understanding and skills
- critique, evaluate and test their ideas and products and the work of others

What does progression look like?

- Progression in Design and Technology involves developing skills and knowledge through:
- Using an increasing range of programs and systems
- Developing more complex coding and programming skills
- Become more creative in their application of skills
- Increasing independence for all the above
- For pupils with SEND, progression may be more supported. Progression will look different depending upon their individual learning and development needs. Progression will be measured against individual starting points rather against the year group expectations as differentiation may mean that the pupils are working on the Design and Technology curriculum below their current year

Strategies to support learners include

- Use of high quality wagolls
- modelling
- Use of reward system- house and dojo points
- Adult and peer support
- Repetition of key learning points.
- Clear language
- Key word/vocab map prompt
- Visual aids on working walls
- Multisensory approach
- Break tasks down into chunks
- Peer group work
- Allow sufficient time for pupils to complete given task

Where is vocabulary and language explicitly taught?

- Within lessons – key vocabulary highlighted and displayed. Referred to regularly and recapped to check understanding.
- Reinforced in writing through from their planning process to evaluation of the designed piece.

Strategies to support learners (examples*)

- Praise and encouragement
- Repetition of key learning points.
- Checklist of learning steps.
- Practical demonstration
- Visual aid
- Modelling of spoken and written answers.
- concrete examples, linked to previous learning/familiar contexts.
- checking understanding – careful questioning, asking the student to explain to a classmate, applying learning to a different context.
- Use of writing frames to help structure any written work

Evidencing work

When evidencing Design and Technology, teachers and children should be using SeeSaw to upload images, videos, voice recordings to explain throughout the designing, creating and evaluating stages of Design and Technology.