The Dales School
North Yorkshire

The Dales School Curriculum
Nothing About Me Without Me

Curriculum Area: Cognition [Maths, Science & Technology]

Our Vision, Intent & Implementation

Vision:
Our vision is to develop skills for life supporting our pupils to become effective learners. To enable pupils of all ages and stages of development to become inquisitive learners and problem solvers, to initiate, explore and engage with their environment.

Intent:
We have a pupil centred curriculum model. Cognitive thinking skills are essential pre-requisites for accessing learning and a core area of our curriculum.
Our curriculum offers ipsative assessment opportunities to track pupil progress from their own baseline and ensure correlation with EHCPs to affect positive outcomes. We offer broad and balanced thinking skills, maths and STEAM opportunities in both a discrete and cross curricular approach.

Implementation:
We implement personalised learning and a highly differentiated offer that aligns with the developmental stage of the pupil. Each pupil has bespoke termly individual learning intentions planned and assessed for this curriculum area. Applying research and theoretical pedagogy to understand how pupils learn from: early schematic play development and environmental control by single switch technology; to mathematical concepts, science experiments, metacognition; and preparation for adulthood applying functional maths skills in the community. We work as a multidisciplinary team around the pupil to support best outcomes, liaising with families, therapists, social care and all stakeholders. Planning is phase specific to ensure age-appropriate activities and material, varied and sequential experiences covering all maths and science, technology strands to motivate, interest and foster enjoyment in all areas of this vital curriculum area. Pupils' individual cognitive and thinking skills are targeted through personalised assessment and supported through the 'plan, do, review' model. Each pupil's progression is evidenced through observations, pupil work and moderated robustly through external and internal QA processes.

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EYFS Curriculum Pathway and Long-Term Plan Mathematics/Understanding the World			
3 Year Rolling Programme	Autumn Term	Spring Term	Summer Term
Cycle A	In Theme Title: My Routine	Theme Title: In the Garden	Theme Title: Ready, Steady….
Maths	**Each pupil has individualised EYFS PLIs in Maths to support their developmental stage including pre-requisite mathematical skills and early schematic learning.**		
	Across the year the following areas of Maths are planned for and delivered: Number & Numerical Patterns Measure, Space and Spatial Thinking- *1:1 correspondence, sequencing, matching, pairs, grouping and sorting, colour, pattern, shape, orientation & position, size & mass, capacity, length & height, time [daily routine, now & next], comparing, number representation.*		
UTW/The Natural World	Home and school environments	Plants and mini beasts	Wheels, movement and transportation
Cycle B	Theme Title: This is My Body	Theme Title: What Can You Hear?	Theme Title: The Sun Has Got His Hat On!
Maths	**Each pupil has individualised EYFS PLIs in Maths to support their developmental stage including pre-requisite mathematical skills and early schematic learning.**		
	Across the year the following areas of Maths are planned for and delivered: Number & Numerical Patterns Measure, Space and Spatial Thinking- *1:1 correspondence, sequencing, matching, pairs, grouping and sorting, colour, pattern, shape, orientation & position, size & mass, capacity, length & height, time [daily routine, now & next], comparing, number representation.*		
UTW/The Natural World	Preferences and choices	Exploring sounds out and about	Outdoor summer activities
Cycle C	Theme Title: Happy Birthday!	Theme Title: Animal Friends	Theme Title: Rainbows
Maths	**Each pupil has individualised EYFS PLIs in Maths to support their developmental stage including pre-requisite mathematical skills and early schematic learning.**		
	Across the year the following areas of Maths are planned for and delivered: Number & Numerical Patterns Measure, Space and Spatial Thinking- *1:1 correspondence, sequencing, matching, pairs, grouping and sorting, colour, pattern, shape, orientation & position, size & mass, capacity, length & height, time [daily routine, now & next], comparing, number representation.*		
UTW/ The Natural World	Outdoor visits	Pets and farm animals	Exploring the colours of the rainbow
Assessment	EYFS: Personalised EYFS Birth to 5 Matters Tracker covering areas of learning: Maths and Understanding the World. EYFS Personalised Learning Intentions. CoEL.		

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Primary Pre-Formal & Semi-Formal Curriculum Pathways and Long-Term Plan My Cognition [Maths, Science & Technology] Planning and progression for the strands* of Mathematics & Scientific Enquiry are linked to MAPP PLI's and Cherry Garden CLL Framework.			
3 Year Rolling Programme	Autumn Term	Spring Term	Summer Term
Cycle A	Theme Title: My Busy Day	Theme Title: The Weather Forecast	Theme Title: Vroom!
Maths	**Each pupil has individualised MAPP PLIs in thinking skills to support their developmental stage including pre-requisite mathematical skills and early schematic learning. Pupils at higher mathematical conceptual stage can access elements of White Rose Maths Scheme.**		
	Number, Measurement, Algebra	Number, Geometry	Number, Ratio/Proportion, Statistics
Science	Science: People- night and day, daily routines and patterns of life.	Science: Plants- key features of plants and their structures, what they need to grow and thrive.	Science: Everyday Materials- sorting and identifying materials in our environment.
Technology	**For pupils at a very early developmental stage MAPP PLIs thinking skills/communication & literacy to support switch control, switch sequencing and timing, environmental control/cause & effect, access and experience technology in their environment.**		
	D&T: Design and create a puppet- hand, string pull/split pin, shadow, sewing. Computing: Accessing media for leisure and knowledge, Puppet based movies/shows.	D&T: Plant based recipes, research [choice making/preference] and prepare/cook. Computing: Research and using the internet vs books for above project. E-safety.	D&T: Design and create a wheeled vehicle [link to above]. Computing: Accessing a drawing and creator app/software for above project or iPad mark making software.
Cycle B	Theme Title: All About Me	Theme Title: Tell Me A Story	Theme Title: Oh, I Do Like to Be Beside the Seaside!
Maths	**Each pupil has individualised MAPP PLIs in thinking skills to support their developmental stage including pre-requisite mathematical skills and early schematic learning. Pupils at higher mathematical conceptual stage can access elements of White Rose Maths Scheme.**		
	Number, Measurement, Algebra	Number, Geometry	Number, Ratio/Proportion, Statistics
Science	Science: Humans [Animals]- The body and our senses.	Science/D&T: Uses of Everyday Materials -Create a book with moving parts.	Science: Living Things and Habitats- Creatures/Plants that live in the sea and on the shoreline.
Technology	**For pupils at a very early developmental stage MAPP PLIs thinking skills/communication & literacy to support switch control, switch sequencing and timing, environmental control/cause & effect, access and experience technology in their environment.**		

	D&T: Designing and cooking healthy snacks. Computing: Use symbol/text in Word/CiP to make recipe sheets.	Computing: using software/app create a book/story to share, upload images/text/or accessing online stories.	D&T- Design/make articulated mobiles. Computing: Create a soundscape.
Cycle C	Theme Title: Time to Celebrate & Party	Theme Title: Down On the Farm	Theme Title: Colour My World
Maths	**Each pupil has individualised MAPP PLIs in thinking skills to support their developmental stage including pre-requisite mathematical skills and early schematic learning. Pupils at higher mathematical conceptual stage can access elements of White Rose Maths Scheme.**		
	Number, Measurement, Algebra	Number, Geometry	Number, Ratio/Proportion, Statistics
Science	Science: Everyday Materials- Clothing, different fabric and materials for warmth and to keep cool. Party clothing!	Science: Animals- new life and growth, farm and domesticated animals.	Science: Seasonal Changes- the key features and cycle of the four seasons.
Technology	**For pupils at a very early developmental stage MAPP PLIs thinking skills/communication & literacy to support switch control, switch sequencing and timing, environmental control/cause & effect, access and experience technology in their environment.**		
	D&T: Party food and celebration meal. Design and bake a birthday or Christmas cake. Computing: Using word and developing keyboard skills.	D&T: Design and build a home for creatures: hedgehog hide, bird box. Computing: Using a digital camera, take images and save to view/print or using an iPad/device to click and view.	D&T: Food from around the world- colourful fruit, vegetables and spices. Computing: The worldwide web, internet and it's uses.
Assessment	Pre-Formal: Cherry Garden Framework Branch Maps 1-4. MAPP Thinking Skills and Engagement Model. Semi-Formal: Cherry Garden Framework Branch Maps Mathematics & Scientific Enquiry [understanding the world] 5-10 and Bridging Branch Maps 10+. MAPP Thinking Skills and Pre-Key Stage Standards for Maths.		

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Secondary Pre-Formal Semi-Formal Curriculum Pathways and Long-Term Plan My Cognition [Maths, Science & Technology] Planning and progression for the strands* of Mathematics & Scientific Enquiry are linked to MAPP PLIs and Cherry Garden CLL Framework.			
3 Year Rolling Programme	Autumn Term	Spring Term	Summer Term
Cycle A	Theme Title: Sunrise to Sunset	Theme Title: It's a Bugs Life	Theme Title: I Like to Move It Move It
Maths	**Each pupil has individualised MAPP PLIs in thinking skills to support their developmental stage including pre-requisite mathematical skills. Pupils at higher mathematical conceptual stage can access elements of White Rose Maths Scheme.**		
Science	Science: Our bodies- Nutrition, skeletons and muscles and/or exercise [links with physical].	Science: Living Things- insects/amphibians and their life cycles. Link to John Muir Award.	Science: Forces- how things move on different surfaces. Magnets and their properties.
Technology	**For pupils at a very early developmental stage MAPP PLIs thinking skills/communication & literacy to support switch control, switch sequencing and timing, environmental control/cause & effect, access and experience technology in their environment.**		
Technology	D&T: Rise and Shine, planning and preparing healthy breakfasts. Computing: Using the PC and ipad to make a table and record information [data].	D&T: Create a bug hotel- look at examples, design and make. Computing: Use a design app to create a cad image and plan for the bug hotel projects.	D&T: Design and create a group magnetic game e.g., fishing game, vehicles joined/moved by magnets. Explore magnetic toys and games. Computing: Computing games and apps for leisure- controlling and using joystick and alternative controllers.
Cycle B	Theme Title: My Sensory Planet	Theme Title: Caring & Sharing	Theme Title: Holidays & Vacation
Maths	**Each pupil has individualised MAPP PLIs in thinking skills to support their developmental stage including pre-requisite mathematical skills. Pupils at higher mathematical conceptual stage can access elements of White Rose Maths Scheme.**		
Science	Science: Our solar system- the Earth, Moon and Sun and/or our immediate environment/world.	Science/D&T: Sound and hearing- how is sound created and our ears. Creating musical instruments- elastic band box guitars. Link to music.	Science: Living Things and Habitats- different climates and regions, climate change and impact. Link to John Muir Award.
Technology	**For pupils at a very early developmental stage MAPP PLIs thinking skills/communication & literacy to support switch control, switch sequencing and timing, environmental control/cause & effect, access and experience technology in their environment.**		
Technology	D&T: Design and make Viking artefacts and costume, joining textiles and fabric. Computing: Use symbol/text in Word/CiP to make instruction sheets/a fact project book on Vikings/Solar Systems	Computing: Music apps and creating music and sound. Using headphones and microphones,	D&T- Picnics, food on the go! Computing: Using maps and directions. Geocaching. Link to PE and orienteering.

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Cycle C	Theme Title: Fiesta!	Theme Title: Farm to Fork	Theme Title: Patterns Everywhere
Maths	**Each pupil has individualised MAPP PLIs in thinking skills to support their developmental stage including pre-requisite mathematical skills. Pupils at higher mathematical conceptual stage can access elements of White Rose Maths Scheme.**		
Science	Science: Changing states- solids, liquids and gases. Identify, sort and create/change.	Science: Plants- effect of different factors on plant growth, seeds and their function, structure and dispersal, seeds patterns in fruit.	Science: Light and Shadow- natural and manmade sources of light, creating shadows.
Technology	**For pupils at a very early developmental stage MAPP PLIs thinking skills/communication & literacy to support switch control, switch sequencing and timing, environmental control/cause & effect, access and experience technology in their environment.**		
Technology	D&T: Fiesta! Link design and making of party food to scientific cooking! Link to Science/RE Computing: Link to KS1, Digital communication- develop to email and constructing and sending email.	D&T: Nutrition and cooking- seasonal foods locally sourced and grown Computing: Digital communication- gaming and e-safety. Link to PSHE.	D&T: Link to KS1 and spices, History Link. Look at how spices are stored and kept- spice box/tins, spice containers and racks. Design and create a spice holder. Tools/wood project. Computing: Using a digital camera and apps to manipulate images. Link to Art & Design.
Assessment	Pre-Formal: Cherry Garden Framework Branch Maps 1-4. MAPP Thinking Skills and Engagement Model. Semi-Formal: Cherry Garden Framework Branch Maps Mathematics & Scientific Enquiry [understanding the world] 5-10 and Bridging Branch Maps 10+. MAPP Thinking Skills and Pre-Key Stage Standards for Maths.		

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Sixth Form Inspire & Challenge Curriculum Pathways and Long-Term Plan Functional Skills- Maths			
3 Year Rolling Programme	Autumn Term	Spring Term	Summer Term
Cycle A Planning and progression for Functional Skills Maths is taken from the ASDAN Life Skills Programme, linked to MAPP PLI's. NCFE Functional Skills is used to inform planning and progression for pupils who are meeting WTE1-E3.	Theme Title: Festivals **Challenge:** Developing functional skills [numeracy]: Festivals and Celebrations **Inspire:** Developing functional skills [numeracy]: Festivals and Celebrations NCFE Baseline Assessment Yr.12	Theme Title: On the Go **Challenge:** Developing functional skills: Going Places **Inspire:** Developing functional skills: Going Places	Theme Title: Trees, Woodland & Forest **Challenge:** Collecting and representing information Extract and compare information **Inspire:** In my community- collecting data Sorting information
Cycle B Planning and progression for Functional Skills Maths is taken from the ASDAN Life Skills Programme, linked to MAPP PLI's. NCFE Functional Skills is used to inform planning and progression for pupils who are meeting WTE1-E3.	Theme Title: Space & Galaxies **Challenge:** Understanding Money Using Money **Inspire:** Understanding and Using Money- concept of exchange [PMLD], where and why, recognising and identifying currency. NCFE Baseline Assessment Yr.12	Theme Title: Town & Country **Challenge:** Telling the time o'clock & half past, sequencing events in the day. Working with numbers **Inspire:** Practical understanding and organization of time through days and weeks	Theme Title: Heroes & Role Models **Challenge:** Knowing about 2D/3D shapes and positional vocabulary Understanding Length, Weight & Capacity **Inspire:** Identifying 2D/3D Shapes/Using simple Positional language Describing and Comparing Weight & Capacity.
Cycle C Planning and progression for Functional Skills Maths is taken from the ASDAN Life Skills Programme, linked to MAPP PLI's. NCFE Functional Skills is used to inform planning and progression for pupils	Theme Title: Homes **Challenge:** Christmas shopping How to extract, sort and compare information **Inspire:** Sorting information Calculating numbers 1-10	Theme Title: Myths & Legends **Challenge:** Working with numbers Understanding length, weight and capacity **Inspire:** Describing and comparing size and dimension Problem, solving with numbers up to 10 for use in everyday situations	Theme Title: Ocean & Sea **Challenge:** Know about measuring time Using money **Inspire:** Practical organisation and understanding of time- Seasons Understanding money

who are meeting WTE1-E3.	NCFE Baseline Assessment Yr.12		Using simple positional language
Assessment	Inspire: MAPP Thinking Skills, ASDAN PP [some units] E1. Challenge: MAPP Thinking Skills, NCFE- Functional Skills Maths E1-3, ASDAN PSD E1-3 [some units e.g., Money].		