STEAM – Progression Planning

Intent: As members of a diverse community, children are supported to question, reflect and embrace their own individuality, the diversity of a global society and their essential connection with nature. Scientific enquiry is an intended vehicle through which children will test theories and think critically. Through a creative indoor and outdoor curriculum we intend to teach children about their own history and to develop a sense of time in the context of life on earth. Our intention is to support children's awareness of geographical concepts, promoting a love of their own daily environments and also global ecosystems. As children explore natural and manmade materials, and forces in nature, the innovative curriculum, based on metacognition and enquiry, is intended to support the development of technological thinking and the application of engineering skills. Through the lens of environmental sustainability, our intent is to provide children with an understanding of their life experience past, present and future.

Implementation: MetaSTEAM is a unique school based approach, designed to integrate music and rhyme into STEM subjects. Expert knowledge unpins the implementation of this and running throughout, is a metacognitive thread of connection. Knowledge and skill are developed with fluency and remain connected to the past, present and future life experiences of our children. Disconnection and misunderstanding is identified and effectively addressed, enabling long term memory to be positively impacted. Teachers ensure that children understand and embed key concepts, supporting the development of enquiry, critical thinking and creativity. As educated global citizens, MetaSTEAM supports children to think and reflect upon problems and solutions within their local and global communities. We expand knowledge of the world through our focus on cultural capital and children develop a love and respect for our natural world through our differentiated Forest school provision, outdoor learning environments and environmental education programme, using our outdoor STEM Hive. All of this is achieved through a Reggio Emilia style approach to our curriculum implementation. A belief that children access their learning through many different languages, inspires a creative and diverse approach to teaching.

Through our focus on cognitive challenge and high aspirations for all, our enhancement opportunities are as follows: Indoor STEM target sessions supporting different levels of attainment, MetaSTEAM focused group in the STEM Hive - concentrating on curriculum integration, Environmental Education through MetaSTEAM in the STEM Hive, Aspiration Group, Earth Elves – introductory forest school sessions for our younger children and whole day Forest School sessions.

MetaSTEAM and the EYFS - Alfreton Nursery School								
Progression Stages	**EYFS Assessment**	**ANS Skills progression**	**Transition GLD**	**MetaSTEAM A - Z Progression**			**Term of focus**	**Enhance.**
	Stacks blocks and puts things inside others, taking them out again (Maths)	Notice similarities and differences	Positional language	C	D	T	Autumn 1 STEAM	Stanley STEAM – AH, K & J– All levels all term Musical focus on engineering P4C – AH AMA levels & LH Exp. levels Social and imaginative enquiries STEM Hive – AH AMA levels Natural world and engineering skills Science – AH, JW & SM - All levels
	Compares amounts - more, lots, same (Maths)	Compare what is seen	Measure language	C	D	T		
	Explore materials with different properties. (UW)	Explore using the senses	Describe immediate environment	C	D	T		
	Explore natural materials, indoors and outside.(UW)	Explore using the senses	Make observations and draw on links to past learning	C	D	T		

								Aspiration Group – AH AMA levels Global perspective on nature and societies	
	Autumn 1 Core vocabulary: **More, less, big, small, next, before, same, different, hard, soft, rough, smooth**								
	Make connections between the features of their family and other families.(UW)	Notice similarities and differences Recognise social differences	Know some similarities and differences from their own lives and others	Z	E	Q	Autumn 2 STEAM	Stanley STEAM – AH, K & J– All levels all term Musical focus on engineering P4C – AH AMA levels & LH Exp. levels Social and imaginative enquiries STEM Hive – AH AMA levels Natural world and engineering skills Science – AH, JW & SM - All levels	
	Build with a range of resources (Maths)	Notice similarities and differences	Positional and measure language	Z	E	Q			
	Notice differences between people. (UW)	Notice similarities and difference Recognise social difference	Know some similarities and differences from their own lives and others	Z	E	Q			
	Make simple models which express their ideas (EA&D)	Understand and represent similarities and differences	Explore a variety of materials, tools	Z	E	Q			

			and techniques					Aspiration Group – AH AMA levels Global perspective on nature and societies
	Autumn 2 Core vocabulary: **More, less, big, small, next, before, same, different, hard, soft, rough, smooth, family, friend**							
	Explores 2D & 3D shapes - round, flat, sides, corner . . . (Maths)	Name simple 2D shapes Name one or more 3D shapes	Recognise 2D shapes	C	D	T	Spring 1 STEAM	Stanley STEAM – AH, K & J– All levels all term Musical focus on engineering P4C – AH AMA levels & LH Exp. levels Social and imaginative enquiries STEM Hive – AH AMA levels Natural world and engineering skills Science – AH, JW & SM - All levels
	Use all their senses in hands on exploration of natural materials. (UW)	Make comparisons Explore using the senses	Understand important natural processes and changing states of matter.	C	D	T		
	Explore collections of materials with similar and/or different properties. (UW)	Make comparisons	Make observations and draw on links to past learning	C	D	T		
	Explore different materials freely, developing their own ideas and selecting	Make choices/ selections	Know some similarities and differences from their own	C	D	T		

	which materials to use (EA&D)		lives and others					Aspiration Group – AH AMA levels Global perspective on nature and societies	
	Talk about what they see, using a wide vocabulary. (UW)	Discuss and test theories	Make observations and draw on links to past learning	C	D	T			
	Spring 1 Core vocabulary: **2D shape names, change, same, different, touch, feel, smell, taste, hear, listen, see, look, choose, like, prefer**								
	Compares size, weight, length and capacity (Maths)	Talk about measurement more broadly	Understand measurement	G	W	V	Spring 2 STEAM	Stanley STEAM – AH, K & J– All levels all term Musical focus on engineering P4C – AH AMA levels & LH Exp. levels Social and imaginative enquiries STEM Hive – AH AMA levels Natural world and engineering skills	
	Begin to make sense of their own life-story and family's history. (UW)	Develop a sense of self in comparison to others	Talk about the lives of people around them and draw on their own experience.	G	W	V			
	Show interest in different occupations. (UW)	Show awareness of their social experiences	Talk about the lives of people around them and draw on their own experience.	G	W	V			
	Join materials together and explore different textures (EA&D)	Explore, testing and adapting in response to need	Explore a variety of materials, tools	G	W	V			

			and techniques					Science – AH, JW & SM - All levels Aspiration Group – AH AMA levels Global perspective on nature and societies
	Explore how things work. (UW)	Question and test theories	Notice similarities and differences in contrasting environments	G	W	V		
	Plant seeds and care for growing plants. (UW)	See themselves as able to make positive impact	Understand changes in the natural world	G	W	V		
	Build and create small worlds using construction materials, such as dinosaur world with trees and rocks and water. (EA&D)	Use imagination to influence understanding of real life	Explore a variety of materials, tools and techniques	G	W	V		
	Spring 2 Core vocabulary: **2D & 3D shape names, pattern, change, same, different, touch, feel, smell, taste, hear, listen, see, look, choose, like, prefer, tools, care, grow, nature**							
	Understand the key features of the life cycle of a plant and an animal. (UW)	See patterns and connections in the natural world	Understand changes in the natural world	O	P	J	Summer 1 STEAM	Stanley STEAM – AH – All levels all term Musical focus on engineering

	Begin to understand the need to respect and care for the natural environment and all living things. (UW)	Develop a sense of responsibility	Understand changes in the natural world	O	P	J		P4C – AH AMA levels & LH Exp. levels Social and imaginative enquiries STEM Hive – AH AMA levels Natural world and engineering skills Science – JW & SM AMA. levels Investigations around forces Aspiration Group – AH AMA levels Global perspective on nature and societies	
	Talks about and identifies patterns in the environment (Maths)	Notice similarities and differences	Understand, continue and create a repeating pattern	O	P	J			
	Explore and talk about different forces they can feel. (UW)	Make comparisons between what they see and feel	Understand important natural processes and changing states of matter.	O	P	J			
	Use language to describe a sequence of events - first, next, then (Maths)	Uses ordinal language	Positional language	O	P	J			
	Talk about the differences between materials and changes they notice. (UW)	Make comparisons between what they see and feel Test theories	Understand important natural processes and changing states of matter.	O	P	J			

	Continue developing positive attitudes about the differences between people. (UW)	Develop a sense of responsibility and compassion	Talk about the lives of people around them and draw on their own experience.	O	P	J			
	Skilfully select materials to represent their ideas, thoughts and feelings and reflect and modify as their creativity develops (EA&D)	Make choices/ selections	Explore a variety of materials, tools and techniques	O	P	J			
	Know that there are different countries in the world and talk about the differences they have experienced or seen in photos. (UW)	See patterns, differences and connections in the world	Know some similarities and differences from their own lives and others	O	P	J			
	Summer Term Core vocabulary: **2D shape names, pattern, change, same, different, touch, feel, smell, taste, hear, listen, see, look, choose, like, prefer, tools, care, grow, nature, push, pull, attract, repel, country, world, diversity language**								

Summer 2 Maths & STEM – Blockers revisited for individuals and cohorts, through continuous provision and enhancements. Moderation – Half termly moderation held between STEAM leader and link practitioners. Focus – • How do the 3I's work together? • Is the intent build on evidence? Does the implementation reflect highly aspirational and knowledgeable leadership? Does the impact have sustained positive outcomes for all children? • How does learning build on prior learning? • How does learning link to future learning? • Why are we teaching what we are teaching now? • Does our teaching reflect the intent? • Is the learning altering long term memory?	Forest Schools is a termly enhancement, which every child experiences during their time in nursery, either through Buzzy Bees, Earth Elves, Granny Greenwoods Forest or Forest Fern's Woodland.	

Impact: The metacognitive approach to Understanding the World leads to the acceleration of children's capacity to understand and reflect on key concepts. Our application of MetaSTEAM drives children to expand their own depth of fascinations, experiencing learning from a position of growth mindset. The impact of teachers having a firm and common understanding of the curriculum intention and implementation, results in purposeful and aspirational teaching and learning. A consistent enquiry based culture, results in children achieving highly and this is reflected in their thinking, communicating and behaviours.

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