ST BRIGID’S PRIMARY, NURSERY SCHOOL, AUTISTIC AND LEARNING SUPPORT CLASSES.

**USING MATHEMATICS POLICY AND SCHEME**

**Spring 2023**



Approved on behalf of Governing Body: ………………………………………

 Signature



Approved on behalf of School: ………………………………………..

 Signature

Review date: Spring 2026

**St Brigid’s Primary / Nursery School**

 **Mathematics and Numeracy Policy**

**Introduction**

Numeracy and its universal application across the curriculum and in the wider world is a core element of The Northern Ireland Curriculum. At St Brigid’s Primary / Nursery School we focus very strongly on the teaching of Numeracy so as to afford all pupils the opportunity to acquire and develop the skills, knowledge and understanding related to Numeracy in a confident, creative and challenging manner.

**Principles**

* Numeracy is the development and application of Mathematics across the curriculum and in real life situations.
* It is a compulsory part of The Northern Ireland Curriculum.
* Numeracy is an essential tool for life, fundamental to personal and

social development and to life- long learning.

* Pupils will engage in a variety of purposeful activities that will enhance their Mathematical learning in a creative, enriching, enjoyable and intellectually challenging manner.
* Activities should reflect a balance between those aimed at developing the skills, knowledge and understanding in Mathematics and those focused on applying Mathematics and solving problems including UICT skills.
* Pupils should be given opportunities to talk about their work.
* Teachers should encourage pupils to persevere with their tasks so as to gain confidence in what they can do and develop a positive attitude towards Mathematics.
* Mathematical processes should pervade the entire teaching of Mathematics and allow children the opportunity to apply Mathematics in practical tasks, Mathletics and in real-life situations both inside and outside the classroom.
* It is a basic human right.

**Purposes**

* To develop Mathematics / Numeracy within the school development plan.
* To provide leadership and management of Mathematics / Numeracy at all levels in the school.
* To raise Mathematics / Numeracy standards by enhancing the quality of teaching and learning.
* To incorporate the appropriate use of UICT with a focus on the development of the 5 E’s in the teaching of Mathematics / Numeracy (Explore, Express, Exchange, Evaluate, Exhibit).
* To provide staff development which will ensure a shared understanding, common approach and consistency across the school.

**Practices**

**Responsibility of every member of staff**

* Each member of staff is responsible for planning, teaching, monitoring, evaluating and assessing Maths / Numeracy in his / her class with regular lessons every day.
* Medium term (half – termly) planning is done using agreed formats and clear learning outcomes are identified.
* Opportunities will be provided for children to experience Maths inside and outside the classroom through practical experiences and in a problem solving capacity.
* The development of good working habits is essential. Pupils are encouraged to work in a methodical and systematic way and to present their work neatly and clearly.
* The staff has agreed the type of exercise books to be used in each year. In Y5, Y6 and in Y7 calculations must be entered neatly beside each question where appropriate. In Key Stage 2 each piece of work should be given a title and dated. Pens will be used in Y7.

**Planning, Monitoring and Evaluation**

* In our planning we ensure that pupils have experiences across all of the Mathematical areas and through the different levels. We use The Revised Lines Of Development, The Northern Ireland Curriculum **(**Primary) and our scheme of work to organise, sequence and plan experiences in order to build and develop the pupils’ mathematical skills, knowledge and understanding over time.
* Monitoring and evaluating the children’s progress on a regular basis is the responsibility of all staff members. We will do this through,
* class / topic / half term / end of term tests
* Standardised Tests
* end of Key Stage assessment tests
* informal assessment procedures as part of normal teaching
* class/whole school displays
* observation of activities
* discussion with pupils
* marking pupil’s work
* reporting to parents

**The role of the Co-ordinator**

In school, the co-ordinator leads and facilitates the staff in all areas of Mathematics and will oversee the progress we are making towards our aims. This will be achieved by,

* Providing staff with the relevant schemes of work for their year group
* Supporting all staff in their implementation of the schemes of work
* monitoring planners on a half- termly basis
* monitoring pupils’ books on a termly basis
* displays of work
* formal meetings
* informal meetings
* reviewing scheme of work
* analysing Standardised Tests in summer term
* giving feedback to staff
* giving feedback to principal and SLT
* monitoring and ordering resources
* Lead workshops to develop teaching of Numeracy

**The responsibility of the classroom teacher:**

Every member of staff at St Brigid’s has responsibility for Numeracy. Every teacher should,

* plan with differentiation for each lesson
* monitor and record each child’s progress
* mark work on a regular basis giving oral / written feedback
* evaluate their teaching
* create an atmosphere of challenge and involvement through open ended problem solving activities and including the practical application of the maths they have learned
* allow pupils the opportunities to develop different modes of learning
* allow pupils the opportunities to consolidate and extend their learning
* allow pupils the opportunities to engage in both independent and co-operative learning
* allow pupils the opportunities to bring together different areas in Mathematics
* allow pupils the opportunities to develop mental skills
* allow pupils the opportunities to talk about their work
* be sensitive to individual needs
* foster an atmosphere of confidence and enjoyment for Numeracy
* encourage and praise achievement
* develop an awareness among the pupils of the universal application of Mathematics outside the classroom
* allow pupils the opportunities to use UICT to support and enhance their understanding of Mathematics
* allow pupils the opportunity to evaluate their own learning.
* Engage pupils in the ‘Mathletics’ Programme.

**The role of the principal and SLT**

* Ensure the continued development of the teaching and learning of Mathematics
* Plan and prioritise accordingly within School Development Plan
* Set targets for Numeracy
* Monitor and liaise with co-ordinator and staff
* Give feedback to co-ordinator and staff
* Provide resources
* Provide training where identified

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2****Numeracy Scheme Year: 1**NUMBERS | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Talk about what they are doing and what they have learned.Develop the ability to focus, sustain attention and persist with tasks.Be curious and ask questions.Be willing to join in. | Count a variety of objects.Count in the context of number rhymes, jingles and stories.Count forward in ones within 5/10 from different starting points.Finding opportunities for counting both in and beyond the classroom. | Match numerals to sets. Order numerals and sets within 10.Understand in counting activities that ‘none’ is represented by zero.Explore the number that comes after, before, between a given number.Carry out simple mental calculations e.g. one more than/ less than.Recognise numerals up to 10Count forwards and backwards in ones within 10 from different starting points. | Develop an understanding of one to one correspondence and come to appreciate that the size of a set is given by the last number in the count.Match and order numerals up to 10Partition sets and investigate different ways of making sets for a given number up to 10. (Number stories to 10)Addition of numbers up to 10.Carry out simple mental calculations e.g. one more than/ less than.State without counting quantities within 5.Make a sensible guess of quantities within 10 | Develop an understanding of conservation of number up to 10.Carry out simple mental calculations e.g. one more than/ less than.Explore numbers relevant to their everyday lives.Copy, continue, complete and create repeating patterns using materials or objects in a practical context.Introduce subtraction to 10 using materials or objects in a practical context. | Explore ordinal number.Carry out simple mental calculations e.g.1 more than/ less than.Extend counting in ones and recognition beyond 10.Use money in various contexts.Recognise 1p, 2p, 5p and 10p coins.Talk about things they want to spend money on.Understand the need to pay for goods.Become familiar with coins in everyday use.Talk about different ways we can pay for goods eg. cash, credit card.Use their number skills in shopping activitiesEngage in number trails within the school grounds. | Extend when appropriate, understanding of numbers beyond 15Carry out simple mental calculations e.g. one more than/ less than.Extend activities to include counting 2’s, 5’s and 10’sUse money in various contexts.Talk about things they want to spend money on.Understand the need to pay for goods.Become familiar with coins in everyday use.Talk about different ways we can pay for goods eg. cash, credit card.Use their number skills in shopping activities. | Tizzy’s Toybox,MathleticsAssistive Technology in the form of I-pads or other similar devices.Topmarks.comTwinkl Powerpoints |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Make close observations and provide descriptions of what they notice.Show the ability to sequence and order events and information.Give simple predictions.Give opinions and reasons.Talk about what they are doing and what they have learned.Talk about how a task might be approached, e.g. comparing weight/length.Make simple predictions and giving reasons for them. | Begin to explore the notion of conservation of length, weight, capacity in practical situations such as through the use of water, sand or through outdoor play and engage in discussion about their observations.Introduce names, and sequence, of days of the week. | Talk about significant times on the clock (lunch time, home time).Sequence two or three familiar events. | Compare two objects of different length/weight/Capacity / area.Understand and use the language of comparison e.g. longer/shorter or heavier/lighter.Order 3 objects of different length, weight, capacity, area.Talk about the ordering using appropriate language e.g.Heaviest / lightest.Longest / shortest | Find an object of similar length, weight, capacity, area.Talk about their findings in terms of ‘just about the same’ length, weight, capacity,area.Choose and use with guidance, non standard units to measure length, capacity, weight and talk about their work. | Talk about and recognise significant times on the clock, eg. lunchtime, home time.Compare two intervals of time.Talk about their observations in terms of took longer/shorter time. | Explain time patterns. Choose and use, with guidance, non –standard units to measure time; talk about their work. | Tizzy’s Toybox,MathleticsAssistive Technology in the form of I-pads or other similar devices.Topmarks.comTwinkl Powerpoints  |

**Numeracy Scheme Year: 1**

MEASURES

**Numeracy Scheme Year: 1**

SHAPE SPACE

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Follow directions in relation to a task.Identify and name objects, sort and put them into groups.Talk about what they are doing and what they have learned.Make simple predictions and giving reason e.g. shapes that roll/ don’t rollUnderstand and use mathematical language | Explore and talk about shapes in the environment (e.g. shapes of leaves, windows).Explore body shape through different types of movement. | Describe and name common 2D shapes.Create pictures and patterns with 2D shapes.Explore body shape through different types of movement. | Describe and name common 3D shapes.Build and make models with 3D shapes using a variety of materials and during free play. | Investigate and talk about the properties of shape (eg. roll/ do not roll)Sort collections of shapes in several ways and describe their arrangement. | Explore movement through space during indoor and outdoor play activities.Understand language and follow instructions for movement and position during play and physical activities e.g.: in front of behind, on, under, forward and back. | Follow / Give directions from / to a partner for simple movement.(e.g.0 two steps forward) | Tizzy’s Toybox,MathleticsAssistive Technology in the form of I-pads or other similar devices.Topmarks.comTwinkl Powerpoints |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Talk about what they are doing and what they have learned.Develop the ability to focus, sustain attention and persist with tasks. | Explore freely properties of a range of materials and 1/2/3/ property collections. Respond to questions about their arrangements.Sort collection of random materials, e.g. cutlery, toys or objects gathered beyond the classroom.Begin to use Tree and Carroll diagrams when sorting.Copy a simple patternMatch objects in real contexts, e.g. cup to saucer. | Sort for one criterion using one property materials, talk about the arrangement.Sort for one criterion using two property collections, re-sort for the second criterion, and explain their work.Continue a simple pattern.Match objects in real contexts.Compare sets by matching objects. | Sort for one criterion using one property materials, talk about the arrangement.**Numeracy Scheme Year: 1**HANDLING DATASort for one criterion using two property collections, re-sort for the second criterion, and explain their work.Investigate and talk about pattern in the environment / school grounds / communityCreate patternsCounting objects to understand the terms ’more than’ ’less than’ ‘the same’ | Sort for one criterion using one property materials, talk about the arrangement.Sort for one criterion using two property collections, re-sort for the second criterion, and explain their work.Explore pattern in number (e.g. using Numican to set out groups of two or setting out a number of different objects in two’s) | Sort for one criterion using 3/4property collections, find the various possibilities, and explain their work.Explore pattern in number (e.g. setting out a number of objects in twos).Discover the components of number within 5/10 by investigating different ways of partitioning sets into subsets practically, talk about the outcomes. | Partition sets into subsets in preparation for exploring components of number.Explore pattern in number (e.g. setting out a number of objects in twos).Discover the components of numbers within 5/10 by investigating different ways of partitioning sets into subsets practically, talk about the outcomes.Understand the concept of addition by combining sets of objects to find ‘how many?’ Investigate the relationship between addition and subtraction in practical situations. | Tizzy’s Toybox,MathleticsAssistive Technology in the form of I-pads or other similar devices.Topmarks.comTwinkl Powerpoints  |

**Numeracy Scheme Year: 1**

PROCESSES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Follow directions in relations to a task.Make simple predictions and see possibilities.Be curious and ask questions.Be willing to join in.Talk about what they are doing and what they have learned.Ask an adult to help. | Understand and use mathematical language.Make simple predictions and give reasons.Select, with help from the teacher, materials for a task.Recognise a simple pattern and say what comes next. | Understand and use mathematical language.Explore, through discussion, simple open-ended questions.Make simple predictions and give reasons.Use, with support, mathematical equipment in practical and problem solving situations.Talk about how a task might be approached.Solve everyday problems in the classroom. | Understand and use mathematical language.Explore through discussion, simple open-ended questions. Talk about how a task might be approached.Make simple predictions, giving reasons for them.Select with help, materials and equipment for a task.Solve problems based on stories e.g. The three bears.Recognise simple patterns and say what comes next.  | Understand and use mathematical language.Explore, through discussion, simple open-ended questions.Make simple predictions, giving reasons for them. Talk about how a task might be approached.Use informal language to respond to questions and to talk about their work.Talk about, how a simple investigation was carried out.Solve everyady problems in the classroom on in role play.Use, with support, mathematical materials. | Understand and use mathematical language.Explore, through discussion, simple open-ended questions.Solve problems in the classroom or in role play.Talk about how a task might br approached.Use informal language to respond to questions and to talk about their work.Talk about, how a simple investigation was carried out.Recognise simple patterns and say what comes next. | Understand and use mathematical language.Explore, through discussion, simple open-ended questions.Solve problems in the classroom or in role play.Use informal language to respond to questions and to talk about their work.Talk about how a task might br approached.Make simple predictions, giving reasons for them.Select, with help, materials and equipment for a task. | Tizzy’s Toybox,MathleticsAssistive Technology in the form of I-pads or other similar devices.Topmarks.comTwinkl Powerpoints |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2****Numeracy Scheme Year: 2**NUMBERS | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Make simple predictions and see possibilitiesAsk different types of questionsBe able to learn from demonstration and modellingTalk about what they are doing and what they have learnedBe able to make choices and decisions | Revise and count a variety of objects e.g. number of pencils crayons.Count during number rhymes, jingles and stories e.g. ten green bottles. Link numerals to value through the use of practical materials such as Numicon.Count forward from one and from different starting points, using numbers appropriate to the children.Understand the conservation of number within 10.Match numerals to sets up to 15Understand that zero means none.Combine sets of objects to find how many.Use money in the context of play.Talk about things they would like to spend money on | Develop an understanding of one to one correspondance and come to appreciate that the size of a set is given by the last number in the count.Make a sensible guess of quantities within 10.Experience using symbols+,-.and = in the context of practical work.Use of a number line to’count on’Link counting on to addition.Partition sets and investigate different ways of making sets for a given number up to 15. (Number stories to 15)Recognise numbers up to at least 20.Recognising concept of **Odd** and **Even**Understand the idea of exchanging goods for money eg. in the £1 shop.Use their number skills in shopping activities eg. play shop. | Explore subsets to eight/seven/six/five/ four etc.Subtraction (take away) within 5/10- develop related language.Use the number tract and other devices to ‘count back’ link counting back to subtraction.Explore patterns in subtraction using a variety of materials.Explore subtraction facts to 10.Extend activities to include counting in 2’s, 5’s, 10’s e.g.: through the use of NumiconState without counting quantities within 5/10.Understand and use ordinal terms.Recognise coins 1p, 2p, 5p, 10p.Play money bingo in various contexts.Begin to recognise equivalents up to 10p.Children will be able to find the cost of two items from the shop. | Explore numbers relevant to their everyday lives eg. the number of children allowed in the sand tray, house number.Count forwards and backwards from different starting points.Recognise numbers beyond 20Make a sensible guess of quantities within 10.Continue to investigate different ways of making sets for a given number up to 20. (Number stories to 20)Talk about different ways we pay for goods eg. cash, cheque, credit/ debit cards. | Continue to explore addition patterns up to 5/10 and beyond.Understand that “teen” numbers are made up to 10 plus another number.Investigate the relationship between addition and subtraction in practical situations.Continue to investigate simple function machines 2 add 1=33 add 1=44 add 1=?Continue to play money games. Continue counting sets of 1p-10p.Engage in number trails within the school grounds. | Carry out material calculations such as more/ less than up to 20 doubles, up to 10 and mentally add and subtract within 10/20.Be involved in solving practical problems.Use mental calculations in practical outdoor learning activities such as maths trailsChildren will be able to find the cost of 3 items within 10p from the shop. | Tizzy’s toy boxMathleticsInteractive whiteboardwww.cbeebiesStarfallTopmarks.comDaily 10 |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2****Numeracy Scheme Year: 2**MEASURES | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Make close observations and provide descriptions of what they notice.Talk about what they are doing and what they have learnedGive opinions and reasonsAsk an adult or friend for help. | Begin to talk about significant times on the clock e.g. Lunch time, home time.Begin to compare two intervals of time; talk about their observations in terms of took longer/ shorter time.Sequence two familiar events e.g. those associated with school routines.Begin to recite the days of the week.Understand and use language associated with time e.g. now later, soon, morning, evening, before, after, yesterday, day & night. Begin to understand the concept of area as the idea of covering a surface, e.g. tablecloth “covers” the table. Understand and use the language associated with length e.g. long/short, longer/shorter, the same length in relation to Distance / Time including during exterior practical activities. | Appreciate sequence of time eg. now, later, soon, morning, afternoon, evening, day, night.Begin to measure using non- standard units.Develop the language associated with the notion of volume in relation to size-big, small.Compare and talk about two surfaces by placing one on top of the other, e.g. tablecloth on two different size surfaces. | Explore the patterns e.g. morning time, afternoon, evening, day of the week.Choose and use with guidance non-standard units to measure length, capacity including during practical and problem solving activities.Talk about their work.Recognise special times in the clock.Compare and talk about the weight of 2 objects* By handling
* Using balance scales.

Talk about and order three objects of different weights. | Compare 3 objects of different length, weight, capacity.Understand and use the language of comparison eg. longer, shorter, heavier, lighter, holds more/less.Sequence their day in school, use language associated.Find an object of similar length, weight, capacity, talk about their findings in terms of just about the same length, weight, capacity, area. | Continue to talk about significant times on the clock for example lunch time, break time, PE time, home time.Children will know when the big hand is at 12 it is something o’clock.They will be able to understand that when the hour hand is pointing at the number it is eg. 2 o’ clock. | Begin to understand the hand of the clock can move half way around the clock and it will be half past. | Tizzy’s toy boxMathleticsInteractive whiteboardwww.cbeebiesStarfallTopmarks.comDaily 10 |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Be willing to join inBe able to make choices and decisions.Learn to work and play co-operatively.Ask different types of questionsBegin to plan | Continue to explore 3D and 2d shapes in play based learning using a variety of materials.Recognise basic shapes e.g. square, rectangle, circle, and triangle.Use language to describe the 2D shape. I am a shape, I have no sides, who am I?Talk about shapes in the environment e.g. leaves, containers, windows, shapes found in the playground.Explore body space through different types of movement e.g. curling, stretching, rolling, forwards/backwards and turning over. | Sort and make constructions with 2D and 3D using everyday language.Trace/draw 2D shapes.Sort 3D shapes.Make models.Create pictures and patterns with 2D shapes eg. shape men.Explore movement through space during indoor and outdoor play activities. | Talk about what shapes are good for building and why?**Numeracy Scheme Year: 2**SHAPE SPACEInvestigate and talk about the properties of shapes for example, those that roll / do not roll those with straight edges/ turned edges.Explore body space through different types of movement e.g. curling and shape.Stretching, falling, forwards/ backwards. | Sort collection of shapes in several ways, describe the arrangement.Describe and name common 3D and 2 D shapes eg.cube, cuboid, cone, sphere, triangle, circle.Understand the difference between a solid shape and a flat shape. | Understand and use a range of positional words when in the class or during outdoor learning eg. in front of, behind, across, beside, between.Follow /give directions from / to a partner for simple movements eg. 3 steps forward, 2 steps backwards. | Talk about properties of 3D and 2D shapes using appropriate mathematical language.Explore movement using programmable mobile devices e.g. bee bots. | Tizzy’s toy boxMathleticsInteractive whiteboardwww.cbeebiesStarfallTopmarks.comDaily 10 |

**Numeracy Scheme Year: 2**

HANDLING DATA

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Develop the ability to focus, sustain attention and persist with tasks.Be able to learn from demonstration and modelling.Give opinions and reasons | The children will collect data on their birthdays and record information on a pictogram or bar graph.Discuss and interpret the data.ICT.Use computer software such as ‘All About Number’ to illustrate class birthdays. |  |  | Illustrate the children’s favourite fruit on a class picto-graph.Discuss and interpet the data.ICTUse computer software programs to illustrate results |  | Sort and classify objects for one and two criteria and represent results using a Venn diagram. | Tizzy’s toy boxMathleticsInteractive whiteboardwww.cbeebiesStarfallTopmarks.comDaily 10 |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Managing InformationWork with a focus, ask and respond to questions to clarify the task.Make close observations and provide descriptions of what they notice.Be able to make choices and decisions. | Solve everyday problems in the classroom or in role play e.g. Are there enough knives, forks and plates for four? Can you fit the blocks into the box?Recognise simple patterns and say what comes next.E.g. ball, bat, ball etc.Select with help from the teacher, materials and equipment for a task.What can we use to find out which object is heavier?What can we use to make 6 in different ways? E.g. cubes, teddy bears.Begin to use their investigative skills through stories, discussions and play both in and out of the classroom. | Use informal language to respond to questions and to talk about their work e.g. I put the shape here because it is the same as the others but it is bigger.Use with teacher support, mathematical materials e.g. to make own repeating patterns using sets of shapes or beads to sort a collection of buttons in different ways.Continue to use their investigative skills through further stories, discussions and during both indoor and outdoor play.Talk about and record in their own way, how a simple problem was solved, e.g. by drawing. | Explore, through discussion, simple open- ended questions e.g. How can we find out? What should we do first? What could we try next?**Numeracy Scheme Year: 2**PROCESSESUnderstand and use mathematical language e.g. Bigger, altogether, more, forwards when talking about their work.Explore, through discussion, simple open-ended questions e.g. How can we find out? What should we do first? What could we try next? What materials could we use? How could we sort these materials? | Solve problems based on stories e.g. which bowl belongs to mammy bear? Which bed is bigger than baby bears.Continue to improve their investigative skills using measure.e.g. measuring objects in the playground, white board using lollysticks, measuring pencils or erasers using cubes etc. | Understand and use an increasing range of mathematical language.Talk about and record in own way, how a simple investigation was carried out e.g. finding different ways of making 10 through the use of practical materials such as Numicon.Make simple predictions giving reasons for them e.g. Predict which shapes will roll and which will slide. What will happen when two objects are put on the balance scale?Continue to improve their investigative skills.Talk about how a task might be approached, e.g. making scales balance, comparing two sets to find which is larger. | Select with help from the teacher materials and equipment to use in a task by understanding their special characteristics e.g. Cuisenaire rods or NumiconUnderstand and suggest ways of recording information.Encourage the children to predict and make their own observations during play within and beyond the classroom. | Tizzy’s toy boxMathleticsInteractive whiteboardwww.cbeebiesStarfallTopmarks.comDaily 10 |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Self ManagementTalk about what they are doing and what they have learned.Suggest possible solutions to problems.Use with understanding mathematical symbols such as + - =Asked focused questions. | Revise addition and subtraction up to 10.Use particular materials and number line.Explore and find the different ways of making 10-addition and subtraction patterns.Practice correct formations of numerals 1-20.Count, read and order whole numbers up to 20.Use addition and subtraction sums to help demonstrate that addition is commutative (can be done in any order) but subtraction is not.Recognition of coins to 10p.Make sets of coins up to 10p.Use the +, -, = symbols. | Explore patterns in addition and subtraction to 20.Order numbers up to 50.Use quick recall of number facts to 10 to solve problems.Introduce the concept of a symbol standing for an unknown number e.g.: 4 + a = 6Show an understanding of the relationship between addition and subtraction 13-13, 12+112+1=13 13-1=121+12=13 13-12=1Recognition of coins up to 20pMake equivalent sets of coins up to 20 pence.Calculating change from 20p - using coins and / or number lines.Estimate objects within 20. | Explore patterns in addition and subtraction to 50.Read, Write and order whole numbers up to 100.Begin to show some understanding of place value up to 100- practical activities 15- 1 ten and 5 units38= 3 tens and 8 units.Understand and know that 3 tens and 5 units = 355 tens and 8 units= 58.Base ten materials.Use 100 square to explore addition and subtractionBegin to recognise and use a half and a quarter as an everyday fraction in practical situations. Understand the relationship between half and quarter | Explore patterns in addition and subtraction to 50.Reinforce understanding of place value up to 100- record answers in squared books.Introduce the 50p coin.Understand relationships between coins up to 50p.Explore ways of paying an exact amount of money using different coins within 50p.Give change out of 50p.Develop vertical addition within 100  | Explore patterns in addition and subtraction to 100.Understand the use of a symbol to stand for an unknown nummber.Introduce the £1 coin.Activities using a range of coins up to £1.Shopping games/ activities using a range of coins up to 50p.Make a sensible estimate of a number of objects and begin to approximate to the nearest 100 | Explore patterns in addition and subtraction to 100.Solve problems of the unknown number(s).Talk about the value of money and ways in which it could be spent, saved and kept safe.Talk about what money is and activities for paying for example, debit card, credit card, contactless payments.Buying 2/3 items.Working out totals, finding out change from £1.Using Money in practical situations. | Tizzy’s Toy BoxTrudy’s Time and PlaceMaths FramesMathleticsTopmarks.comDaily 10 |

**Numeracy Scheme Year: 3**

NUMBERS

**Numeracy Scheme Year: 3**

MEASURES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Use with teacher direction, mathematical materials and equipment. | Sequence the days of the week. Introduce vocabularyToday is…..Yesterday was …Tomorrow will be….Put the months of the year in the correct order.Sequence the four seasons correctly. | Tell the time in hours eg.12 o clock. | Read the time-half past the hour.Recognise o’clock and half past the hour.Read simple digital and analogue clock displays.Work out times e.g. one hour later, two hours before.Pupils will use a variety of non-standard units to measure lengths of a variety of every-day objects e.g. hands/feetUse large blocks to measure a child’s height- record on a graph. | Discusss the need for non-standard units of measure. E.g. span, pace.Introduce the metre and centimetre.Children will step, pace and use trundle wheel to measure lengths during outdoor learning.They will decide the most appropriate way of measuring lengths- giving reason for choice. | Measure using cups as a non standard unit of measure.Appreciate the need for a standard unit of capacity. | Compare different objects in class with the weight of a bag of sugar (1 kilo). Appreciate the need for a standard unit of weight. | Tizzy’s Toy BoxTrudy’s Time and PlaceMaths FramesMathleticsTopmarks.comDaily 10. |

**Numeracy Scheme Year: 3**

SHAPE SPACE

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Use appropriate vocabularyAsking questions and talking about their work. | Recognise and name Squares, rectangles, triangles,Circles, pentagons and hexagons.Children will explore/ investigate 2D shapes.Identify 2D shapes in the environment such as during outdoor learning.Draw shape pictures using 2D shapesMr. ShapeMiss ShapeBoatTrain | Recognise and name 3D shapesCubesCuboidsSpheresConesCylindersSort 3D shapes using 2 criteria- roll/ doesn’t rollBuild/ doesn’t buildCurved sides/ does not have curved sidesChildren will identify shapes in their environment e.g.: during maths trails in the playground or during outdoor learning. | Use everyday language to describe position and movement e.g. under, beside, left, backwards, full turn.Talk about things that turn.Recognise turning movements e.g. left/right/half turn/full turn. | Follow instructions and give instructions for moving along a straight line and round right angled corners e.g. to pass through a simple maze. | Understand and give instructions for turning movements.Use bee bot and roamer.Follow instructions during PE lesson e.g. take 2 steps back, move left/right.Discuss things that turn – i.e. themselves/ the hands of the clock.**Level 1.**Children will move an avatar or robot from one point to another using a movement app or beebot.**Level 2.**Children will plan a journey through an on-screen map or on a mat so that the device moves in different directions on the way. | Investigate number of faces, edges and corners of cube, cuboids; cylinder and cone- record their results.Record number of corners, faces and edges of above shapes. | Tizzy’s Toy BoxTrudy’s Time and PlaceMaths FramesMathleticsTopmarks.comDaily 10 |

**Numeracy Scheme Year: 3**

HANDLING DATA

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Make simple predictionsRecord information in a variety of formats. | The children will collect data on their birthdays and record information on a bar graph.Discuss and interpret the data.Use ICT software –e.g.: Number box to illustrate class birthdays.Complete tally sheet on birthday months.Answer questions about graph and carry out an investigation. Example, which month has the least / most birthdays. | Using Venn diagrams sort and classify objects for one criteria and represent results using a Venn diagram.Discuss and interpret data on a number of vertical / horizontal graphs. | Collect data on children’s height.Using large blocks record on graph. | Illustrate the children’s favourite fruit on a class picto-graph.Discuss and interpet the data.ICTUse counting pictures to illustrate results. | Sort and classify recorded data in Carroll diagrams.* Swim / cannot swim
* Ride bike / cannot ride bike

Use tree diagrams to Sort and classify data. | Sort and classify objects for two criteria and represent results using a Venn diagram.* Boys / girls
* Swim
 | Tizzy’s Toy BoxTrudy’s Time and PlaceMaths FramesMathleticsTopmarks.comDaily 10 |

**Numeracy Scheme Year: 3**

PROCESSES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
|  | Begin to use and choose simple numbers and mental strategies to solve problems.Use with teacher direction appropriate resources i.e. coins.Explain simple calculation strategies.Begin to use reasoning and explain choice of shape and use their understanding to identify objects in the classroom.Record findings in a simple way. | Begin to organise their work.Develop greater confidence in selecting materials and equipment.Report finding orally. Report findings appropriately.Use with understanding mathematical symbols such as + - =.Begin to use and choose simple number and mental strategies to solve money problems.Describe a list in orderUse equipment with teacher e.g. clocks | Develop greater confidence in selecting materials and equipment.Decide if a task needs counting calculation.Use materials given for a task.Begin to work reasonably independently.Talk about the task and use appropriate mathematical language.Measure accurately, record results and report findings. | Use appropriate vocabularly – asking questions and talking about their work.Investigate, make predictions and solve problems through interaction with digital tools.Talk about mathematics in everyday life.Work out money problems and give change correctly. | Explain simple calculations used.Use mental strategies to solve problems.Choose objects to match (weight)Use appropriate vocabularly when using weight – lighter than, heavier than. | Make decisions and generate options.Explain their methods and opinions and reasons for choices and actions.Suggest possible solutions to problems.Begin to test predictions and to look for evidence.Estimate and compare capacity of a variety of containers.Work on shop based activities. | Bitesize mathsiPad AppsTizzy’s Toy BoxTrudy’s Time and PlaceMaths FramesMathleticsTopmarks.comDaily 10  |

**Numeracy Scheme Year: 4**

NUMBERS

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Select the most appropriate method.Ask focused questionsGive and respond to feedback | Recognise odd and even numbers.Investigate and talk about odd and even numbers using practical resources including Numicon.Children will consolidate and revise number bonds to 20 and develop quick recall of number facts.Know and understand place value using tens and units.Introduce multiplication and multiplication symbol (x) as repeated addition and explore multiplication patterns for 2, 5 and 10 times tables.Explore addition and subtraction within 100(no exchange, no re-grouping)(horizontal and vertical)Estimate a given number of objects.Understand the use of a symbol or letter to stand for an unknown number eg.7 +? =10.Solving simple word problemsExplain methods of calculation.Explore and use efficient mental calculation strategies.  | Continue to develop vertical addition and subtraction through formal recording- bridging and decomposition (regrouping).Consolidatde concepts of 2,5, 10 times tables through the use of practical resources e.g.: Numicon and develop quick recall Introduce 3 times tables.Explore patterns in number.Use hundred square to identify simple number patterns, developing knowledge of tables as well as addition and subtraction of 10’s.Appreciate the commutative nature of addition eg. 2+3= 3+ 2 through the use of practical resourcesEngage in a range of activities to develop understanding of zero as a place holder.Explore simple number sequences.Investigate simple function machines (addition/ subtraction) | Read, write and order whole numbers up to 500.Use the knowledge that the position of a digit indicates its value.Develop vertical subtraction through formal recording to 100, including decomposition of tens and units.Know and understand that multiplication is equivalent to repeated addition.Learn 4 times tables.Consolidate 2, 3,5,10 times tables.Read and write numbers up to 999.Explore the concept of halves and quarters using whole shapes and sets of object’s(+3/4’s)Appreciate that the digit on the left has greater value.Explore the link between multiplication and division e.g. halving is the reverse of doubling. | Continue to develop quick of multiplication facts of 2,3,4,5,10Explore and count numbers up to and beyond 1000 (level 3), eg. count in 1’s,2’s,5’s, 10’s and 100’s, 1000’s forwards and backwards from a given number.Add and subtract H,T,U, using decomposition.Round any two digit number to the nearest 10 and any 3 digit number to the nearest 100.Investigate ways of making different amounts of money up to £1.00Shopping activities requiring giving change.Investigate amounts of money up to £1.00 using the least/ specific number of coins.Talk about value of money and ways in which it could be spent, saved and kept safe.Discuss alternatives for paying eg. debit/credit card and understand that payments are made using them. | Introduce 6 times tables.Quickly recall the commutative aspect of multiplication facts (i.e.: that multiplication can occur in any order e.g.:.2 x 3 = 3 x 2)Order whole numbers up to 9,999 and use them in addition and subtraction.Carry out calculations involving addition/ subtraction using a calculator.Recognise whole numbers which are exactly divisible by 2,5 and 10.Explore concept of division through sharing and grouping activities using practical resources including NumiconBegin recording using the division symbol.Investigate simple function machines (multiplication, adding, subtraction, & dividing). | Use multiplication facts in problem solving.Revision of re-grouping (i.e. Addition and subtraction)Carry out calculations involving multiplication/ division using calculator.Extend the concept of remainders.Extend subtraction within 9,999With no exchange1 exchange2 exchanges.Share sets of objects to develop an understanding of what is meant by fractions of quantities- whole number answer only.Division with remainders, using numbers up to 99. | iPad AppsInteractive whiteboard.NumberboxExcelTopmarksDaily 10All about Numberwww.alta-online.co.uk |

**Numeracy Scheme Year: 4**

MEASURES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Make predictionsSelect, classify and compare units | Children will revise days,Months, seasons,calendarsConsolidate concepts of hour/half hour and 12-hour clock.Explore quarter past, quarter to.  | Time-5 minute intervals past the hour.Time-5 minute intervals to the hour.Understand and use the terms am and pm.Know the number of days in each month. | Capacity - Use non-standard units in capacity to measureDevelop appreciation of a litre,(more than/ less than, about a …)Develop appreciation of half litre (½ l)Conservation of volume through practical investigations. | Appreciate the need for a standard unit of lengthUse metre/half metre and cm in practical situations and during outdoor play.Understand how to measure distance in an appropriate manner. | Appreciate the need for standard unit of weight.Estimate and compare weight less than/ more than 1kg, half kg.Understand how to read simple scales showing whole, half and quarter kg or litres e.g.:See the source imageCover surfaces using non standard units, shapes which leave gaps/ do not leave gaps.Find area of shapes by counting whole and half squares. | Consolidate their ability to tell the time 5 past /5 to.Understand calendar patterns and be able to read and interpret information from a calendar. | iPad AppsInteractive whiteboard.NumberboxExcelTopmarksDaily 10All about Numberwww.alta-online.co.uk [www.primary](http://www.primary) resources.co.uk[www.bbc](http://www.bbc) Revisewisebbc.co.uk.bitesize |

**Numeracy Scheme Year: 4**

SHAPE SPACE

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Make predictionsSelect, classify, compare and evaluate information | Children will revise 2D shapes and their properties- square, rectangle, triangle, circleRecognise and name 3D shapes- cube, cuboids, cylinder, sphere and their properties.Become familiar with vocabulary- faces, edges, corners, curved, straight.Sort shapes into square corners and not square corners.Look at the properties of 2D shapes- hexagon, pentagon, and semi-circles. | Apply knowledge of Venn, Carroll and tree diagrams to consolidate their knowledge of shapes.Recognise at least one line of symmetry in 2D shapes, in designs and patterns.Investigate ¼ turns, 1/2 turns and whole turns.Clockwise and anti-clockwise | Explore and make right angles practically.Use a right angled tester to identify right angles in the environment.I.C.T – Use a Roamer, Beebot or a similar movement App, to make a staircase using 90 degrees left/ right. |  | Through practical activities-Use 90 for right angle (roamer or relevant App)2 right angles 180Be aware of greater than/ less than right angle. | Revision of 2D, 3D shapes.-Be able to name and discuss their properties.-Use of straight and curved lines.-Which shapes tessellate? | Roamer‘Earl’ – Linked to scratchRoamer world CCEA tasksiPad AppsInteractive whiteboard.NumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 4**

HANDLING DATA

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Ask focused questionsUse own and other ideas to locate sources of informationSequence, order, classify, make comparison.Use a range of methods for collecting, recording and representing information. | Gather data in different practical situations during class and outdoor learning and explore various methods of presenting it- i.e. Pie/ block/ graphs.Interpret results from surveys as displayed on various graphs. | Record survey results in a tally chart, ( bar- gate convention).Introduce use of a baseline ( horizontal and vertical).Discuss appropriate titles and labels. | Sort for two criteria on Carroll, Tree and Venn diagrams.Respond to and ask questions about resulting displays. | Explore relevant questions on statement ie. Most popular flavour of crisp etc.Develop an awareness of pie charts (with max of 4 sectors) using- visual discrimination based on simple fractions ½, 1/4s. | Collect information relevant to a topic in different practical situations during class and outdoor learning and record in a given table pictograms / block graphs drawn out and labelling graphs (x & y axis)Understand number of frequency axes.Draw and label barcharts on given axes, which require simple scales eg. 2, 5, 10. | Read and interpret information from a variety of given tables, graphs and chart. | iPad AppsInteractive whiteboard.NumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 4**

PROCESSES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
|  | Begin to explain their mathematical reasoning e.g. personal calculations and strategies.Make 10/20Explain different ways of making a specific total.Apply strategies to support graph/ data handling.Record information on surveys etc.Investigate times table problems. | Investigate fastest method to solve number problems.Choose and use appropriate number operations and mental strategies to solve problems.Select with help appropriate forms of mathematical representation- graphs/ pie Venn etc.Suggest information needed to carry out a task (completegraph). | Select appropriate materials- to investigate the distance between marked locations in practical situations.Begin to suggest how to present findings based on their birthday dates.Talk about how they found right angles in a classroom or beyond the classroom during play or practical activities.Apply strategies for problem solving using number fans.(predict)- Estimate and compare (+ check accuracy) e.g. how many cupful’s will equal one litre. | Find rules and patterns tablesUse ICT as a tool (Roamer) to investigate angles/turning.Choose and use appropriate number operations and ways of calculating in a wide range of context (money)Begin to explain their thinking relating to a practical shopping activity (change)Discuss possible approaches of finding 1/2s and1/4s. | Investigate weight of objects (+ compare) and discuss findings.Develop vocabularyArea- Consider alternative ways of finding the area using non- standard objects (eg.matchboxes / books / playing cards etc.)Discuss and organise information for survey on lunches- represent in a bar graph.Suggest information needed to carry out tasks, how to obtain the information and ways to record work systematically. | Plan and work systematically on shop activities.Apply strategies to solve shop-based scenarios using money.Capacity- Estimate and compare the capacity of a variety of containers when playing using liquid or fine particle solids.Respond to open- ended questionsPlan an investigation to find how long (discuss possible approaches) it takes to tie laces/ run a lap of the playground.Talk about how they carried out a task and explain their thinking. | iPad AppsInteractive whiteboard.NumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 5**

NUMBERS

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Check accuracy of their work.Understand mathematical language and use it to discuss their work and explain their thinking. | Revise and understand numbers to 999, and revise addition and subtraction.Have quick recall of multiplication tables 2, 3, 4, 5, and 10 x tables.Appreciate the value of each digit, e.g. 326.Read, write and order whole numbers up to 9,999.Use practical resources such as Numicon to support the understanding of number and number bonds to 999. | To add, subtract and order number using H.T.U.Develop an understanding of the commutative nature of multiplication (that it can be done in any order) using practical materials e.g. number line, cubes, squared paper and multiplication squares. | Explore and use extended addition and subtraction patterns, e.g. 3 + 2 = 5 13 + 2 = 15 3 + 22 = 25 30 + 20 = 50To learn and recall multiplication facts to 10x10, with emphasis on 6-9 times tables.Appreciate that multiplication and division are inverse operations.Explore and order fractions with the same denominator quarters, halves, thirds, sixths, fifths, tenths. | Understand the concept of division with remainders of numbers up to 999.Know multiplication up to 10x, and use them accurately.Problem solving using division, of numbers in the hundreds- divided by single digit numbers.Investigate function machines using appropriate language input / output.Examine patterns in number sequences, and equivalent forms of 2- digit numbers, eg. 23+ 65=20+60+3+5=80+8=88 | Introduce and identify decimal notation to tenths.Add, subtract, multiply and divide numbers, using money, up to at least £10.00.Discuss foreign currency, including the Euro.Find decimal equivalent of simple fractions. | Exploring multiples and factors up to 10x10Multiply and divide using mental or pencil and paper methods: any 2 / 3 digit number by a single digit.Use the four operations to solve problems and puzzles involving numbers and measures, explaining methods and reasoning.Using mental calculations in practical outdoor learning activities such as Maths Trails | Internet – www.bitesize/maths.co.ukiPad AppsInteractive whiteboard.NumberboxExcelTopmarksDaily 10All about NumberWhiteboard – fractions programme. |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Try different mathematical approaches and look for ways to overcome difficulties.Justify methods, opinions and conclusions | Identify o’ clock, quarter past, half past and quarter to.Read and interpret information from a calendar month.Tell the time in “minutes to” and “minutes past” the hour on the analogue clock.Carry out practical activities during outdoor learning to appreciate duration by estimating one minuteRelate hours, half hours, quarter hours, minutes past and minutes to on analogue and digital clocks including and understanding the use of am and pm. | Find the area of shapes by counting squares where answers are: An exact number of squares, whole and half squares, whole and part squares.Through using non- standard units, appreciate the need for a standard unit of area. | Estimate and measure the area of regular and irregular surfaces.Find the approximate area of your footprint/ handprint.Measure using the litre as a standard unit.Estimate and compare capacity in litres through practical activities.Introduce smaller capacities eg.1/2 litre or ¼ litre.Appreciate the conservation of volume through practical investigations,E.g. Water poured from one container to another can take on another shape. | Measure using the metre as a standard unit.Estimate and compare lengths in metres.Introduce shorter lengths, eg.1/2 metre or ¼ metre including through practical outdoor learning.Estimate and measure in metres and cms using a variety of instruments.Discuss and select appropriate unit and instrument, eg. trundle wheel to measure the playground.Use a ruler to draw and measure lines to the nearest centimetre. | Estimate and Measure using the kg and gram as the standard unit.Explore”weights” less than 1 kg,1/2 kg, 100 grams to introduce grams.Estimate and measure weights of various packages using scales.Discuss and select the appropriate unit and instrument for the estimation and measurement of length, capacity, volume, weight, time and temperature.Talk about how they carried out the task. | Solve problems using addition and subtraction of hours / minutes. | Use whiteboad for clock and area.iPad AppsInteractive whiteboard.NumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 5**

MEASURES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Compare own methods of findings with others. | Explore and identify 2D and 3D shapes- recognise and describe number of sides/ straight or curved edges/ corners, etc.Investigate 1/4 turns, ½ turns and whole turns to establish relationships with right angles, e.g. using roamer or Bee- Bot.Use the language right/ left, or clockwise and anti- clockwise to describe turns. | Explore symmetry in shapes through a range of activities eg. paper cutting, mirrors, paint.Explore and recognise one line of symmetry in a variety of 2D shapes, designs and pictures.Be introduced to a programming language and use it to create pictures and patterns and to generate shapes.Explore and make right angles: make right –angle tester- to identify right angles. | Recognise tessellation of shapes through practical activities. | Introduce compass points. N, S, E and W and understand how one point relates to another within the context of the 4 main compass points.**Numeracy Scheme Year: 5**SHAPE SPACE | Sort 2-D and 3-D shapes for specific criteria using venn, carroll & tree diagrams.Recognising 2d and 3d shapes in the environment and beyond the classroom when following maths trails. | Use simple grid references both – in classroom exercises- Identifying a square- Identifying a point.or in practical situations such as simple orienteering exercises during outdoor learning. | Use ‘Earl’ to link to ‘Scratch’ and draw patterns and shapesNumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 5**

HANDLING DATA

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Understand the idea of graphs as pictures presenting information.Use appropriate mental strategies to solve problems | Discuss opportunities for collecting data and then follow through by collecting during practical activities and surveys | Represent data from a frequency table on a block graph and interpret results.Construct, label and interpret information from pictographs where the symbol represents ½ objects.Use simple graphing packages to produce horizontal and vertical barcharts to represent data focusing on: graph title, axes labels.E.g. Number box.Introduce the bar-gate convention when tallying. | Understand and interpret information using Carroll, tree and Venn diagrams.Enter in, and access information from a simple database.Explore relevant questions or statements, e.g. What is the most popular flavour of crisps? |  | Develop an awareness of simple pie-charts. | Explain findings orally and/or through writing and draw conclusions.Become familiar with, and use the language of probability, events and outcomes. | NumberboxExcelTopmarksDaily 10All about NumberWebsite – KS2 Bitesize |

**Numeracy Scheme Year: 5**

PROCESSES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Organise and plan how to go about a task.Ask focused questions | Suggest appropriate sources to find the information.Plan work in a systematic manner.Begin to suggest how to present findings. | Solve problems to include choosing and using appropriate operations to solve word problems.Explain their thinking e.g. reasons for choices they’ve made. | Check accuracy of own work and the reasonableness of their outcomes.Show increased perseverance and willingness to try again. | Investigating patterns and sequences.Generate a rule.Selecting appropriate materials. | Solve money problems involving the four operations up to £15.00.Solve simple two stage problems using a variety of strategies.Discuss and compare methods with others, using a variety of strategies. | Consider alternative ways of working, e.g. different ways to solve problems.Explain their thinking.Ask questions to clarify information and understanding. | NumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year 6**

NUMBERS

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Check reasonableness of answersChoose appropriate equipment.Justify opinions and conclusions.Ask focused questions. | Revise addition and subtraction up to 1000 and extend to numbers up to 10,000Have quick recall of all multiplication tables up to 10x10Read, write and order whole numbers within 10,000Appreciate the value of each digit e.g. 7256Approximate numbers to the nearest 10, 100. 1000Be able to estimate answers to calculations by approximating and rounding. Continue to develop strategies and personal methods of computation to add, subtract, multiply and divide using a range of mental, written and calculator methods. | Extend the concept of multiplication through grouping activitiesMultiply 3 digit numbers by 2-10 times tablesExtend concept of division through sharing and grouping to 10,000 using times tables 2-10Use the four operations to solve word problemsCarry out four rule calculations with money.Appreciate that multiplication and division are inverse operations and use this fact to check calculations.Explore and order fractions with the same denominator eg.1/6,2/6, 3/6Investigate equivalence of fractions within families 1/2s,1/4s,1/8s | Appreciate decimal notation in relation to tenthsRead, write and order tenths.Apply four rules using decimal numbers using one decimal placeRound up to whole numbers and tenthsMultiply whole numbers by 10, 100Fractions of numbers 1/5, 1/6, 2/3 of etc. | Appreciate decimal notation in relation to hundredths.Read, write and order hundredths.Apply four rules using two decimal placesExtend place value to millionsMake, read, write and order millionsIdentify value of digit in millions.Develop an understanding of the need to save, make choices about spending and understand value for money.  | Multiply 3 digit numbersEquivalent fractions and simplification of fractions eg. 20/40 Percentages linked to 1/4., 1/5, ½, ¾, ½, and relationship with decimalsExamine patterns and sequences in number including spatial investigations.Two operations in function machines.investigate different methods of payment. | Understand how to use the basic functions of a calculator adding, subtracting, multiplying and dividing.Be able to use calculators and to interpret calculator displays when solving money problems. Multiplying/ dividing decimals by 10,100 Understand multiples and factorsInvestigate doubling and halving to explore patterns e.g. 17 x 8 = 34 x 4Discuss foreign currency including euro.Use mental calculations to solve puzzles and problems such as when following Maths trails. | NumberboxExcelTopmarksDaily 10All about Number  |

**Numeracy Scheme Year: 6**

MEASURES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Look for a pattern.Suggest what information is needed to carry out task, how to obtain and record it.Check that a general statement is sensible | Introduce concept of perimeter.Find perimeters of simple shapes by measuring relevant sides and calculating.Through practical activities including outdoor learning, appreciate the use of seconds to time shorter durations. Estimate and measure short periods of timeAppreciate different ways of writing dates and calculate the passage of time between dates. | Appreciate need for greater accuracy-Introduce measure and record in mm.Estimate length in practical situations before measuring accurately.Find area of irregular shapes in cm2 by counting whole/half and part squares.Investigate strategies for finding areas of squares and rectangles leading to formula l x b.Create a variety of shapes for a given area using practical materials. Appreciate conservation of area. | Appreciate and use in practical situations the relationships between ‘m’ and ‘cm’‘kg’ and ‘g’l and mlkm+ mcm+ mmInvestigate calendar patterns and use these to calculate passage of time between two dates within or beyond months.Appreciate the term inclusive.  | Discuss estimate and measure volume by counting cm cubes. | Discuss and share methods of measuring curved lines.Read and relate analogue and digital time(in five minute and one minute intervals)Understand and use 24 hour clock.Use 24 hour clock notation. | Introduce the square metre-Explore larger areas- e.g. Using a Roamer, Beebot or a similar movement AppUse the relationship between minutes and hours to perform simple mental calculations involving counting forward and back. | ‘Earl’ movement robot for area.Interactive whiteboard for clock.NumberboxExcelTopmarksDaily 10All about Number |

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Listen actively and share opinions with others.Select, classify, compare and evaluate information. |  | Explore relationships between 2D and 3D shapes- building 3D shapes from construction materials.Investigate 2D shapes that have right angles using materials.Record shapes on squared or dotted paper.Draw lines of symmetry on 2D shapes.Explore nets of 3D shapes.Discuss and describe shapes in terms of sides, angles and symmetry. | Introducehorizontal,vertical,parallel and perpendicular lines. | Appreciate need for a standard unit to measure angles -Right angle=90º2 right angles=180ºFull turn=360ºUnderstand acute, obtuse, reflex  | Explore co-ordinates in the first quadrant.Identify position.Plot position.Specify co-ordinates of a given point.Draw 2D shapes defined by co-ordinates.Draw and compare pictures and shapes using co-ordinates in the first quadrant. Practically experience the need for the use of coordinates e.g.: orienteering or following a maths trail. | Revise N.S.E.W and introduce, recognise and use the remaining 4 compass points of NE, NW, SE and SW Describe clockwise and anti-clockwise in terms of right angles and fractions of whole turn ½, ¼, turn and degrees related to ½, and ¼.Use Roamer to explore the language of position, movement and direction.Discuss work using appropriate language. | Interactive whiteboard for shapes and angles.Whiteboard for co-ordinates.‘Earl’ roamer linked to scratch.BBCbitesize website |

**Numeracy Scheme Year: 6**

SHAPE SPACE

**Numeracy Scheme Year: 6**

Handling Data

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Developing routines of sharing, taking turns and co-operating Explain choices and reasons to others, using appropriate mathematical language, | Discuss draw and label bar charts with simple scales and interpret results.Construct and interpret pictograms where one symbol represents a group of objects and another symbol represents less than that number or half that number. | Use ICT software to represent data in a range of ways.-Discuss which representation shows information most clearly.Design and use an appropriate observation sheet for use during outdoor learning, for an identified issue. - Evaluate its effectiveness.e.g. traffic survey, litter survey. | Interpret simple pie-charts (with a max. of four sectors) using visual discrimination and simple fractions.Discuss the need to group data.Record data in tables with given class intervals.  | Design a decision tree diagram to sort / identify objects. | Discuss draw and label bar-line graphs. Interpret results.Create an organised list to identify all possible combinations, e.g. matches to be played in a games tournament.  | Sort and search an existing relevant computer database in response to directed questions.(CCEA TASKS) | CCEA Tasks.NumberboxExcelTopmarksDaily 10All about NumberInteractive whitboard for drawing graphs. |

**Numeracy Scheme Year: 6**

PROCESSES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Pupils will explain their methods.Organise calculations in a meaningful way.Generate possible solutions.Sequence order classify, make comparisons | Plan and work systematicallyUse the appropriate language to describe work orally.Check the accuracy of results and findings. | Identify and collect information required for a task initally with teacher support.Discuss and respond to open ended questionsChoose a format to record work and give reasons for the choice.Compare methods of presentation and discuss which shows the results most clearly. | Suggest how to present findings:Using a data collection sheet, diagrams, charts and tables.Explain their thinking, the approach used and give reasons for their choice. | Discuss and compare ideas and methods with others.Explore and use a range of problem solving strategies. e.g. finding patternsDiscuss and share benchmarks for making estimates. | Suggesting ways a task might be approached e.g. by simplifying the task, looking for a pattern, making a list.Discuss a general statement with teacher/peers and check whether particular cases match it. | Select and use materials and equipment required for their work e.g. computer database.Present findings using numbers and symbols to show how the problem was solved or the investigation was carried out. | NumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 7**

NUMBER

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Recognise general patterns and relationships between numbers.Ask focused questions.Compare results and methods with others.Generate possible solutions. | Understand and use terms, multiple, factor, prime, square cube and triangular. Understand and use negative numbers in context for example –height/depth above and below sea level… orthrough the use of a thermometer to measure temperature during outdoor learning.Order, add and subtract fractions with different numerators and denominators e.g. 1/3 ¾, 5/8.Extend division to dividing thousands, by two digit numbers. Continue to use inverse operations to check calculations. | Discuss rules for generating a sequence from given terms and express in words or symbols rules for generating sequences.Understand that a letter can represent an unknown number eg.p¬6= 7Multiplying and dividing whole numbers and decimals by 1000Read, write and order decimals to three decimal places in the context of measurement. | Appreciate the value of money- how to keep it safe, how to pay for goods e.g. visa/debit card, how to budget, how to plan ahead and access best buys.Develop an understanding of eurosUnderstand you must have money in account to use cash card. | Explore the concept of earningCalculate percentage quantified eg.5%, 3%, 1% of various numbers and values including money.Assess value for money eg. 3 for 2Understand term interest, debit, credit. | Understand and use the constant facility on a calculator to create a function machineAdd fractions with the same denominatorUse calculator to solve money problems, rounding up to nearest penny. Express and use formula in words and / or symbolic form e.g.: -represent words using appropriate symbols/letters;-understand how to find a value for a symbol/letter when it is unknown; and-use symbols/letters with known values to calculate totals. | Select an appropriate way of expressing a remainder e.g. as a fraction, or decimal fraction or as a whole number remainder.Use four operations to solve more complex word problems and puzzles explaining strategies and reasoning.Rounding up to two decimal places. | Smart spender managing a budgetCCEA tasks (spread sheet) plan a school trip.Use calculator Bitesize MathsNumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 7**

MEASURES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Developing routines of taking turns and sharing. Justifying methods and opinions.Breaking tasks into bits.Improve approach to working collaboratively | Convert from one metric unit of capacity to another e.g. 1516 ml=1.516 LCalculate perimeters of simple shapes and begin to look at methods of how to calculate the perimeter of more complex 2d shapes. | Use scale in context of maps/ drawings.Solve problems and carry out investigations involving estimation measurement and calculations using length, weight and capacity. | Investigate ways of finding volume of cubes and cuboids and develop a formula for its calculation.Calculate volume of cubes and cuboids using formula. | Look at how the area of squares, rectangles, right angled triangles and triangles are calculated and investigate how to calculate the areas of composite shapes. | Investigate area and perimeter.Estimate, measure and calculate perimeters of larger areas such as classrooms or sports halls using appropriate equipment and units i.e. square metres or during outdoor learning.Understand and use the terms‘decade’‘century’‘millenium’ | Read and interpret timetables (12-hour, 24 hour) and solve related problems.Discuss other time zones. | Interactive cloocksSmart spender managing a budgetCCEA tasks (spread sheet) plan a school trip.Use calculator Bitesize MathsNumberboxExcelTopmarksDaily 10All about Number |

**Numeracy Scheme Year: 7**

SHAPE SPACE

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Obtain information needed to complete the work.Make general statements and conclusions based on their results | Revise properties of all 2D and 3D shapesReflect 2D shape in a line.Investigate edges, faces and vertices of 3d shapes such as cubes, cuboids, prisms and pyramids and describe shapes using these termsInvestigate properties of triangles and quadrilaterals.Use of Number Box to construct and investigate 2D shapes. | Discuss the properties of horizontal, vertical, parallel and perpendicular lines.Develop understanding of the eight points of the compass and explore angles of 45ºFollow and give instructions related to eight points of the compasss.Describe clockwise and anti clockwise turns in terms of 45º . | Use logo to explore position, movement and direction.Use of active primary software to measure angles. | Investigate pentominoes (shapes made from 5 identical squares) and use them to explore symmetry, tessellation, nets and perimeters.Draw nets of 3d shapes and build open boxes.Investigate use of repeat and procedures to generate shapes and designs. | Explore and use a 360° protractor to measure and compare angles. | Explore angle relationships associated with parallel lines. | Interactive whiteboard for shape.Use Numberbox to construct shapes and investigate turns.Use protractors on whiteboard to measure angles.ExcelTopmarks |

**Numeracy Scheme Year: 7**

HANDLING DATA

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Using a range of methods for collating and representing information Seek advice when necessary.Select, classify, compare and evaluate information. | Extend language of probability (certain, evens, likely), predict outcomes and place events in order of likelihood. | Understand the notion of mean and range.Calculate mean and range of a set of data. | Draw and label line graphs with understanding of scales and intervals.Discuss best ways to represent data and record a range of information, which the class has collected, in the most appropriate form.Interpret pie charts. | Use class intervals to create frequency tables for grouped data.Set up a simple database.CCEA task – plan a school trip. Use a spreadsheet to enter data.Input information into a database.Interrogate data and draw conclusions,(Height of 10 year old boys in comparison to 10 year old girls). | Familiarise pupils with data representation in newspapers and media. |  | CCEA TaskUsing spreadsheetsUse excel to construct graphs and pie-charts |

**Numeracy Scheme Year: 7**

PROCESSES

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| THINKINGSKILLS AND PERSONAL CAPABILITIES | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** | UNDERSTANDING I.C.T |
| Learn from mistakes and be prepared to take risks.Plan and organise work in a more efficient way.Be able to select appropriate equipment and materials. | Plan and work systemicallyExplain methods and strategies used | Use a range of problem solving strategiesUse appropriate mathematical languageSelect and use appropriate materials and equipment appropriate for a task. | Select and use materials and equipment for their work e.g. computer databaseMake and justify estimations and approximationsRecognise and apply maths in contexts across the curriculum | Suggest how to prevent findings eg. pie chart, frequency table.Use a variety of ways to check resultsDesign a writing frame to plan work. | Make general statements on findings and check using new examples.Independently review own way of working. | Independently investigating a general statement. | Primary Resources. |