

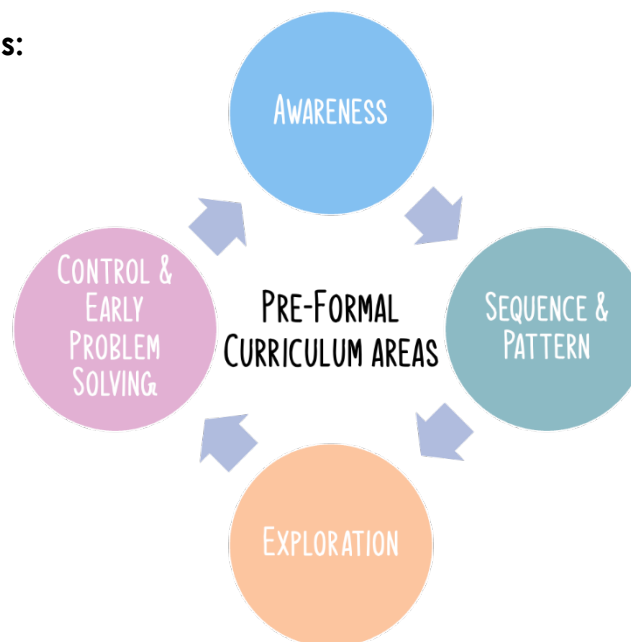
## Pre-Formal

### Intent

In the area of 'Cognition' at Ivy House School our intent is to enable our learners to become competent, motivated and confident learners who explore and test ideas, solve problems and try to make sense of their world. We aim to provide our learners with innovative and fun ways of exploring, investigating and understanding the world around them. Our learners will; Encounter, gain Awareness, Develop and Explore their learning opportunities, through the provision of; personalised programmes in developmental knowledge-based learning environments, situation-based cognition learning opportunities, through functional skills, thematic and/or functional real-life skills in contextualised problem-solving activities. In the Pre-Formal stage, the earliest stages of development where thinking centres around concrete situations, pupils strive to make sense of experiences and sensations that involve changes. Our learners will therefore explore through sensory experiences, early problem solving, control, patterns and sequences, through social and moral dilemmas, develop language for thinking, pattern, space, time, memory, and explore ways of finding new information.

This area develops thinking skills in their broadest sense and includes experiences through the provision of broad and balanced cognitive developmental opportunities including mathematical concepts. Whilst we always respect and acknowledge our pupils' achievements and actions, the curriculum for our pre-formal learners is process not product driven.

**The Cognition Curriculum is divided into 4 areas:**





The following knowledge and skills are essential, however can also be developed across all curriculum areas. The opportunities suggested are roughly in developmental order but should not be treated as steps to be mastered one after another.

## Teaching strategies to include:

- Whole body experiences
- Hand under hand, where the adult does the activity with the child's hand lying on top so the activity can be felt.
- On-off or burst-pause pattern with each activity
- Technology - When planning to use switches remember to keep the cognitive process you are encouraging firmly in mind. Learning to use a switch is not the target.
- Using all parts of the body should, especially those parts that children can move independently, however little.

\*Before the student enters the 'active learning' phases they will be experiencing the 'Encounter' phase:

## Encounter (stimuli- people, objects and activities - all functional senses should be used)

Students should have experiences of:

- Touch, massage, tactile stimuli, items or media placed in hands, gentle and firm touch
- Gross movement of limbs, physiotherapy, physical literacy
- Visual stimuli of lights, colours, patterns, faces etc. (static and moving)
- Auditory stimuli, varying in volume, pitch, tone, speed, duration etc.
- Olfactory stimuli of a wide range
- Gustatory stimuli of a wide range, from bland to strong tastes (as appropriate for an individual who can eat orally)
- Environmental changes, hydrotherapy pool, sensory room, outside environments and weathers, and inside classroom environments, hall and large spaces, other smaller cosy spaces
- A small and consistent, but varied number of adults to work with



## **Awareness** (stimuli- people, objects and activities - all functional senses should be used)

Students should have opportunities to:

- Recognise an obvious change happening very close to self (e.g. stills when hand is massaged or when sees a bright flashing light)
- Recognise when a stimulus starts and stops (e.g. stills, moves limbs, turns after the stimuli start or stop)
- Accept stimuli for an increasing amount of time (e.g. will hold objects or allow feet to be in the foot spa)
- Respond to a widening range of stimuli (e.g.: turns to a range of flashing objects), developing an awareness of position.
- Anticipate stimuli that occur repeatedly (e.g. smile before being pushed on the swing after several pushes)
- Respond to a range of stimuli that are quieter/ less obvious (e.g.: smile at quiet singing)
- Attend to stimuli further away (e.g.: hears music a few feet away or smells lunch as the trolley comes in), developing an awareness of distance.
- Transfer attention from one stimulus to another (e.g. look at jumping dog and when it finishes look at moving car)
- Attend to a moving stimulus in a classroom (e.g.: watch another child moving around)
- Locate a specific stimulus (e.g.: find favourite toy in a box of several toys or turn to name in a noisy room), to develop an awareness of direction

## **Exploration** (of objects, materials and substances)

Students should have opportunities to:

- Use their senses to register interesting events and activities to develop and awareness of shape size and weight (e.g. listen to drum, have a medicine ball on their knees, watch moving toy, touch gloop)
- Locate moving stimuli (e.g. track a florescent ball or moves head to sniff perfume as it passes from one side to the other)
- Turns to objects and sounds that are activated but in one place (e.g. turns head to locate flashing light)
- Make things happen when they move randomly (e.g. the space blanket crackles when the child wriggles or arm movement activates a hanging bell)
- Activate toys that provide an interesting effect randomly and without connecting the cause to the effect (e.g. pats a BigMac switch and something motivating happens or kicks the keyboard and sounds happen)
- Operate a toy that requires a single action (e.g. button on Jack-in-the-box, switch for bubble tube)
- Activate toys deliberately, using different movements for different toys (e.g. shaking bells and banging drum)
  
- Shift attention between different objects/ actions (e.g. different actions on an activity centre)



- Manipulate objects purposely (e.g.: empty and fill containers, stacking and building blocks)
- Press buttons to make toy work (e.g.: keyboard, musical toys)
- Look for favourite objects when sees them hidden (e.g. toy in box, under material)
- Look for favourite objects in a box of similar items (not deliberately hidden)
- Open containers to find objects (e.g.: lift lid, press buttons, pull top off)
- Use objects and materials according to their function (e.g. brush for hair, shoes on feet, paint on paper)

## Sequence and Pattern

Students should have opportunities to:

- Take turns in repetitive games where adult stops to wait for a response (e.g. Intensive Interaction, action songs)
- Anticipate routine events – that is see a pattern in the event (e.g.: action songs, eating, being hoisted)
- Recognise familiar places (e.g.: look up at the lights in sensory room, go straight to a favourite object in the hall)
- Explore objects that are used in familiar routines (e.g. spoon, cup, hairbrush, drum)
- Take turns actively (e.g.: rolling ball to partner, passing objects backwards and forwards)
- Choose between two or more motivating toys
- Respond to object cue (e.g.: sits down for a drink when sees the cup)
- Select appropriate resources for a familiar routine (e.g. spoon for eating, ball for game, shoe after soft play)
- Assist in putting away resources used in a familiar routine
- Operate toys that require more than one action to complete (e.g.: bubble tube controlled by latched switch, CD player knobs)
- Operate toys that need to be pulled apart and put together (e.g.: stickle bricks, Duplo)
- Follow objects that move within the toy (e.g.: cars down a slop, balls in a tube)
- Put objects into a container one at a time (e.g.: balls down a tube or helter skelter)
- Select preferred objects from a mixture of objects (e.g.: in a box)
- Look at the bottom of a sliding/ tumbling toy for the object to appear when it can't be seen travelling down)
- Use objects that require two or more actions to complete (e.g.: posting shapes or simple form boards)
- Use early problem solving for a familiar event (e.g.: selecting a car or ball to roll down the slope rather than a piece of material or paper)
- Solve simple problems where understanding the pattern is important (e.g.: when there are 4 pegs to a toy and 3 are in place, look for the fourth if out of sight)



## **Control** (of objects and materials)

Although physical manipulation of objects and materials is vital for developing understanding of what those objects do, young people with physical disabilities may use eye pointing or technology to aid their explorations. Unfortunately, eye pointing and switch operation does not enable children to do all the activities suggested below and it may be difficult to assess an individual's understanding accurately unless or until they are competent eye pointers or switch users.

Students should have opportunities to:

- Make things move deliberately with gross movement (e.g. knock mobile, kick bells swish water)
- Make things move deliberately with finer movements (e.g. whole hand or head to activate switch or swipe objects that give a strong reward)
- Persist in making simple toys do something (e.g. keep swiping wobble toys or pressing a switch to keep the toy active)
- Activating toys deliberately– knowing that their actions have an effect (contingency responding)
- Operating toys with a single action
- Using different actions for different toys
- Persisting in activating toys and making things happen (contingency awareness)
- Shifting attention from doing one kind of action to another
- Manipulating objects purposefully (and increasingly according to function)
- Looking for hidden objects under 'screens' (saw them being hidden)
- Looking in containers to find objects
- Opening containers to find objects (lifting lids and pulling off material)

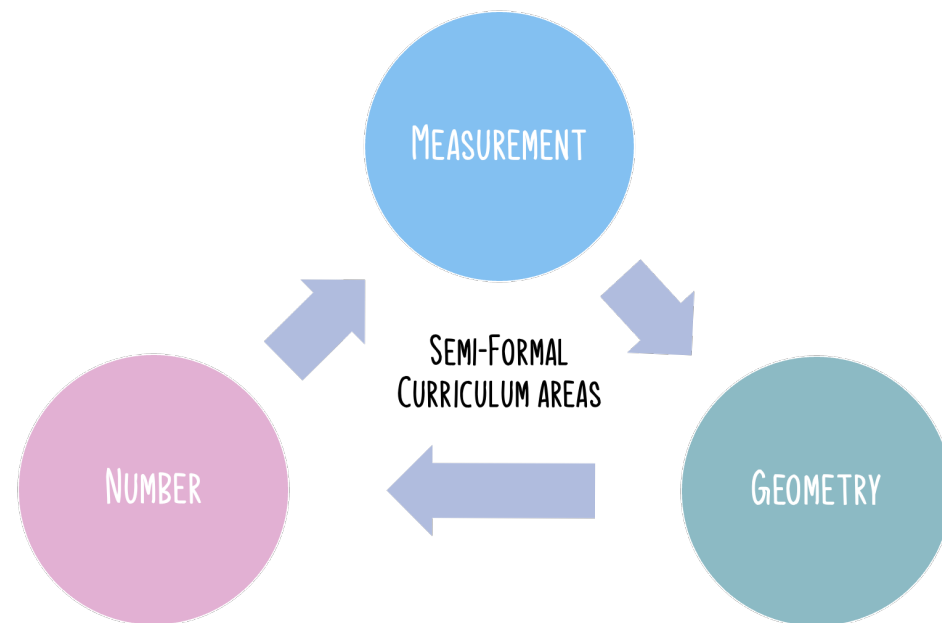
## Semi-Formal

### Intent

The semi-formal curriculum at Ivy House School has three main areas that connect with the EYFS Areas of Learning. In the 'Cognition and Maths' section, our goal is to help our students become capable, motivated, and self-assured learners who like to explore, solve problems, and understand their world. We want to offer our students creative and enjoyable ways to discover and grasp the world around them. In this part of the semi-formal curriculum, our students will improve their thinking skills in Number, Measurement, and Geometry. This will be done through personalised programs in developmental knowledge and skill-based learning settings, real-world problem-solving activities, and sensory play lessons. This stage is called semi-formal because students are still in the exploratory and playful phase and are not yet ready to formally study traditional subjects.

The curriculum includes the very early stages of mathematics. The curriculum begins with learning to think and problem solve, as students develop their basic understanding of Mathematics. At this stage learners are recognising patterns in the world, starting to make use of numbers and exploring the properties of objects, animals and people around them. All these contribute to developing their cognitive skills.

We follow the White Rose Maths Scheme of Work, pupils will follow the EYFS and Year 1 strands for pupils who are working at a semi-formal level. This provides structure and sequence to their learning and enables teachers to revisit learning, address misconceptions and encourage pupils to develop their mental models, building robust schemas.





The White Rose Maths schemes cover the DfE statutory framework for the EYFS and Educational Programme for Mathematics and support teachers to deliver a curriculum that embeds mathematical thinking and talk. The schemes support the ethos of the EYFS whilst at the same time enabling teachers to create a mathematically rich curriculum. Additionally, they allow for key mathematical concepts to be revisited and developed. The guidance has been divided into blocks and provides a variety of opportunities to develop the understanding of number, shape, measure and spatial thinking.

The scheme supports specific teaching through small steps with adult-led activities and continuous provision. The focus is on building up the numbers slowly, so children gain a deep understanding of them and how they are composed. As pupils move into the Year 1 scheme of work, they will continue to have a significant amount of time reinforcing number in order to build competency and ensure they can confidently access the curriculum. Pupils will be given opportunities to revisit previously learnt knowledge and develop their fluency, reasoning and problem solving as they become more confident mathematicians. Research shows that when pupils are introduced to a new concept, they should have the opportunity to build competency by following the 'Concrete, Pictorial, Abstract' approach.

## Number

## Geometry

## Measurement

EYFS	Year 1
<ul style="list-style-type: none"><li><input type="checkbox"/> Match, sort and compare</li><li><input type="checkbox"/> Talk about measure and patterns</li><li><input type="checkbox"/> It's me 1,2,3</li><li><input type="checkbox"/> Circles and triangles</li><li><input type="checkbox"/> 1,2,3,4,5</li><li><input type="checkbox"/> Shapes with 4 sides</li><li><input type="checkbox"/> Alive in 5</li><li><input type="checkbox"/> Mass and capacity</li><li><input type="checkbox"/> Growing 6,7,8, 9</li><li><input type="checkbox"/> Length, height and time</li><li><input type="checkbox"/> Building 9 and 10</li><li><input type="checkbox"/> Exploring 3D shapes</li><li><input type="checkbox"/> To 20 and beyond</li><li><input type="checkbox"/> How many now</li><li><input type="checkbox"/> Sharing and group</li><li><input type="checkbox"/> Visualise, build and map</li><li><input type="checkbox"/> Make connections</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Place value (within 10)</li><li><input type="checkbox"/> Addition and subtraction (within 10)</li><li><input type="checkbox"/> Shape</li><li><input type="checkbox"/> Place value (within 20)</li><li><input type="checkbox"/> Addition and subtraction (within 20)</li><li><input type="checkbox"/> Place value (within 50)</li><li><input type="checkbox"/> Length and height</li><li><input type="checkbox"/> Mass and volume</li><li><input type="checkbox"/> Multiplication and division</li><li><input type="checkbox"/> Fractions</li><li><input type="checkbox"/> Position and direction</li><li><input type="checkbox"/> Place value (within 100)</li><li><input type="checkbox"/> Money</li><li><input type="checkbox"/> Time</li></ul>