



Mathematics Policy

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This policy should be read in conjunction with the following policies:

- Mathematics Mastery Calculation Policy
- National Curriculum: Programme of Study for Maths
- Whole School Curriculum Overview
- Maths Progression of Skills
- Maths Ideas for Depth cards
- SEN Policy
- Marking Policy

Intent

Statement of Intent

Mathematics equips children to reason logically, solve problems, explore, calculate and communicate; it is a fundamental life skill. High-quality teaching and a well-planned progression model enable our children to appreciate the power of mathematics as well as developing an enjoyment for the subject.

In Mathematics we promote three key principles. These include; deep understanding, mathematical thinking and mathematical language, with problem solving at the heart of our curriculum.

At Joydens Wood Infant School our children engage in a Mathematics curriculum which is meaningful, inspiring and stimulating. It fosters an independent and resilient culture through a growth mind-set approach and allows learning autonomy for all children by ensuring that they can apply these skills in a range of situations. High expectations of key mathematical concepts are the foundations of our curriculum which have been carefully considered and planned for progression. Knowledge and skills are intertwined through complex mathematical challenges that are developing through a fluid model of concrete, pictorial and abstract learning. Through this, we are enabling children to have exposure to rich mathematical language which they can embed through both explicit Mathematics lessons and child-led learning. Children engage in a curriculum which prioritises rich, first hand mathematical learning experiences where they are able to consolidate skills and transform this into knowledge.

Aims of National Curriculum

Mathematics in Joydens Wood Infant School, provides pupils with the opportunity to:

Mathematical thinking:

- To solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Conceptual Understanding:

- To become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

Language and Communication:

- To reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

The school builds upon the aims in the National Curriculum by ensuring that each aspect is incorporated into school life. A well thought out curriculum enables skills to be 'layered' in each lesson. Skill fluency, competency and depth of knowledge occurs during both structured and unstructured times of the day. Children are taught Mathematics within a formal environment and their knowledge is embedded by allowing them to explore these concepts.

Implementation: Teaching and Learning

Curriculum Planning

Mathematics is taught in isolation of other subjects daily from EYFS to Year 2. Each school year begins with a focus on the concepts and skills that have the most connections, and this concept is then applied and connected throughout the school year to consolidate children's learning. This supports pupils to become masters in maths. They are able to develop both mathematical fluency and conceptual understanding. The curriculum is designed to meet the requirements of the 2014 National Curriculum for England.

In our school, we follow an adapted version of the Mathematics Mastery, Twinkl and White Rose curriculum which outlines the progression of skills taught lesson by lesson, unit by unit and year on year. This ensures that pupils are able to build upon skills and create a depth of understanding for the concepts taught. **See appendix 1, 2, and 3.**

All year groups are expected to use the curriculum planning provided by the Mathematics Leader. EYFS and Year 1 Teachers should use the planning template for the Autumn Term and when confident and competent teachers can deviate from using the planning grid. Year 2 Teachers should use their individualised planning template throughout the year.

See appendix 11 and 12.

Home Learning Expectations:

Due to COVID-19 in 2020 Joydens Wood Infant School have ensured that children can access an age appropriate curriculum both at home and at school using the Mathletics online platform.

Upon return to school and throughout the Academic Year of 2020-2021 teachers should plan and record 1 video per week explaining overview of the learning for that week. Teachers should model to parents the strategies used within school and provide ideas for activities for children to practise those skills at home. Alongside this, teachers should set 3 activities per week, as a minimum, related to the topic which is being taught.

In the event of a local lockdown or school closure, teachers should continue to plan from the Mathematics Curriculum and film daily videos on what would have been taught. This should then be uploaded to class dojo alongside a daily Mathletics activity related to the topic being taught.

Teaching

Teachers will need to plan and teach following Joydens Wood Infant School curriculum map and progression of skills. Teachers will need to use their professional judgement to map out a number of lessons outlined from the curriculum map and progression of skills. Teachers can access resources from a range of websites to support their planning and teaching.

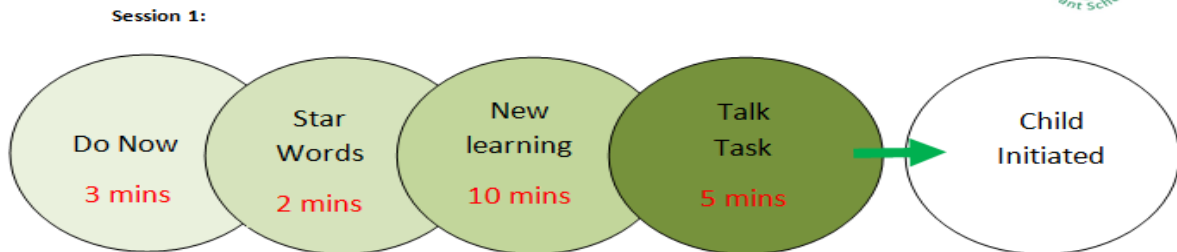
Teaching and Learning Requirements:

- All children should engage in a Mathematics lessons daily
- Resources must be adapted to individual needs to provide support and challenge as necessary
- Star Words and vocabulary linked to the unit will be shared at the start of the lesson to ensure the children have a strong understanding of what they are learning
- All classes within the year group should be teaching the same unit at the same time (unless sharing of equipment is needed). The units should be taught in the order suggested by Mathematics Leader and Curriculum Overview.
- Resources for the unit should be researched and prepared for prior to the unit being taught by the teachers within that year group

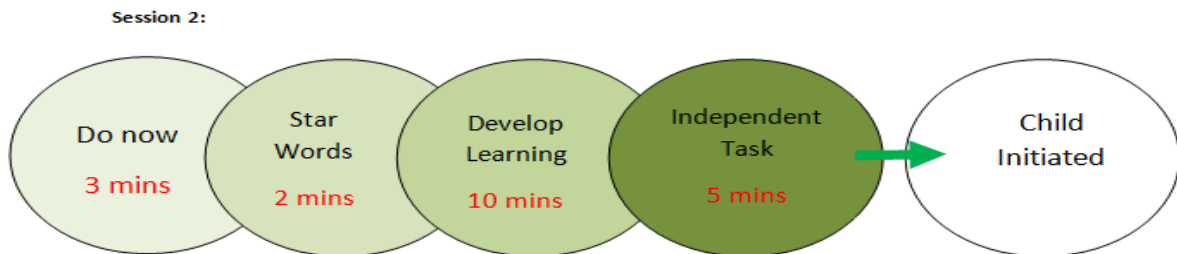
Mathematics Mastery in Reception is taught using the child-initiated model. The lessons are focused adult-led sessions with direct teacher input which has high language expectations. When working in the continuous provision, adults should observe and question pupils and pose problems for pupils to solve that specifically relate to the key learning from the adult-led session or from the unit that has been taught.



Reception – Child Initiated Progression Model

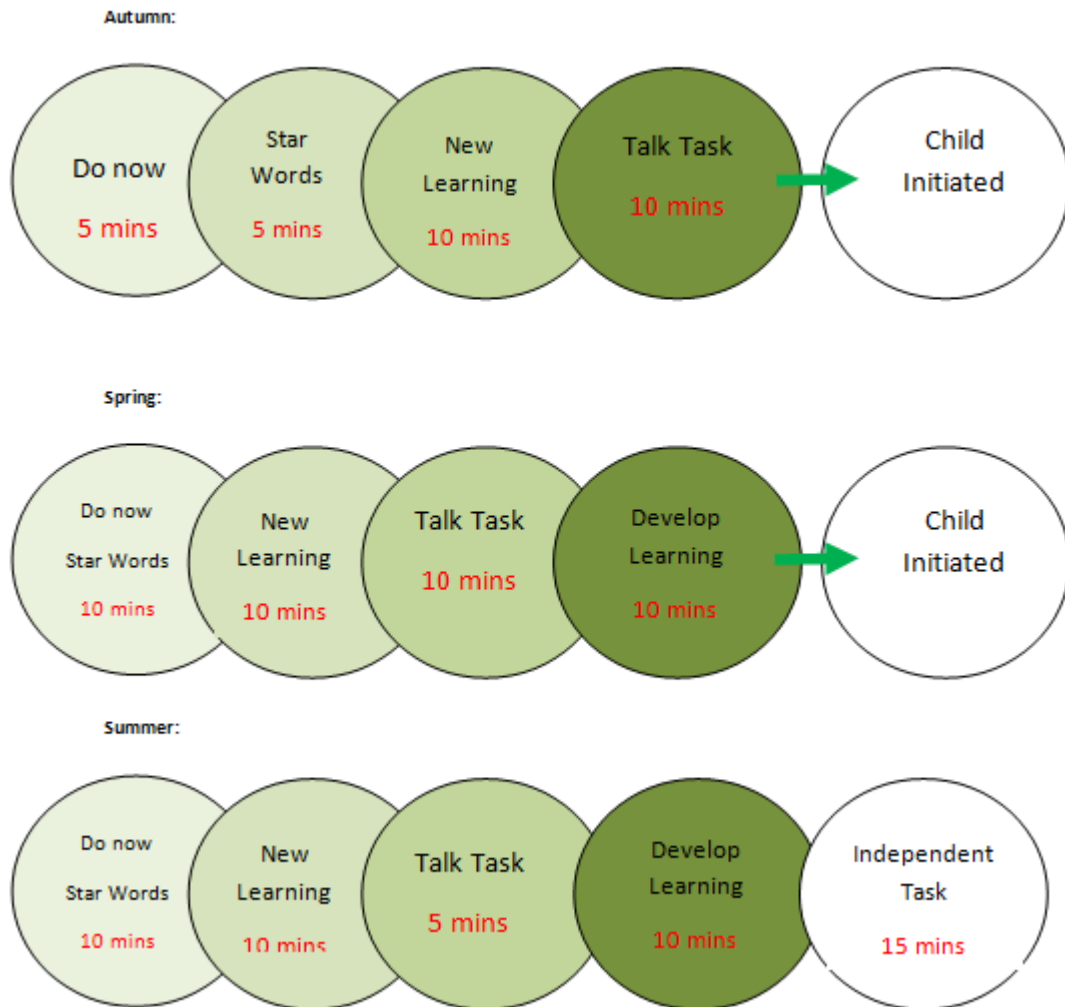


Reception – Child Initiated Progression Model



Mathematics Mastery in Year 1 follows the six-part progression model. Year 1 build upon stamina through progression towards the six-part lesson. Therefore, teachers should plan the continuous provision to enable pupils to explore the key learning from the unit through child-initiated learning at different times in the day.

Year 1 – Six Part Progression Model



Year 2 should follow the six-part lesson throughout the academic year.

Year 2 – Six Part Model



Maths Meetings

Maths Meetings are an addition to the daily Mathematics lesson in which pupils will engage with. Maths Meetings have been planned in correspondence with the our progression of skills. Maths Meeting should be used as an opportunity to pre-teach or consolidate understanding as well as embed key mathematical skills such as their fluency and mental arithmetic.

EYFS & Year 1: 3/5 Maths Meetings should be taught linked to the topics. 2/5 Maths Meetings should be planned for a pre-teach or consolidation on what has been taught that week.
Year 2: 3/5 Maths Meetings should be taught linked to the topics. 2/5 Maths Meetings should be planned for greater depth, a pre-teach or consolidation on what has been taught that week.

Maths Meeting Learning Requirements:

- Maths Meetings should be taught in correspondence with the Mathematics Policy including each skill within each term.
- Maths Meeting boards should be adapted termly according to what needs to be taught.
- Mathematics Meetings should be taught daily for 15 minutes. They should be planned to recap and build fluency in a range of concepts and skills
- Maths Meetings should be taught in correspondence with the whole school overview.

See appendix 7.

Resources

All of the necessary resources to deliver the curriculum successfully are located in each classroom. An audit of resources is carried out once per year and any extra resources are ordered when necessary for teacher's to successfully deliver their curriculum. Teaching teams are responsible for informing the Mathematics Leader of any resources that they may need, and the Mathematics Leader is responsible for ordering these.

See appendix 8 and 9 for an EYFS/KS1 resource list.

Assessment

Planning

- Children working at greater depth should be provided with the idea for depth cards to progress their learning and develop their reasoning, at least once a week. **See appendix 9.** Teachers should use their professional judgement as to which idea for depth card is required for individual children.
- Consolidation lessons have been outlined on the Mathematics Curriculum Map, identifying when teachers should consolidate learning and for how long. Teachers are to use their professional judgement of when and what to teach dependent on the need of the class or year group.

Marking

- Green and pink highlighter should be used to mark correct answers and incorrect answers.
- If there is pink highlighter, children should be given additional time to go back and correct their answers in purple pen. If children have completed all their work and their next step they should be given pink next step questions to move their learning on.

Formative

- Teachers carry out assessment for learning via the pupils' responses within their lessons and within any cross curricular opportunities that arise. Teachers are expected to mark in the moment adhering to the Joydens Wood Marking Policy. Both verbal and age appropriate written feedback should be evident in the books to allow children to make progress.

Summative

- Teachers to maintain a record of attainment and progress in Mathematics across the year; this is shared regularly with SLT and with parents three times a year at each parent consultation meeting. An entry is made each half term determining whether children are working towards (WTS), working at expected (EXS) or working at greater depth (GDS) for the expected standard. Similarly, in EYFS, they will assess children as to whether they are emerging, expected or exceeding, by the end of EYFS.
- Children in EYFS will be assessed against the Early Learning Goals by the end of the year, their progress and attainment is tracked from their starting point throughout the year.
- At the end of KS1 children will sit their SATs tests which assist the final teacher assessment.

Moderation

- Teachers should participate in moderation across year groups to share good practice as well as monitor progress. KS1 to moderate the children's Maths books, EYFS to monitor portfolios to ensure children are being challenged appropriately as well as tracking their next steps.

Recording

In EYFS children are to be encouraged to record any mathematical activities during CIP. Any mathematical work should be kept in their learning journey alongside WOW moments and focus sheet linked to Mathematics.

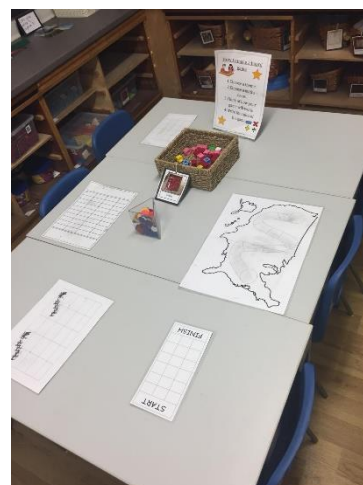
In Year 1 children will have a Mathematics Book whereby they will be encouraged to record Mathematical activities both within the lesson and during CIP. Teachers should complete WOW moments and observations on focus sheets linked to Mathematics.

In Year 2 there should be Mathematics evident within their books and there should be a clear progression in both problem solving, and fluency.

Cross Curriculum Links/Extra Curricular Activities

Opportunities are provided to expand and extend children's knowledge and experience of maths through a range of contexts and subjects. An important element to Mathematics is the application to real life which enables pupils to assign purpose to their learning.

ADD IN PICTURES OF THIS



Events:

- Mastermind – a competition for children to complete word problems and spellings.
- Mathemagicians – lunchtime club for gifted and talented children.
- Maths Race – a class based competition afternoon.

Design a board game event – an in school event.

Vulnerable Learners

The curriculum has been designed to ensure that all learners are able to access teaching and learning. The curriculum is carefully differentiated to suit the needs for all children within the school. Our school ensures that children's 'barriers to learning' are carefully considered and understood by teachers to ensure that these are taken into consideration in the planning and delivering of lessons.

- SEND and EAL pupils: resources and support should be planned to suit the needs of individual children. Children are encouraged to participate within the classroom setting however; teachers must plan suitable aids to ensure the child is accessing Maths.
- Disadvantaged pupils: children that have external circumstances that affect their development. The school are expected to identify these contributing factors rapidly to ensure every child has the same opportunities to access their learning. This may involve discussing the child's home life with the DSL or FEL. Teachers should post weekly dojo posts outlining what has been covered so far that week in Maths to ensure that disadvantaged pupils and parents can remain up to date.
- In Year Admissions and Persistent absentees: children who have not attended our school previously or have poor attendance are at risk of not being able to access the learning. They may have significant gaps in their skills and knowledge that prevent them from being able to access specific skills/games. All children that are new/returned to school following a period of absence should be carefully monitored to ensure support is implemented without delay. Teachers should ensure that they are allowing time for Maths Mastery Interventions for persistent absentees. Teachers should post weekly dojo posts outlining what has been covered so far that week in Maths to ensure that persistent absentee pupils and parents can remain up to date.

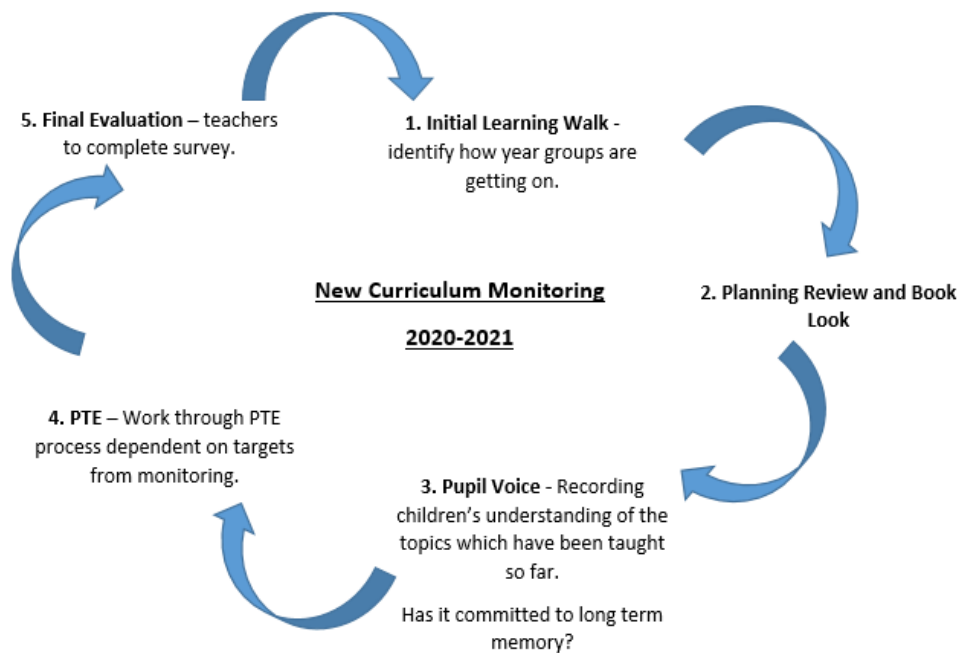
The Role of Subject Leader

The role of the subject leader is to:

- To lead in the development of Mathematics within the school
- Support and offer advice to colleagues on issues related to the subject
- Monitor pupil learning in that subject area
- Provide efficient resources for that subject
- An understanding of developments within the subject both locally and nationally
- To monitor the planning, teaching and learning of mathematics within the school

Subject Leader to monitor teachers when working through new curriculum and progression of skills.

See monitoring outline below.



The subject leader will monitor teachers through a PTE (plan, teach and evaluate) model. The subject leader will work with a year group over a term, twice a year. Both teachers and subject lead are responsible for identifying next steps and targets. The subject lead should work collaboratively with teachers to implement strategies to support their overarching target.

This will be recorded on a table outlining the overall target, how it will be implemented and an evaluation of the target set. **See appendix 13.**

It is the subject leader's responsibility to ensure that all new staff to Joydens Wood Infant School are introduced to the programme and given induction training to support their professional development. The subject lead should ensure new teachers have access to the Mathematics Mastery toolkit.

The subject leader will keep a portfolio which may include children's work, lesson observations, PTE recordings and attainment findings.

Appendix:

Appendix 1: Reception Curriculum Map

Appendix 2: Year 1 Curriculum Map

Appendix 3: Year 2 Curriculum Map

Appendix 4: Reception Progression of Skills

Appendix 5: Year 1 Progression of Skills











Appendix 6: Year 2 Progression of Skill

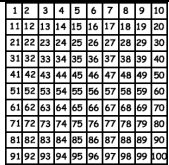

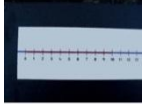


Appendix 7: EYFS Maths Meetings Expectations, Year 1 Maths Meetings Expectations, Year 2 Maths Meetings Expectations.

(Located on Google Drive)

Appendix 8:











Reception Resource List


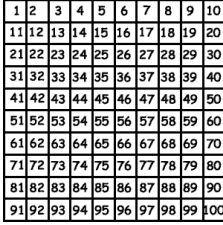

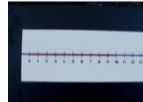


<p>Deines Blocks (Essential)</p>	<p>1 set with magnetic strips stuck on one side for whole class teaching</p> <p>1 set for whole class teaching</p>	
<p>Magnetic easel (Optional)</p>	<p>1</p>	
<p>Magnetic counters (these can be made with laminated coloured paper and sticky backed magnets) (Optional)</p>	<p>24</p>	
<p>Connecting cubes (Preferably multi-link so pupils can see different formations of number) (Essential)</p>	<p>1000 per class</p>	
<p>Coloured counters (Essential)</p>	<p>1000 per class</p>	
<p>Lollipop sticks or straws (Optional)</p>	<p>1000</p>	
<p>Buttons (Optional)</p>	<p>1000 per class (not all pupils would need the same objects)</p>	
<p>Objects for counting (such as plastic bears etc) (Optional)</p>	<p>1000 per class (not all pupils would need the same objects)</p>	
<p>Big dice (Essential)</p>	<p>2 per class</p>	
<p>Dice (Essential)</p>	<p>15 dice (1-6) per class</p> <p>1 class set of mixed dice</p>	

<p>Demonstration hundred square (Essential)</p>	<p>1 numbered 1 blank</p>	
<p>Bead strings (Essential)</p>	<p>30 up to twenty bead strings</p>	
<p>Number lines (Essential)</p>	<p>30 0-10 number lines 30 0-20 number lines</p>	
<p>Demonstration clock (Essential)</p>	<p>1</p>	
<p>Demonstration coins (Essential)</p>	<p>1 set</p>	

Appendix 9:

KS1 Resource List

<p>Deines Blocks (Essential)</p>	<p>6 class sets (based on a set containing 100 'ones' cubes. 50 'tens' rods, 30 'hundreds' flats and 4 'thousands' blocks)</p>	
	<p>1 with magnetic strips stuck on one side for whole class teaching</p>	
<p>Magnetic easel (Optional)</p>	<p>1</p>	
<p>Magnetic counters (these can be made with laminated coloured paper and sticky backed magnets) (Optional)</p>	<p>24</p>	
<p>Coloured rods (Essential)</p>	<p>6 class sets for each year 2 class</p>	
<p>Magnetic coloured rods (Optional)</p>	<p>1 set for each year 2 class</p>	
<p>Connecting cubes (Preferably multi-link so pupils can see different formations of number) (Essential)</p>	<p>1000 per class</p>	
<p>Coloured counters (Essential)</p>	<p>1000 per class</p>	
<p>Lollipop sticks or straws (Optional)</p>	<p>1000</p>	
<p>Objects for counting (such as buttons, plastic animals etc) (Optional)</p>	<p>1500 per class (not all pupils would need the same objects)</p>	
<p>Big dice (Essential)</p>	<p>2 per class</p>	

Dice (Essential)	15 dice (1-6) per class 1 class set of mixed dice	
Demonstration hundred square (Essential)	1 numbered 1 blank	
Hundred squares (Essential)	30 numbered 30 blank	
Bead strings (Essential)	30 0-20 bead strings 30 0-100 bead strings	
Number lines (Essential)	30 0-20 number lines 30 0-100 number lines 30 blank number lines 0-100 for each year 2 class)	
Demonstration clock (Essential)	1	
Demonstration coins (Essential)	1 set per class	

Appendix 10: Ideas for Depth (located on Google Drive)

Appendix 11: Curriculum Planning
(EYFS and Year 1)

	Monday	Tuesday	Wednesday	Thursday
Do now:				
New learning:				
Talk task:				
Develop learning:				
Independent task:				
Plenary				

Appendix 12:

Unit Overview:				
<i>This will include the unit and lessons which are covered. It will also include a brief description as to what to learn by the end of that unit.</i>				
	New learning: <i>The skill in which is being taught.</i>	Talk Task: <i>Child-friendly language with sentence stems prepared before.</i>	Develop learning: <i>How the skill will be developed.</i>	Independent <i>Children apply the skill independently.</i>
Monday				
Tuesday				

Wednesday				
Thursday				
Friday				

Appendix 13:

Plan (Set targets, identify area of need)	Teach (Coaching)	E

