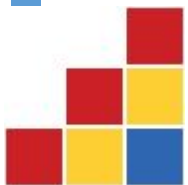
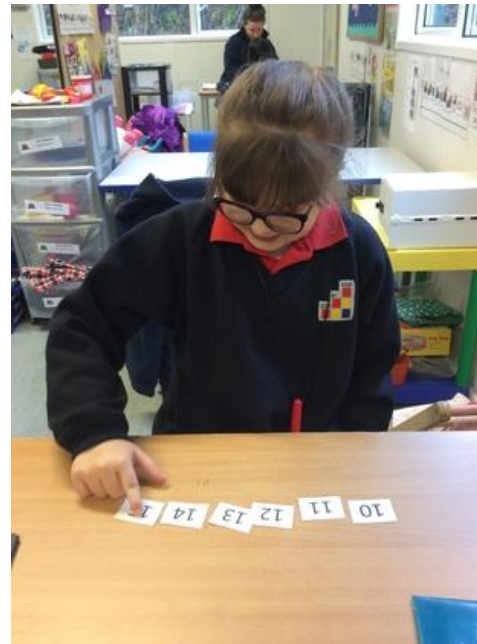


# Numeracy at Step by Step School

**INTENT** □ **IMPLEMENTATION** □ **IMPACT**

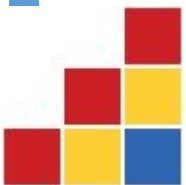


## Intent

# Why are Numeracy Skills Important?

Developing numeracy skills provides pupils with a foundation for their learning and development and prepares them for life beyond Step by Step.

Numeracy is important for developing reasoning and logical thinking that allows pupils to problem solve in their day to day lives. Learning to make sense of numbers, patterns, shapes, and time gives students the tools to access a wider range of activities, including: shopping, cooking and playing sport. Numeracy skills also promote independence, for example once a pupil learns to tell the time they may be able to get themselves ready for school at the correct time in the morning.

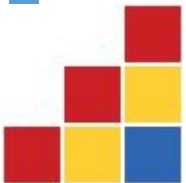
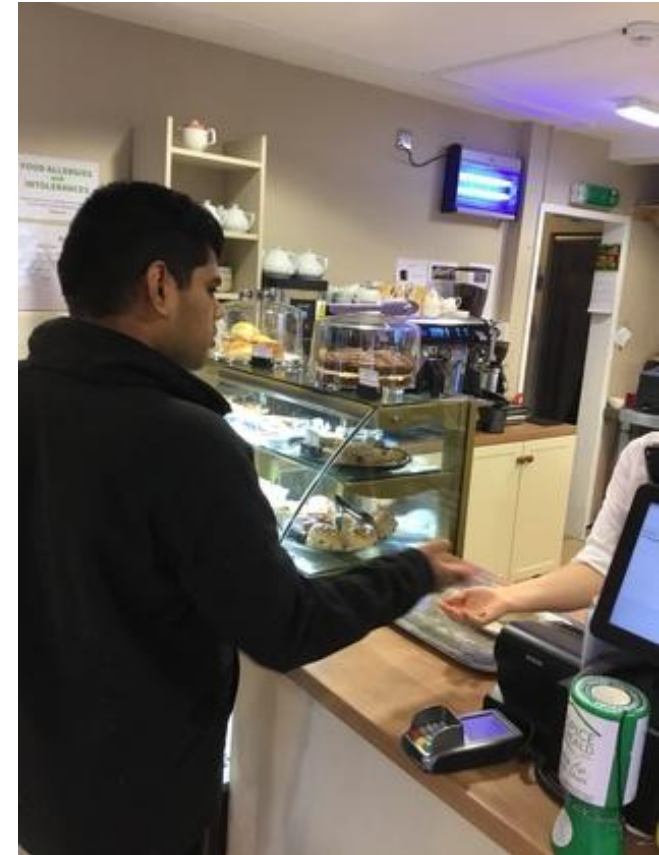
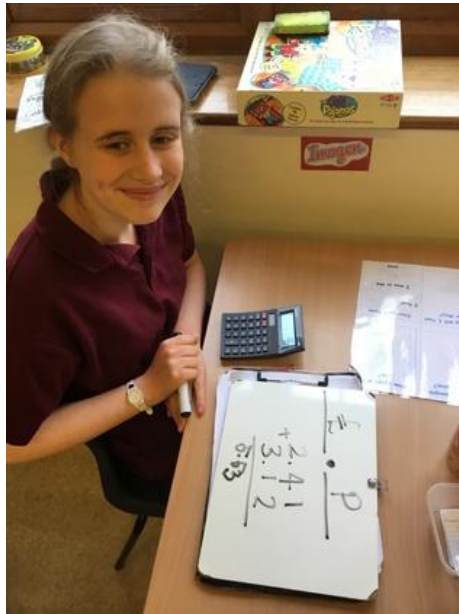


# Intent

## Why are Numeracy Skills Important?

In line with the National Curriculum, Step by Step aims for pupils to:

- Learn the fundamentals of mathematics
- Develop mathematical reasoning skills
- Apply mathematics to problem solving .



# Implementation

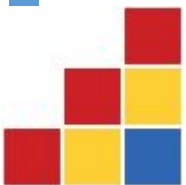
# Numeracy Goals

At Step by Step School pupils have a range of opportunities to develop their numeracy skills, including:

- **Personalised targets, taught during 1:1 teaching**

To divide a 2 digit number by a 1 digit number using division facts (for up to 10 x tables)	Teach pupil that all multiplication sums can be inverted to create a division statement (e.g. $6 \times 3 = 18$ so $18 / 6 = 3$ and $18 / 3 = 6$ )	To match inverse multiplication and division statements for 1, 2, 5, and 10 times tables	25/11/2019	2/10/2020
	Use a range of 2D and 3D examples to demonstrate inverse sums	To independently divide a 2 digit number by a 1 digit number (simple times tables 1 - 5)	11/2/2020	3/9/2020
	Build pupil's fluency with recalling the answers to multiplication and division sums through motivating games (e.g. division bingo)	To independently divide a 2 digit number by a 1 digit number (harder times tables 6 - 10)	11/2/2020	Ongoing

Primary and Secondary pupils all have individualised numeracy objectives on their Individual/Personalised Education Plans targeting specific areas for development. For Secondary Pupils there is a focus on functional numeracy skills, e.g. learning to use money.



# Implementation

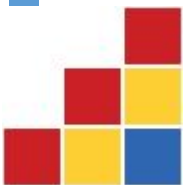
# Numeracy Goals

At Step by Step School pupils have a range of opportunities to develop their numeracy skills, including:

- **Curriculum group targets**

Autumn Term Lesson Area	Activities:	Targets	Working Towards / Achieved
Maths: number	<ul style="list-style-type: none"><li>• Worksheets based on individual abilities to include counting items to 10, simple worksheets counting to 10</li><li>• Group maths games including Giant floor snakes and Ladders and table based board games.</li></ul>	Target: To count reliably from 1-5	Achieved
		1:1 correspondence e.g. straws in cups, eggs in egg cups	Achieved

All pupils attend topic based curriculum groups which are differentiated to be accessible for all learners in the class. For Primary Pupils numeracy goals are based on EYFS or National Curriculum targets, VB-Mapp assessment, and ASDAN (from year 6). For Secondary and Sixth Form pupils targets are derived from ASDAN, AFLS assessment, and AQA UAS.



# Implementation

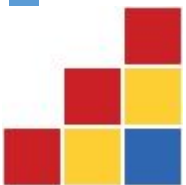
# Numeracy Goals

At Step by Step School pupils have a range of opportunities to develop their numeracy skills, including:

- **Access to community outings and work experience**



Regular community outings (and work experience for older pupils), provide the opportunity to practice newly acquired numeracy skills in functional contexts (e.g. using money during a shopping trip, or measuring wood to saw at woodwork).



# Implementation

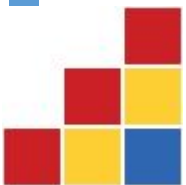
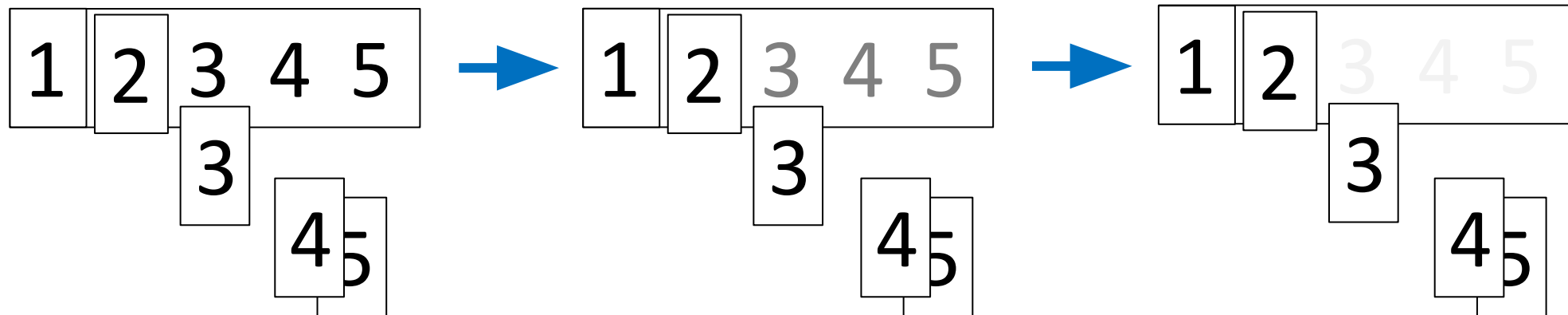
# Teaching and Learning

## Individualised Teaching – Discrete Trial Teaching (DTT)

Individual targets are taught in a variety of ways at Step by Step, using teaching strategies derived from Applied Behaviour Analysis.

Some numeracy skills are taught through DTT – structured sessions where tasks are broken down into smaller steps and practiced with a high level of repetition to provide the learner with plenty of opportunities to access reinforcement.

For example, a pupil learning to sequence numbers to 5, might first learn to match the numbers to a visual in the correct order before this visual is gradually faded.

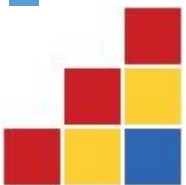


## Individualised Teaching – Natural Environment Teaching (NET)

Some numeracy skills are taught through NET - sessions based around play which appear to have a looser structure. These situations follow the pupil's natural motivations and are carefully constructed to ensure the learner is able to practice specific numeracy targets within the fun activity.

For example, if a pupil enjoyed sensory play with shaving foam, this might be left out in the classroom next to some cupcake cases. Once the pupil approaches and starts making foam cupcakes, they might be asked “how many cupcakes have you made” so they can practice counting them, or “can you put one cupcake on each plate” so they can practice counting out using 1:1 correspondence.

This pupil is practicing multiplication sums, using her favourite nail varnishes as a visual support.

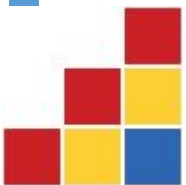




## Curriculum Groups

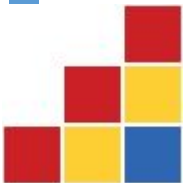
Group activities are differentiated to ensure all learners can develop their numeracy skills. For example, in a group where the pupils were playing giant snakes and ladders, some targets included:

- Counting along with the group leader as they look at the dice together
- Imitating moving the correct number of spaces on the board
- Identifying what shapes are on the board
- Independently counting the number of spots on the dice
- Independently moving the correct number of spaces on the board
- Reading the number on the dice to a peer and supporting them to move the correct number of spaces



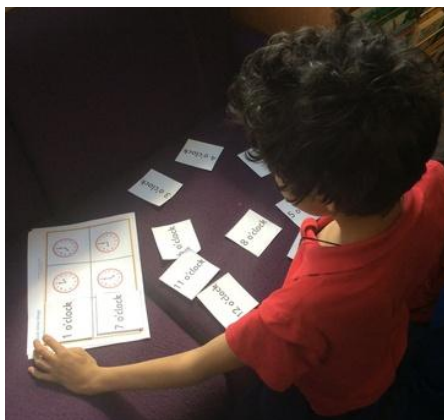
## Motivating Groups

Alongside curriculum groups, classes may run additional motivating groups that provide pupils with opportunities to further practice their numeracy skills. For example, one class ran a 'colour by numbers' group as all of the pupils enjoyed colouring. Sheets were differentiated according to pupil targets (e.g. one pupil had to answer addition sums to find out what colour to use, another had to answer multiplication sums).



## Achieving IEP/PLP Goals and Earwig Evidence

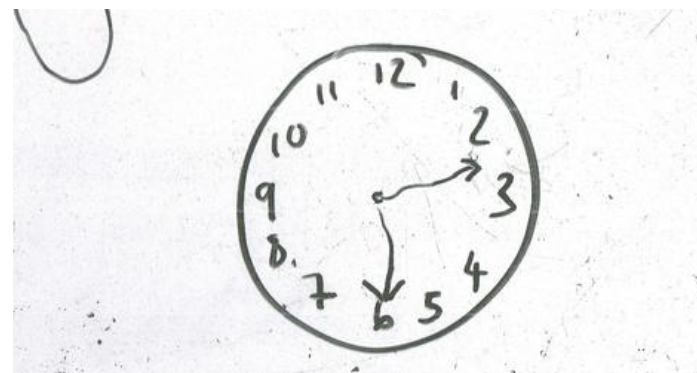
Step by Step use Earwig Academic Timelines to create a visual display of pupil progress which is shared with home. Photo or video evidence is recorded as pupils achieve small steps towards their IEP/PLP goals. When a target is achieved, these records provide a clear demonstration of the pupil's learning and progress.



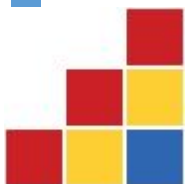
Student learns to match clock face to written time.



Student learns to show correct time on a 3D clock.



Student learns to draw the hands on a 3D clock to show a specified time.



## Assessments

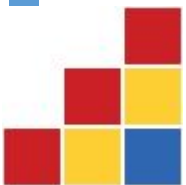
For Primary pupils the Verbal Behaviour Milestones Assessment Placement Program (VB-MAPP) is completed yearly and includes measuring progress with a range of early numeracy skills, including: identifying numerals 1-5, and using comparisons that involve measurement (e.g. show me big vs small).

For Secondary and Sixth Form pupils the Assessment of Functional Living Skills (AFLS) is used to measure progress across a range of applied numeracy skills, for example: adding bill and coin values when shopping in the community, or computing word problems involving addition, subtraction, multiplication and division.

The Assessment of Functional Living Skills - The AFLS™

Applied Academics (Continued)

TASK	SCORE	TASK NAME	TASK OBJECTIVE	QUESTION	EXAMPLE	CRITERIA	COMMENT
AA 21	017-14	Computes	Learner will compute averages.	Can learner compute an average?	With or without a calculator	2c computes average for number sets of 10 or more numbers that contain values at the hundredths, 2c computes average for number sets of 5 numbers that contain values in the tenths, 2c computes average for number sets of 5 single digit numbers, 2c computes the average of 2 single digit numbers	



## Generalising Numeracy Skills

The overall goal is for pupils at Step by Step to be able to utilise their improved numeracy skills in their day to day lives and within the wider community. To ensure this is achieved, pupils practice their skills across a variety of settings on site (e.g. cashing up the till in the tuck shop), and attend regular community outings.

Examples include:

- Visiting shops and cafés to demonstrate money skills
- Going bowling to practice counting the number of pins they have knocked down.
- Following instructions from a trampolining coach to complete the correct number of jumps.
- Giving an instruction after counting to 3 at horse riding (e.g. 1, 2, 3 'walk on').

