



# Raynham Primary School Policies



## Maths Policy

February 2021

## VISION

*We strive to enthuse children's love of maths through a creative approach to learning that is rich in making cross-curricular and real life links so that learning is meaningful thus enabling children's mathematical fluency, reasoning and problem solving skills to be retained in their long term memory.*

## SECTION 1 INTENT

### 1.1 Aims

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Raynham Primary School. Fluency, reasoning and problem solving at the core of the Maths National Curriculum (2014) underpins the mathematical learning at our school. Early Years Foundation Stage Curriculum for Nursery, Reception and Key Stage 1 and 2. The policy has been drawn up as a result of staff discussion and has full agreement of the Governing Body. The implementation of this policy is the responsibility of all the teaching staff.

Maths is a vital part of the curriculum. It provides a set of important skills for life and supports work in many other areas of the curriculum. It helps children to make sense of the world. It creates a confidence when dealing with number in all walks of life as well as a lifelong enjoyment of the challenges and puzzles that are available.

#### **We aim for children to:**

- develop fluency, reasoning and problem solving skills in line with the National Curriculum for Maths
- develop a positive attitude towards mathematics
- learn mathematics through real life context opportunities such as using the outdoor curriculum and environment available in our school (e.g. farm, vegetable allotments, field, park, school playground)
- explore mathematics in a creative way through Concrete, Pictorial and Abstract approach as well as art
- develop a sound understanding of the number system
- develop mental calculation strategies
- present all new mathematical concepts in a practical context
- encourage children to be flexible in their approach to mathematics
- develop an understanding of the relationship between maths and other curriculum areas
- develop communication skills in maths; sharing ideas, experiences, question and clearly and fluently using the appropriate mathematical language
- allow all children to experience a sense of achievement regardless of age or ability
- provide investigative and practical activities designed to develop problem solving and mastery skills
- be able to apply previously acquired concepts, skills, knowledge and understanding to the new situations both in and out of school
- make maths an enjoyable and worthwhile activity in every class.

#### **For parents to:**

- be actively involved in their children's mathematical learning both in school and at home
- understand and support the school's mathematics and homework policy and scheme of work.

### 1.2. Approach

*Medium term plans overviews are adapted in line with the school's vision and aims. They build on the following:*

- *White Rose Hub, NCETM, NRich*
- *CPA approach (concrete, pictorial, abstract) and links to intelligent practice*
- *cross-curricular and creative approach*
- *developing oracy through T4W in Maths and real life connections in the local environment*

## SECTION 2 IMPLEMENT

### 2.1 Planning

Planning is undertaken at three levels:

**Long term planning** is in accordance with the New National Numeracy Curriculum (2014).

The yearly teaching programme identifies the key objectives to be taught in each year group.

**Medium term planning** is detailed and in accordance with the New National Numeracy Curriculum (2014). It gives the main teaching objectives for each term and ensures an appropriate balance and distribution of work across each term.

**Short term planning** is carried out weekly by the class teacher. These plans list the specific learning objectives and details of how the lessons are to be taught, including key vocabulary and resources required, and clear differentiation to meet the needs of the children within the class/group.

Within short term planning, clear success criteria for each learning objective taught should be created – demonstrating the progression needed to reach and exceed the objective. This will enable the class teacher to follow a clear and systematic teaching sequence, where input and activities are differentiated by considering which parts of the success criteria individual children are ready for.

These plans are monitored by the Maths Co-ordinator.

**Scheme of Work** - teachers should be planning alongside with resources from White Rose Hub scheme using adapted Medium Term planning to guide them..

Planning, where possible, should involve real life contexts for maths, where children are problem solving with a purpose in mind. There should be a whole class investigation planned at least once per half term to practise different elements of routine and non-routine problem solving, including: finding all possibilities, logic problems, finding rules and describing patterns, diagram/visual problems and exploring different aspects of number in order to support the development of mastery skills. During these investigations, there should be a focus on specific routine and non-routine problem solving skills that are transferable to other contexts.

Class teachers should regularly plan for opportunities for children to apply their maths skills to different problems within maths lessons and across the curriculum. This will also allow children to revisit, practise and consolidate different areas of maths and apply them within different contexts.

When planning across the curriculum, questions should be used within titles of units of work and lessons, to initiate an 'enquiry' approach.

### 2.2 Teaching and Learning

#### 2.2.1 Teaching

To provide adequate time for developing mathematical skills, each class teacher will usually provide a daily mathematics lesson. This usually last 1 hour in Key Stage 1 and 1 hour and 15 minutes in Key Stage 2.

In Foundation stage, learning opportunities are provided indoors and outdoors with planned daily cross-curricular focused activities.

The school uses a variety of teaching and learning styles in maths. Every teacher has their own teaching method and style and this should be encouraged to broaden the experiences the children receive. Our principal aim is to develop children's fluency, reasoning and problem solving skills. During our daily lessons, we encourage children to ask as well as answer maths questions. They have the opportunity to use a wide range of resources, and apparatus to support their work.

Within these lessons, there will be a good balance between whole-class work, group teaching and individual practice.

### 2.2.2 Role of support staff

There is usually a member of support staff present where needed in a maths lesson. It is our policy that they do not always work mostly with a small group of children needing focused support but circulate the class, giving teachers the opportunity to work with focused group as required.

### 2.2.3 Display and Resources

In the classrooms there should be, either on display or easily accessible to children, level appropriate resources, particularly concrete and pictorial apparatus to support children to grasp concepts. Mathematical vocabulary should be displayed so that children use this in the communication of their understanding. There should be maths work on display in classrooms and in other areas of the school in order to encourage a positive attitude and enthusiasm towards mathematics for all groups of children.

### 2.2.4 Learning

All through Early Years, KS1 and KS2, children are learning in mixed ability classes with the exception of Year 6 where children are streaming according to their abilities. This is to ensure that we enable all the children to develop their full academic potential as they have exposure and opportunities to develop depths of mathematical understanding through investigations, creative and CPA (concrete, pictorial, abstract) approach to teaching whilst having opportunities for partner and team work.

The maths lessons will provide opportunities for children to practise and consolidate their skills and knowledge, to develop and extend their techniques and strategies, and to prepare them for their future learning.

It is expected that for each unit of work, the class teacher adapts, simplifies and extends the objectives and tasks for the specific needs of their class/group. Mental / oral plenary slots should be used to close gaps in learning and review what has been learnt in the lesson.

### Foundation Stage

In the Foundation Stage, children are given the opportunity to develop their understanding of number, measurement, pattern and shape and space through a combination of short, formal teaching as well as a range of planned structured play situations, where there is plenty of scope for exploration.

Children will become very competent 'counters' so that their fluency with the number system provides a foundation for mathematical understanding. Counting forwards and backwards in many different sized steps as well as from different starting and ending points is essential.

Maths learning builds from a concrete understanding of concepts where children are manipulating objects. When children are able to see concepts this way, they then need to understand the same concepts represented pictorially. Children are then ready for abstract representation before being able to apply their knowledge to different situations.

Children should be encouraged at all times to communicate their understanding of maths so that it clarifies their thoughts.

Children's mental maths is of great importance, with number bonds, times tables facts and various strategies for calculation taught and practised at school with support sought from parents through homework activities.

A progression towards efficient written calculations should be developed and applied consistently in each year-group. The school Calculation Policy should be followed.

### Nursery:

- Daily whole class input focussing on number, calculating or shape space and measure
- Planned practical mathematical activities indoors and outdoors
- Focus activities once per half-term

### Reception:

- Daily whole class input focussing on number, calculating or shape space and measure
- Planned practical mathematical activities indoors and outdoors
- Daily cross-curricular focus activities
- Chants/songs should be taught each week (see Appendix 2).

### KS1

- Mental oral starter (10 mins) this will involve whole-class work to rehearse, sharpen and develop mental and oral skills and revisiting prior learning. Selected timetables should be taught each week (see Appendix 2).
- The main teaching activity (about 30 to 40 minutes)

This will include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work. In addition, teachers will provide opportunities for children to use their investigative skills to explain, reason and solve routine and non-routine problems.

- A plenary (about 10 to 15 minutes)

This will involve work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps. However, teachers must respond to the needs of the children in their groups and organise and adapt the sessions accordingly.

**Teachers need to ensure that there are** practical/ hands –on activities incorporated into lessons when new concepts are introduced and when deemed necessary throughout the week to help secure children’s understanding of the concepts taught.

**Fridays to be used for** closing the gaps –consolidating and reinforcing concepts children find challenging during the week.

### KS2

A typical 1 hour 15 minute lesson in Years 3 to 6 will usually be structured like this:

- Oral work, mental calculations, mental maths (2X weekly) and Speedy Timetables (2X weekly). Selected timetables should be taught each week (see Appendix 2).

This will involve whole-class work to rehearse, sharpen and develop mental and oral skills and revisiting prior learning.

- The main teaching activity (about 30 to 40 minutes)

This will include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work. In addition, teachers will provide opportunities for children to use their investigative skills to explain, reason and solve routine and non-routine problems.

- A plenary (about 10 to 15 minutes)

This will involve work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps.

However, teachers must respond to the needs of the children in their groups and organise and adapt the sessions accordingly.

**Mondays** - are used for practical/ hands –on activities incorporated into lessons when new concepts are introduced and when deemed necessary throughout the week to help secure children’s understanding of the concepts taught.

**Tuesdays – Wednesdays** are used to teach skills so children can develop conceptual understanding.

**Thursdays** - opportunities for using and applying knowledge to routine and non-routine problems and activities which will encourage children to reason mathematically.

**Fridays**- closing the gaps –consolidating and reinforcing concepts children find challenging during the week.

### 2.2.5 Children’s Books Presentation

Work should always be dated and the aim of lesson clearly written. Books are to be seen as ‘work’ books and the recording of working and thinking is encouraged! Teachers each have their own style and expectation for this.

We encourage clear layout of calculations to minimise errors.

Reception practitioners should ensure that differentiated activities are annotated and clearly laid out in progression order in learning journeys.

### 2.3 Equality and Inclusion (incl. differentiation, PP, SEND, MABLE+)

The daily maths lesson is appropriate for all pupils. Teachers will involve all pupils through differentiation.

All children have equal access to the curriculum. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups. Special care must be taken by all staff to ensure that all children have equal opportunity to succeed in maths. Staff to ensure that images represented in resource

material motivate all children equally. Classroom presentation and organisation represent the achievement of all abilities. Staff should make careful decisions about groupings and pairings. Staff should have high expectations of all pupils.

According to the National Curriculum, the expectation is that the majority of pupils will move through the programmes of study at broadly the same pace.

However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and investigative problem solving activities before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding through additional practice, before moving on.

### **2.3.1 How we cater for more able plus pupils**

Where possible more able plus pupils will be taught with their groups and given the opportunities to reason, investigate and explore maths concepts through differentiated group work and extra challenges. When working with the whole class, teachers will differentiate the questions and ensuring that the more able plus pupils are involved. More able children will also have the opportunity for additional challenge activities during lesson, booster sessions and lunchtime clubs. Activities from the Teaching for Mastery document, NRICH, challenges for the more able students along with challenge puzzles and games will be used to give children the opportunity to deepen their understanding of concepts. The more able children in all groups are expected to be given activities

which will deepen their understanding and give them the opportunity to analyse, explore, reason and apply their knowledge to concepts taught.

In every class children have access to the 'Discovery Zone' where there are challenge activity cards for children to solve independently or with partners. In addition, there are non-routine problems and challenge activities displayed around the school for children to solve. Children who have solved problems correctly are rewarded in achievement assembly on Fridays.

### **2.3.2 How we cater for pupils with particular needs**

The national curriculum for mathematics reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof.

They must be assisted in making their thinking clear to themselves as well as others and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

In the daily maths lesson we support children with English as an additional language in a variety of ways; e.g. small group settings, repeating instructions, small step instructions, speaking clearly, emphasising key words, using IWBs and ICT, use of visual tools, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes etc... Children use a range of mathematical resources to enhance their learning. (numicon, Cuisenaire, base ten, Deines equipment etc.)

### **2.3.3 Pupils with special educational needs and disability (SEND) including those with individual education plans**

Teachers will ensure that all pupils in their groups are fully engaged and that all sessions are planned to meet the specific needs of their group, in their daily maths lessons. All children benefit from the emphasis on oral and mental work and participating in watching and listening to other children demonstrating and explaining their methods. However a pupil whose difficulties are severe or complex may need to be supported with an individualised programme in the main part of the lesson.

Where applicable children's IEPs incorporate suitable objectives from the National Curriculum and teachers keep these objectives in mind when planning work.

When educational support staff are available to support groups or individual children they work collaboratively with the class teacher. The support teacher feeds back to the class teacher when appropriate to inform evaluations, assessment and future planning.

## 2.4 Use of ICT

ICT is used in numeracy lessons for modelling ideas and methods. Maths should be presented in practical contexts that have real meaning for the children to grasp the concepts. Wherever possible, we encourage the children to apply their learning to everyday situations. ICT will be used in various ways to support teaching and motivate children's learning. ICT will involve laptops, smart boards, calculators, programmable toys and audio-visual aids. Calculators should not be used as a substitute for good written and mental arithmetic. They should therefore only be introduced near the end of key stage 2 to support pupils' conceptual understanding and exploration of more complex number problems, if written and mental arithmetic are secure. Teachers should use their judgement about when ICT tools should be used.

## 2.5 Professional Development

Teachers are expected to keep up to date with subject knowledge and use current materials that are available in school, online or from training sessions. Staff are also sent on local and national training. Training needs are identified as a result of whole school monitoring and evaluation, performance management and through induction programmes. These will be reflected in the School Development Plan. The Maths coordinators will arrange for relevant advice and information, such as feedback from courses or newsletters, to be disseminated. Where necessary, the Maths coordinators lead or organise school based training. Additional adults who are involved with intervention programmes will receive appropriate training that may be school based or part of central training.

# SECTION 3      IMPACT

## 3.1 Assessment

Assessment is integral to high quality teaching and learning and lies at the heart of the process of promoting children's learning. It helps us to ensure that teaching is appropriate and that learners are making expected progress. It provides a framework for setting educational objectives, monitoring and communicating children's progress. Assessment is carried out in partnership with children. We want our assessments of pupils' progress to celebrate success and reduce underachievement.

At Raynham, assessment must be a part of all teaching strategies, to help identify areas for development and track progress. It helps us to strengthen learning across the curriculum and helps

teachers enhance their skills and judgments so that all learning is personalized to enable all children to make progress in each lesson. All staff is regularly trained in our approach to assessment. We have a senior leader who is responsible for assessment.

### 3.1.1 Our method of assessment

- Assessment serves many purposes, but the main purpose of assessment in our school is to help teachers, parents and pupils plan their next steps in learning.
- We also use the outcomes of assessment to check and support our teaching standards and help us improve.
- We assess pupils against learning objectives and success criteria, which are short, discrete, qualitative and concrete descriptions of what a pupil is expected to learn, know and be able to do.
- Assessment criteria are derived from the school curriculum, which is composed of the National Curriculum and our own local design.
- The achievement of each pupil is assessed against all the relevant criteria at appropriate times of the school year.
- Each pupil is assessed as either 'emerging', 'secure' or 'advanced' each relevant criterion contained in our expectations for that year and tracked accordingly



- For those pupils meeting the expected and exceeding the standards, we provide more challenging work that will deepen their understanding.
- Assessment judgements are recorded and backed by a body of evidence created using observations, records of work and testing.
- Assessment judgements are moderated by colleagues in school and by colleagues in other schools to make sure our assessments are fair, reliable and valid.

### 3.1.2 Our use of assessment

- Teachers use the outcomes of our assessments to summarise and analyse attainment and progress for their pupils and classes.
- Teachers use this data to plan the learning for every pupil to ensure they meet or exceed expectations.
- Pupil Progress meetings are held between teachers and leaders, who analyse the data across the school to ensure that pupils identified as vulnerable or at particular risk in this school are making appropriate progress and that all pupils are suitably stretched.
- The information from assessment is communicated to parents and pupils on a termly basis through parents' consultation meeting or one-one meeting with leadership team. Parents and pupils receive rich, qualitative profiles of what has been achieved and indications of what they need to do next.

Pupil's work should be marked in line with the Marking Policy and should model how corrections should be made, giving children a chance to learn from their misconceptions or incorrect methods.

Future lesson design should depend on class success evaluated through marking and observations made during the lesson.

Assessment of pupil work and progress is ongoing by the class teacher and informs future planning. Teachers mark work in mathematics in line with the school's marking policy. Teachers use termly topic assessment papers which allow teachers to level children's progress in maths, gathering evidence over the academic year. Teachers use this information to inform planning for groups and individual pupils.

Summative assessments are made at least once per term in order to provide further understanding of where a child is working in relation to age related expectations and to inform a more rounded judgement of their abilities.

Assessment is regarded as an integral part of teaching and learning and is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class.

In our school, we are continually assessing our pupils and recording their progress through the termly key objectives and descriptors in children's books and on the tracker. We see assessment as an integral part of the teaching process and strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring progress.

Assessment will take place at three connected levels: short-term, medium-term and long-term. These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment.

**Short-term** assessment will be an integral part of every lesson. Assessment for learning should occur throughout the entire maths lesson, enabling teachers/teaching assistants to adapt their teaching/input to meet the children's needs. This feedback should be incisive and regular.

Electronic assessment in the Early Years is completed on a daily basis using "2Build a Profile". Teachers use "Classroom monitor" to collate evidence, identify gaps and support planning.

The teacher will share the objectives for the lesson with the children and make sure they are clear about what is being expected of them to successfully achieve the objective. This is a necessary part of assessment for learning and helps the children take ownership for their own learning. The short term assessment will also involve the teacher checking the children's understanding during and at the end of the session to inform future planning and lessons.

**Medium-term** assessments will take place in Year 1 to Year 5 termly and Year 6 half termly. **assessments- designed by the school to match learning for each group and which have been closely cross-referenced with key objectives in line with the NC.**

Years 3-5 NFER assessments are done once a year and year 6 complete SATs Practice Papers half termly.

EYFS-daily teacher assessment, Yrs 1 and 2 do ongoing teacher assessments. Year 2 also undertake Year 2 SATs in June to inform and moderate TA levels.

**Long-term.** These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment.

The outcomes of the assessments will be recorded by the class teacher and used to inform the updating of the Target Tracker every half term.

Assessment will also be made through the use of previous National Curriculum mathematics tests for pupils in year 6. Teachers will also draw upon their class record of attainment against key objectives and supplementary notes and knowledge about their class to produce a summative record. Accurate information will then be reported to parents and the child's next teacher.

### **Self-Assessment**

Children should be involved in assessing their own work. This might include:

Thumbs up – How did they find the work?

Smiley faces, traffic lights, etc.

Pairs/small groups – talking through their processes for working out problems before working independently

Peer assessment- peers thoughts will be recorded periodically

Pupils' voice – children to be given opportunities to evaluate their learning and record their thoughts through different activities in their books.

### **Foundation Stage Assessments**

Assessments are in line with the EYFS curriculum based on regular / daily observations and cross-curricular focus activities. Through these practitioners determine children's next steps and then plan an appropriate challenging curriculum. Intervention groups are based around closing the gaps. More able plus children are supported and set challenges in order to move them on.

Reception teachers complete the end of key stage EYFS Profile for Problem Solving Reasoning and Numeracy in the following areas:

- Numbers (Calculating)
- Shape, space and measure

## **3.2 Monitoring and Evaluation**

Monitoring and evaluation of Maths teaching in the School is carried out by the Maths Co-ordinator and the Deputy Head teacher overseeing the Key Stage. When possible, discussion with children will take place along with scrutiny of work. Planning is moderated by the LMT team.

Monitoring of children's progress begins with performance review meetings but continues with the subject leader evaluating further evidence to ensure children are making progress. This monitoring happens through examination of work in books, pupil interviews, analysis of assessment results and the assessments used, and through other means depending on what information needs to be gleaned.

Following monitoring activities, feedback is given to staff about how they can strengthen their practice and CPD (professional development) opportunities built in where it would be deemed valuable. These might take the shape of inputs during staff meetings, INSETs or by a variety of other means.



Where specific initiatives have been put in place through action planning for school development, these are monitored by the subject leader in order to evaluate their impact. Findings are reported to the Head teacher and governors through use of the 'Subject Leader's Ongoing Report'.

The success of interventions is also monitored by the Inclusion manager and this informs future planning of intervention

### 3.3 Tracking and Diminishing the Differences

#### 3.3.1 Tracking and Intervention

Tracking is used in order that children who are not making good progress over time can be targeted for support in one form or another. What that support will and how intensive, depends upon the child's needs and it may be a simple strategy within whole class teaching that is needed. Where further support is deemed necessary, children can access interventions.

At Raynham, we aim to provide children who are not making good progress, with extra support through interventions. Interventions in maths should be based on developing key number skills that are appropriate for the children involved. Intervention provided to boost children's progression in maths should be tightly planned, with success criteria set and assessments made frequently to ensure progress is being made. Whilst interventions could be carried out by Teaching Assistants and experienced teachers, what is being taught and how it is delivered is the class teacher's responsibility and communication is essential. Progress meetings with intervention teachers and teachers are planned as regularly as is possible with maths coordinator.

We identify from tracking any gender issues that exist and plan initiatives that would address these as part of teacher performance review meetings where children's performance is evaluated on an individual basis with class teachers.

We also examine the progress of ability groups and those with English as an additional language, those entitled to the Pupil Premium and those with a Special Educational Need. Where data indicates a whole school issue, it will form part of the School's Action plan which runs alongside the School Development Plan. Sometimes it will influence the School Development Plan itself.

Reviewed February 2020

#### **Other policies and documents to be read in conjunction with the Maths Policy:**

Calculation policy

National Curriculum 2014

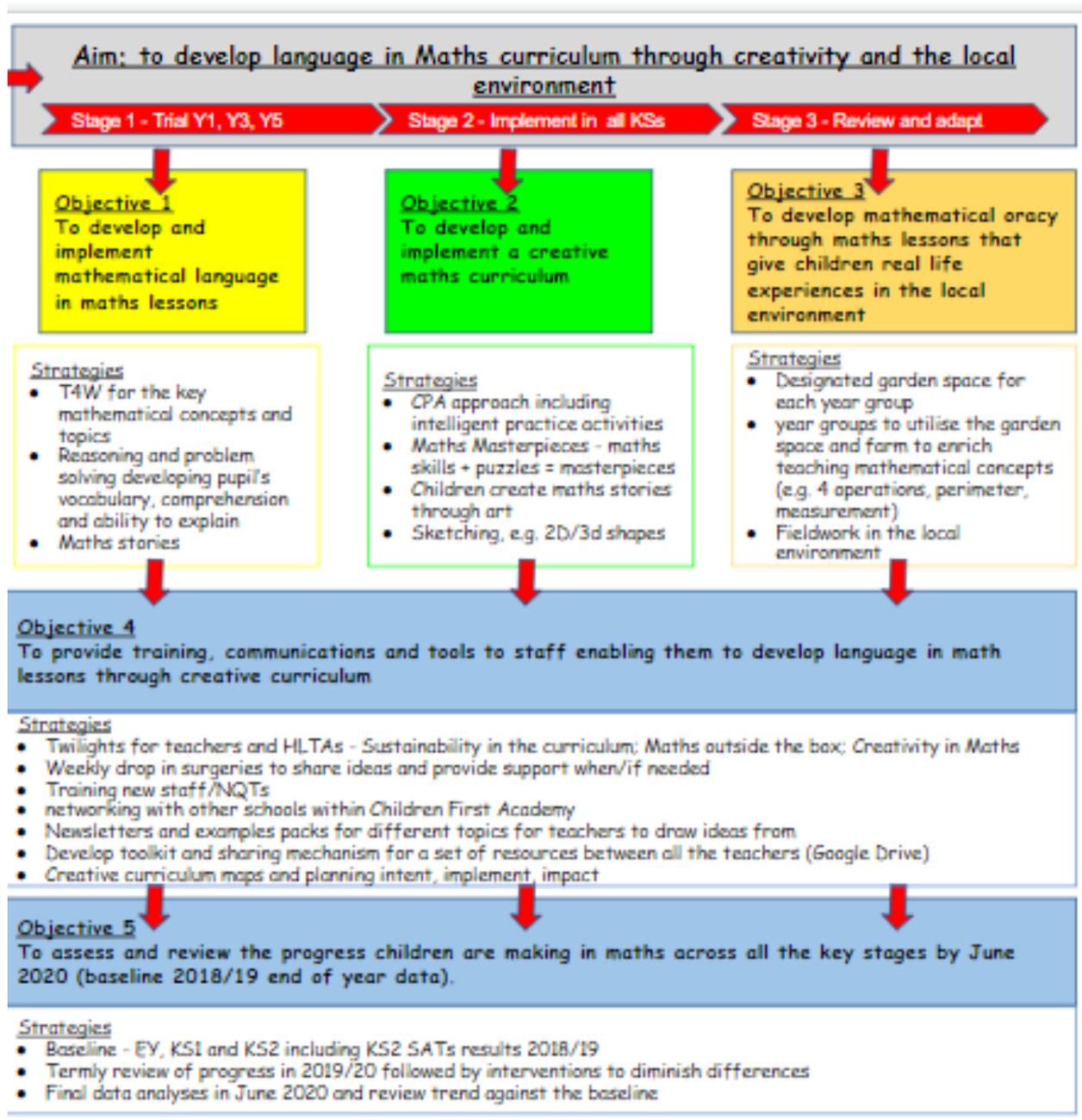
Teaching and Learning Policy

Marking Policy

SEN Policy

Homework Policy

## Appendix 1 – Action Plan at a Glance



## Appendix 2 – Lessons Structure

### Starters

Starters should be 20 – 25 minutes.

Activities for starters:

- x-tables (2-4 minutes) - 3x per week
- 10 Quick questions/10 Maths miracles
- Mental maths/mental maths book (10 minutes) – 3x per week
- Spiral curriculum – (5 – 10 minutes) daily
  - 4 operations/number
  - whiteboard work etc.

#### Closing the gap activity

### Main activity

Main should be 40 – 45 minutes.

Structure:

- Recap (5 mins)
- Teacher input for new learning - interactive (15 mins approx) – consolidation (10 mins approx)
- Paired work (5 mins – first two question e.g.)
- Differentiated activity include extension/challenge (20 mins)
- All ability groups must have at least two challenging questions – use Testbase/Pitch and expectation
- TA support



## Plenary

Plenary should be 10 – 15 minutes.

Activities for plenary:

- Recap on lesson - What do you know now that you did not know at the start of the lesson?
- Preparation for next lesson.
- Education city game
- 10 Quick Questions
- 10 Maths Miracles

Appendix 3 – Times Tables Half-Termly Learning Plan

## Times Tables Half-Termly Learning Plan

This timetable outlines the required schedule for teaching times tables each half term.

Table 1 - weekly schedule

Week 1	Chants, songs and speedy x table practise
Week 2	Chants, songs and x table x 2 digit numbers (e.g. $24 \times 2$ )
Week 3	Chants, songs and x table x 3 digit numbers (e.g. $125 \times 2$ )
Week 4	Chants, songs and division table (e.g. $24 \div 2$ )
Week 5	Chants, songs and combination of x 2 and 3 digit numbers
Week 6	Chants, songs and speedy x table (reassessment)

\* Adapt weekly schedule to meet the needs of the children in the class.

The below timetable should be used for medium term planning.

Table 2 - yearly overview of timetables to be covered in each Year group

Year groups	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Reception	Chants/songs	Chants/songs	Chants/songs	Chants/songs	Chants/songs	Chants/songs
Year 1	2x	5x	10x	2x	5x	2, 5, 10x
Year 2	2x	5x	10x	3x	3x	2, 3, 5, 10x
Year 3	4x	8x	3x	4,2x	8,5x	4,8,3x
Year 4	6x	7x	9x	6,3x	7,4x	6,7,9x
Year 5	9,4x	10,8x	11,7x	9,6x	8,7x	9,3,11x
Year 6	12x	12,7x	12,9x	12,8x	Revise all tables	Revise all tables

Assess prior knowledge upon entry to year group and plan according to the knowledge of the children or a group.

If children are secure in times table move them to the next times table and keep revisiting previous times table learning.

Please from 2020, Year 4 children will be completing Timestables SATs test in June.

## Appendix 4 – Maths Curriculum Topics Yearly Overview

# 2019 -2020 Maths Curriculum Plan

	Autumn Term 1 <sup>st</sup> half	Autumn Term 2 <sup>nd</sup> half	Spring Term 1 <sup>st</sup> half	Spring Term 2 <sup>nd</sup> half	Summer Term 1 <sup>st</sup> half	Summer Term 2 <sup>nd</sup> half
<b>Early Years</b>						
Craig Park	<b>Shape, Space and Measurement:</b> Sorting objects Daily routine <b>Numbers:</b> Says some counting words randomly. Has some understanding that things exist, even when out of sight	<b>Shape, Space and Measurement:</b> Sorting objects Daily routine <b>Numbers:</b> Says some counting words randomly. Has some understanding that things exist, even when out of sight	<b>Shape, Space and Measurement:</b> Size <b>Numbers:</b> Recites some number names in sequence.	<b>Shape, Space and Measurement:</b> Size <b>Numbers:</b> Recites some number names in sequence.	<b>Shape, Space and Measurement:</b> Size <b>Time language</b> <b>Numbers:</b> Recites some number names in sequence.	<b>Shape, Space and Measurement:</b> Size <b>Time Language</b> <b>Numbers:</b> Uses some language of quantities, such as 'more' and 'a lot'.
Nursery	<b>Shape, Space and Measurement:</b> Sorting objects Daily routine <b>Numbers:</b> Chanting numbers Number Songs – Counting up Counting anything: Objects, jumps, claps, beats	<b>Shape, Space and Measurement:</b> Patterns Routines Everyday language to describe shapes <b>Numbers:</b> Numbers recognition Numbers in environment Counting 1:1 up to the value of 5/10	<b>Shape, Space and Measurement:</b> Size (big/small) Positional language <b>Numbers:</b> Representing numbers through mark making Counting 1:1 up to the value of 10.	<b>Shape, Space and Measurement:</b> Shape <b>Numbers:</b> Numbers formation Counting sets More / Less	<b>Shape, Space and Measurement:</b> Time - days of the week <b>Numbers:</b> Numbers formation Addition - add 1 more	<b>Shape, Space and Measurement:</b> Time - sequencing of events Length 2D shapes <b>Numbers:</b> Numbers formation Addition & Subtraction - add 1 more / Take away 1.
Reception	<b>Shape, Space and Measurement:</b> Months of the year up to 20 Days of the week Patterns Sorting -Shapes <b>Numbers:</b> Chanting Say number names Counting 1:1:Counting anything: Objects, jumps, claps, beats More/less	<b>Shape, Space and Measurement:</b> Height Capacity Positional language <b>Numbers:</b> Number formation Number recognition Counting sets Problem-solving	<b>Shape, Space and Measurement:</b> Length 2D shapes <b>Numbers:</b> Counting beyond 10 Addition Start number bonds Problem-solving	<b>Shape, Space and Measurement:</b> Weight Sequencing time <b>Numbers:</b> Subtraction Problem-solving Counting beyond 10.	<b>Shape, Space and Measurement:</b> Money 2D shapes <b>Numbers:</b> Doubling Halving Sharing Problem solving	<b>Shape, Space and Measurement:</b> Time - o'clock 2D shapes <b>Numbers:</b> Closing the gaps Counting in 2's, 5's, 10's MA: Times Tables

# 2019 -2020 Maths Curriculum Plan

	Autumn Term 1 <sup>st</sup> half	Autumn Term 2 <sup>nd</sup> half	Spring Term 1 <sup>st</sup> half	Spring Term 2 <sup>nd</sup> half	Summer Term 1 <sup>st</sup> half	Summer Term 2 <sup>nd</sup> half
<b>KS1</b>						
Year 1	Number and place value up to 20 Addition and subtraction within 10	Number and place value up to 50 Addition and subtraction within 20 Revision and summative assessment	Place value, addition and subtraction Multiplication and division Revision	Fractions Time Revision and summative assessment	Number and place value up to 100 4 operations Money	Measurement - Length, height, mass, volume/capacity Geometry 2D/3D shapes Revision and summative assessment
Year 2	Number and place value up to 100 Addition and subtraction Multiplication and division	Multiplication and division Fractions Money Time Revision and summative assessments	Measurement lengths and mass, include 4 operations properties of 2d and 3d shapes and symmetry Revision	Measurement capacity and temperature, include 4 operations Statistics Revise fractions and 4 operations Revision and summative assessment	Revision and closing the gaps SATS tests	Maths Enrichment activities Closing the gaps and assessments
<b>KS2</b>						
Year 3	Number and place value up to 1000 Addition and subtraction	Multiplication and division 4 operations, application through money Revision and summative assessments	Fractions Time Revision	Measurement - measure, compare and add perimeter Fractions Revision and summative assessments	Geometry Properties of 2D and 3D shapes Fractions Measurement - mass, capacity, include 4 operations	Statistics Consolidation, revision and summative assessments
Year 4	Number and place value up to 10000 Addition and subtraction Multiplication and division	4 operations Fractions Money Revision and summative assessments	Measurement area, perimeter and length Geometry - angles and properties of shapes	Time Money Fractions and decimals Revision and summative assessments	Decimals Percentages Geometry - position and direction	Revise the 4 operations Statistics Consolidation, revision and summative assessments
Year 5	Number and place value up to 1000000 Addition and subtraction Multiplication and division	Fractions Decimals Ratios and proportion Revision and summative assessments	Fractions Decimals Percentages	Time Measures - volume Revision and summative assessments	Geometry - angles and shapes Geometry - position and direction	Measurement - converting units Perimeter/area Statistics Consolidation, revision and summative assessments
Year 6	Number and place value 4 operations Fractions	Fractions and decimals Percentages Measurement Revision and summative assessments	Number and ratios Algebra Geometry Statistics	Geometry Properties of shapes Measures - Position and direction Time Revision and summative assessments	Revision and closing the gaps SATS tests	Maths Enrichment activities Closing the gaps and assessments

Appendix 5 – Medium Term Plans by Year Group

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14				
<b>Year 1 Autumn</b> each concept needs to covers fluency, reasoning and problem solving activities using intelligent practice and CPA approach.	<b>Week 1 - 3</b> Number and place value Count to 10/20, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10/20 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations of equal to, more than, less than (fewer), more, less than (more), most, least.			<b>Week 4 - 5</b> Number – addition and subtraction within 10 Represent and use number bonds and related subtraction facts within 10. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one digit numbers to 10, including zero. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.			<b>Week 6 - 7</b> Number – addition and subtraction within 10 Count to 10/20/50, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10/20/50. Identify and represent numbers using objects and pictorial representations of equal to, more than (than), less than (less), most, least.			<b>Week 8 - 9</b> Number and place value Count to 10/20/50, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10/20/50. Identify and represent numbers using objects and pictorial representations of equal to, more than (than), less than (less), most, least.			<b>Week 10 - 11</b> Number – addition and subtraction within 20 Represent and use number bonds and related subtraction facts within 20. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one digit numbers to 20, including zero. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.			<b>Week 12 - 13</b> Number – addition and subtraction within 20 Represent and use number bonds and related subtraction facts within 20. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one digit numbers to 20, including zero. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.		<b>Week 14</b> Revision Consolidate learning and summative assessments.
	T4W - place value Creative Maths - animal stories paintings following visit to the school farm Outdoor learning - counting animals in the school farm																	
<b>Year 1 Spring</b> each concept needs to covers fluency, reasoning and problem solving activities using intelligent practice and CPA approach.	<b>Week 1 - 2</b> Number and place value, addition and subtraction Represent and use number bonds and related subtraction facts within 20. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one digit numbers to 20, including zero. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems such as 7 + ? = 9.			<b>Week 3 - 4</b> Number – multiplication and division Count in multiples of twos, fives and tens. Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. Solve non-routine problems developing depths of understanding/mastery.			<b>Week 5 - 6</b> Number $\times$ , $\div$ Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays. Solve non-routine problems developing depths of understanding/mastery.			<b>Week 7 - 8</b> Number - Fractions Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. Solve non-routine problems developing depths of understanding/mastery.			<b>Week 9 - 10</b> Time and Revision Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening). Recognise and use language relating to days, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to represent these times. Compare, describe and solve practical problems for time (for example, makes, shows, settles, later). Measure and begin to record time (hours, minutes, seconds).			<b>Week 11 - 12</b> Time and Revision Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening). Recognise and use language relating to days, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to represent these times. Compare, describe and solve practical problems for time (for example, makes, shows, settles, later). Measure and begin to record time (hours, minutes, seconds).		
	T4W - multiplication, division Creative Maths - designing vegetable garden and placing seeds as arrays Outdoor learning - visiting the vegetable patch for the year group and sowing seeds as arrays																	
<b>Year 1 Summer</b> each concept needs to covers fluency, reasoning and problem solving activities using intelligent practice and CPA approach.	<b>Week 1 - 2</b> Number and place value up to 100 Count to 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations of equal to, more than, less than (fewer), equal to, more than, less than (more).			<b>Week 3 - 4</b> Number – 4 operations Revise the 4 operations. Addition and subtraction within 20. Multiplication and division. Solve routine and non-routine problems, using the 4 operations.			<b>Week 5 - 6</b> Measurement - money Recognise and know the value of different denominations of coins and notes. Solve simple one step money problems.			<b>Week 7 - 8</b> Measurement – length/height, mass, volume/capacity Measure and begin to record lengths, heights, mass/weight, capacity and volume. Compare, describe practical problems for measures (include fractions), e.g. length/height - long/short, longer/shorter, tall/short, double/half; mass - heavy/light, heavier than, lighter than; capacity - full/empty more than, less than, half, half full, quarter.			<b>Week 9 - 10</b> Geometry – 2D/3D shapes, position/direction Recognise and name common 2D shapes, including (for example, rectangles, squares, circles and triangles). Recognise and name common 3D shapes, including (for example, cuboids, cubes, pyramids and spheres). Describe position, direction and movement, including whole, half, quarter.			<b>Week 11 - 12</b> Revision Consolidate learning and formative assessments.		
	T4W - 2D and 3D shapes Creative Maths - making pictures using coins (e.g. make a flower - what is the total value of all the pence, etc.) Outdoor learning - investigating how much produce was grown in the year group's vegetable garden and pricing it. Creating word problems linked to it.																	



Year 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
<b>Autumn</b> each concept needs to covers fluency, reasoning and problem solving activities using intelligent practice and CPA approach.	<b>Number and place value up to 100</b> Read and write numbers to at least 100 in numerals and in words. Recognise the place value of each digit in a two digit number (tens, ones). Identify, represent and estimate numbers using different representations including the number line. Compare and order numbers from 0 up to 100, use $<$ , $>$ and $=$ signs. Count in the steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward.	<b>Addition and subtraction</b> Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (addition and subtraction within 100). Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three one-digit numbers. Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Solve problems with addition and subtraction, using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	<b>Multiplication and division</b> Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals signs. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	<b>Fractions</b> Recognise, find, name and write fractions $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. Write simple fractions for example $\frac{1}{2}$ of 6-8 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ .	<b>Money</b> Recognise and use symbols for pounds (£) and pence (p). Combine amounts to make a particular value. Find different combinations of coins that equal the same amounts. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	<b>Time</b> Revision/summative assessment Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments	<b>Revision/summative assessment</b> Tell and write the time to five minutes, including quarter past/to the hour and close the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time. Tell time to 5 minute intervals. Consolidate learning and summative assessments
	<b>Spring</b> each concept needs to covers fluency, reasoning and problem solving activities using intelligent practice and CPA approach.	<b>Measurement, lengths and mass, include 4 operations</b> Choose and use appropriate standard units to estimate and measure mass (kg/g), length/height in any direction (m/cm) to the nearest appropriate unit using rulers, scales and measuring vessels. Compare and order lengths, mass and record results using $<$ , $>$ and $=$ . Problem solving using the 4 operations.	<b>Properties and 2d and 3d shapes, symmetry, position/direction</b> Identify and describe the properties of 2d shapes, including the number of sides and line of symmetry in a vertical line. Identify and describe the properties of 3d shapes, including the number of edges, vertices and faces. Identify 2d shapes on the surface of 3d shapes, (for example, a circle on a cylinder and a triangle on a pyramid). Compare and sort common 2D and 3D shapes and everyday objects. Use mathematical vocabulary to describe position, direction and movement including movement in a straight line, shifting between rotation in a turn and in terms of right angles for quarter, half and three quarter turns (clockwise and anticlockwise). Order and arrange collections of mathematical objects in patterns and sequences.	<b>Revision time</b> Revise time. See objectives Autumn term weeks 13 and 14 above.	<b>Measurement, capacity and temperature, include 4 operations</b> Choose and use appropriate standard units to estimate and measure mass (kg/g), temperature degrees Celsius, capacity (measuring) to the nearest appropriate unit using scales, thermometers and measuring vessels. Compare and order mass, volume/capacity and record results using $<$ , $>$ and $=$ . Problem solving using the 4 operations.	<b>Statistics</b> Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.	<b>Revision fractions, <math>X</math>, <math>&gt;</math>, <math>X</math>, <math>\frac{1}{2}</math></b> Revise fractions and 4 operations. See objectives Autumn term.
<b>Summer</b> Preparing for SATs tests, teachers to close the gaps and identified through assessment.	<b>Measures, 2D/3D shapes</b> Creative Maths - sketching 2D/3D shapes, making 2D/3D shapes models Outdoor learning - representing how vegetable patch divided as a fraction of the patch; clocks outside different classes time zone difference investigation	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter	<b>Measures, 2D/3D shapes</b> Creative Maths - Fractions puzzle artwork Gary Night Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter



Year 3	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14				
<b>Autumn</b> needs to cover fluency, reasoning and problem solving using intelligent practice and CPA approach.	<b>Number and place value up to 1,000</b>		<b>Number – addition and subtraction</b>		<b>Multiplication and division</b>		<b>4 operations, application through money</b>		<b>Revision</b>		<b>4 operations, application through money</b>		<b>Revision</b>					
	Identify, represent and estimate numbers using different representations. Find 10 or 100 more or less than a given number. Recognise the place value of each digit in a three digit number (hundreds, tens, ones). Round and write numbers up to 1,000 in numerals and in words. Solve number problems and practical problems involving these ideas. Count from 0 in multiples of 50 and 100.		Add and subtract numbers mentally, including a three-digit number and ones, a three-digit number and tens, a three digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.		Count from 0 in multiples of 4, 8, 16 and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Use formal written methods for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objectives.		Solve money problems using the 4 operations. Add and subtract amounts of money to give change, using both £ and p in practical contexts.		Consolidate learning and summative assessments		Solve money problems using the 4 operations.		Add and subtract amounts of money to give change, using both £ and p in practical contexts.		Consolidate learning and summative assessments			
	<b>T4W - place value, column method addition and subtraction</b>		<b>Creative Maths - second Chinese number place value puzzle Landscape at Regency by Albert Alsbiter</b>		<b>T4W - multiplication, division</b>		<b>Creative Maths - multiplication puzzle network Blue Horses by Franz Marc</b>		<b>Outdoor learning - design year group's garden link to 4 operations, pricing the produce for sale in Spring/ Summer</b>		<b>T4W - perimeter, fractions</b>		<b>Creative Maths - perimeter puzzle network Colour Theory</b>		<b>Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter</b>			
<b>Spring</b> each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.	<b>Fractions</b>		<b>Time</b>		<b>Revision and summative assessment</b>		<b>Measurement – measure, compare and add perimeter</b>		<b>Fractions</b>		<b>Revision &amp; summative assessment</b>		<b>Fractions</b>		<b>Revision &amp; summative assessment</b>			
	Count up and down in tenths, recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. Recognise and use fractions as numbers, unit fractions and non-unit fractions with small denominators. Recognise, find and write fractions of a discrete set of objects, unit fractions and non-unit fractions with small denominators. Solve problems that involve all of the above.		Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12 hour and 24 hour clocks. Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours. Know the equality of 60 seconds, 60 minutes, 24 hours in a day and 7 days in a week. Compare durations of events (for example, to calculate the time taken by particular events or tasks).		Measure, compare, add and subtract lengths, heights (in/cm/mm). Measure the perimeter of simple 2D shapes. Solve routine and non-routine problems for lengths/height using the 4 operations.		Review Fractions Year 3 Spring weeks 1 to 3. Recognise and show, using diagrams, equivalent fractions with small denominators. Compare and order unit fractions, and fractions with the same denominators. Add and subtract fractions with the same denominator within one whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ )		Measure, compare, add and subtract lengths, heights (in/cm/mm). Measure the perimeter of simple 2D shapes. Solve routine and non-routine problems for lengths/height using the 4 operations.		Review Fractions Year 3 Spring weeks 1 to 3. Recognise and show, using diagrams, equivalent fractions with small denominators. Compare and order unit fractions, and fractions with the same denominators. Add and subtract fractions with the same denominator within one whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ )		Consolidate learning, during the gaps based on teachers' assessment and summative assessments		Consolidate learning, during the gaps based on teachers' assessment and summative assessments		Consolidate learning, during the gaps based on teachers' assessment and summative assessments	
<b>Summer</b> each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.	<b>Geometry – properties of 2d and 3d shapes</b>		<b>Fractions</b>		<b>Measurement – mass and capacity, include 4 operations</b>		<b>Statistics</b>		<b>Consolidation, revision and summative assessment</b>		<b>Consolidation, revision and summative assessment</b>		<b>Consolidation, revision and summative assessment</b>		<b>Consolidation, revision and summative assessment</b>			
	Recognise, name and describe properties of shapes in 2D and 3D. Describe a line, a ray and an angle and identify right angles. Make shapes, draw and sketch 2D shapes and 3D objects. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Draw 2d shapes and make 3d shapes using modelling materials. Recognise 3D shapes in different orientations and describe them.		Review Fractions Year 3 Spring weeks 1 to 3, 9 and 10. Close the gaps in Fractions objectives.		Measure, compare, add and subtract mass (kg/g), volume/capacity (l/ml). Solve routine and non-routine problems for mass and volume/capacity using the 4 operations.		Interpret and present data using bar charts, pictograms and tables. Solve one step and two step questions (for example, How many more? And How many fewer?) using information presented in scaled bar charts and pictograms and tables.		Interpret and present data using bar charts, pictograms and tables. Solve one step and two step questions (for example, How many more? And How many fewer?) using information presented in scaled bar charts and pictograms and tables.		Interpret and present data using bar charts, pictograms and tables. Solve one step and two step questions (for example, How many more? And How many fewer?) using information presented in scaled bar charts and pictograms and tables.		Consolidate learning, during the gaps based on teachers' assessment and summative assessments		Consolidate learning, during the gaps based on teachers' assessment and summative assessments		Consolidate learning, during the gaps based on teachers' assessment and summative assessments	
	<b>T4W - 2D and 3D shapes, measures</b>		<b>T4W - fractions, time</b>		<b>T4W - perimeter, fractions</b>		<b>T4W - statistics</b>		<b>T4W - mass and capacity, include 4 operations</b>		<b>T4W - consolidation, revision and summative assessment</b>		<b>T4W - consolidation, revision and summative assessment</b>		<b>T4W - consolidation, revision and summative assessment</b>			
	<b>Creative Maths - sketching 3D shapes in the local environment</b>		<b>Outdoor learning - measuring the capacity for watering plants and weighing the produce in the garden</b>		<b>Creative Maths - order, compare and sketch every day types of containers with different volumes</b>		<b>Outdoor learning - representing the animals from the farm in a statistical format (e.g. tally chart, etc.)</b>		<b>Creative Maths - order, compare and sketch every day types of containers with different volumes</b>		<b>Outdoor learning - representing the animals from the farm in a statistical format (e.g. tally chart, etc.)</b>		<b>Creative Maths - order, compare and sketch every day types of containers with different volumes</b>		<b>Outdoor learning - representing the animals from the farm in a statistical format (e.g. tally chart, etc.)</b>		<b>Outdoor learning - representing the animals from the farm in a statistical format (e.g. tally chart, etc.)</b>	

**Year 4**  
**Autumn**

each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.

**Year 4**  
**Spring**

each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.

**Year 4**  
**Summer**

each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
<b>Number and place value up to 10,000</b> Count in multiples of 1000 more or less than a given number. Recognise the place value of each digit in a four digit number. Order and compare numbers beyond 1,000. Identify, represent and estimate numbers using different representations. Round to 100 or 1,000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Count backwards through zero to include negative numbers. Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	<b>Addition and subtraction</b> Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.	<b>Multiplication and division and formative assessment for 1/2 term</b> Recall and use multiplication and division facts for multiplication tables up to 12 x 12. Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1; dividing by 10 and 100; and multiplying and dividing by 10, 100 and 1,000. Solve problems involving multiplication and division problems such as n objects are connected to m objects.	<b>Geometry – properties of shapes and angles</b> Identify acute and obtuse angles and compare and order angles up to two right angles by size. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	<b>Measurement area, perimeter and length</b> Find the area of rectilinear shapes by counting squares. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Convert between different units of measure (for example, kilometres to metres).	<b>4 operations</b> Revise the 4 operations – see objectives Autumn weeks 3-8. Solve routine and non-routine problems involving the 4 operations. Add and subtract fractions with the same denominator.	<b>Fractions</b> Recognise and show, using diagrams, families of common equivalent fractions. Count up and down in hundredths, recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Solve problems involving increasingly harder fractions to calculate, simplify, add and subtract including mixed numbers. Add and subtract fractions with the same denominator.	<b>Money</b> Estimate, compare and calculate different amounts of money in pounds and pence. Solve simple measure and money problems involving fractions and decimals to two decimal places.	<b>Time</b> Convert between different units of measure (for example, hour to minutes). Read, write and convert time between analogue and digital 12 and 24 hour clocks. Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.	<b>Statistics</b> Interpret and create discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictographs, tables and other graphs.	<b>Consolidation, revision and summative assessment</b> Consolidate learning, closing the gaps based on teachers' assessment and summative assessments.	<b>Money</b> Revision & summative assessment Solve money problems involving 4 operations and fractions. Consolidate learning and summative assessments	<b>Fractions and decimals</b> Revision & summative assessment Revise fractions (curriculum objectives). Recognise and show, using diagrams, families of common equivalent fractions or hundredths. Find the effect of dividing a size or two digit number by 10 or 100, identifying the value of the digits in the answer as tenths and hundredths. Solve simple measure problems involving fractions and decimals to two decimal places. Consolidate learning and summative assessments.	<b>Money</b> Revision & summative assessment Solve money problems involving 4 operations and fractions. Consolidate learning and summative assessments
<b>T-4W - multiplication, division</b>													
<b>Creative Maths - multiplication/division art puzzles linked to gaps (Maths Masterpieces)</b>													
<b>Outdoor learning - design year group's garden link to 4 operations, pricing the produce for sale in Spring/ Summer</b>													
<b>Measurement area, perimeter and length</b> Find the area of rectilinear shapes by counting squares. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Convert between different units of measure (for example, kilometres to metres).	<b>Geometry – properties of shapes and angles</b> Identify acute and obtuse angles and compare and order angles up to two right angles by size. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	<b>Geometry – position and direction</b> Describe positions on a 2D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a polygon. Describe movements between positions as translations of a given unit to the left/right/up/down.	<b>%</b> Solve problems which require knowing decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{3}{4}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , $\frac{1}{10}$ and those with a denominator of a multiple of 10 or 25.	<b>Geometry – position and direction</b> Describe positions on a 2D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a polygon. Describe movements between positions as translations of a given unit to the left/right/up/down.	<b>Decimals</b> Convert between different units of measure (for example, kilometres to metres). Compare numbers with the same number of decimal places up to two decimal places. Round decimals with one decimal place to the nearest whole number. Recognise and write decimal equivalents to $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{3}{4}$ . Find the effect of dividing a size or two digit number by 10 or 100, identifying the value of the digits in the answer as tenths and hundredths.	<b>Statistics</b> Interpret and create discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictographs, tables and other graphs.	<b>Revision</b> $\times, \div, +$ Revise and non-routine problem solving using the 4 operations. Revise 4 operations objectives from Autumn term.	<b>Time</b> Convert between different units of measure (for example, hour to minutes). Read, write and convert time between analogue and digital 12 and 24 hour clocks. Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.	<b>Money</b> Estimate, compare and calculate different amounts of money in pounds and pence. Solve simple measure and money problems involving fractions and decimals to two decimal places.	<b>Consolidation, revision and summative assessment</b> Consolidate learning, closing the gaps based on teachers' assessment and summative assessments.	<b>Money</b> Revision & summative assessment Solve money problems involving 4 operations and fractions. Consolidate learning and summative assessments	<b>Fractions and decimals</b> Revision & summative assessment Revise fractions (curriculum objectives). Recognise and show, using diagrams, families of common equivalent fractions or hundredths. Find the effect of dividing a size or two digit number by 10 or 100, identifying the value of the digits in the answer as tenths and hundredths. Solve simple measure problems involving fractions and decimals to two decimal places. Consolidate learning and summative assessments.	<b>Money</b> Revision & summative assessment Solve money problems involving 4 operations and fractions. Consolidate learning and summative assessments
<b>T-4W - multiplication, division</b>													
<b>Creative Maths - time art puzzle (Centurion Maths Masterpieces pp. 42 to 44)</b>													
<b>Outdoor learning - measuring the perimeter of vegetable patch/garden for each year group, playground football field perimeter, drawing 2D shapes with chalk in playground and measuring the perimeter</b>													
<b>Decimals</b> Convert between different units of measure (for example, kilometres to metres). Compare numbers with the same number of decimal places up to two decimal places. Round decimals with one decimal place to the nearest whole number. Recognise and write decimal equivalents to $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{3}{4}$ . Find the effect of dividing a size or two digit number by 10 or 100, identifying the value of the digits in the answer as tenths and hundredths.	<b>Geometry – position and direction</b> Describe positions on a 2D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a polygon. Describe movements between positions as translations of a given unit to the left/right/up/down.	<b>%</b> Solve problems which require knowing decimal equivalents of $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{3}{4}$ , $\frac{1}{5}$ , $\frac{2}{5}$ , $\frac{1}{10}$ and those with a denominator of a multiple of 10 or 25.	<b>Geometry – position and direction</b> Describe positions on a 2D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a polygon. Describe movements between positions as translations of a given unit to the left/right/up/down.	<b>Geometry – position and direction</b> Describe positions on a 2D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a polygon. Describe movements between positions as translations of a given unit to the left/right/up/down.	<b>Decimals</b> Convert between different units of measure (for example, kilometres to metres). Compare numbers with the same number of decimal places up to two decimal places. Round decimals with one decimal place to the nearest whole number. Recognise and write decimal equivalents to $\frac{1}{2}$ , $\frac{1}{4}$ and $\frac{3}{4}$ . Find the effect of dividing a size or two digit number by 10 or 100, identifying the value of the digits in the answer as tenths and hundredths.	<b>Statistics</b> Interpret and create discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictographs, tables and other graphs.	<b>Revision</b> $\times, \div, +$ Revise and non-routine problem solving using the 4 operations. Revise 4 operations objectives from Autumn term.	<b>Time</b> Convert between different units of measure (for example, hour to minutes). Read, write and convert time between analogue and digital 12 and 24 hour clocks. Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.	<b>Money</b> Estimate, compare and calculate different amounts of money in pounds and pence. Solve simple measure and money problems involving fractions and decimals to two decimal places.	<b>Consolidation, revision and summative assessment</b> Consolidate learning, closing the gaps based on teachers' assessment and summative assessments.	<b>Money</b> Revision & summative assessment Solve money problems involving 4 operations and fractions. Consolidate learning and summative assessments	<b>Fractions and decimals</b> Revision & summative assessment Revise fractions (curriculum objectives). Recognise and show, using diagrams, families of common equivalent fractions or hundredths. Find the effect of dividing a size or two digit number by 10 or 100, identifying the value of the digits in the answer as tenths and hundredths. Solve simple measure problems involving fractions and decimals to two decimal places. Consolidate learning and summative assessments.	<b>Money</b> Revision & summative assessment Solve money problems involving 4 operations and fractions. Consolidate learning and summative assessments
<b>T-4W - statistics</b>													
<b>Creative Maths - multiplication/division art puzzles linked to gaps (Maths Masterpieces)</b>													
<b>Outdoor learning - representing the animals from the farm in a statistical format (e.g. tally chart, etc.)</b>													



Year 5 Autumn	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
<p><b>Year 5 Autumn</b> each concept needs to covers fluently, reasoning and problem solving activities using practice and CPA approach.</p>	<p><b>Number and place value up to 100,000</b> Read, write, order and compare numbers to at least 100,000 and determine the value of each digit. Count forwards on backwords in steps of powers of 10 for any given number up to 1,000,000. Round whole numbers to nearest, round negative whole numbers including through zero. Add and subtract numbers up to 1,000,000 to the nearest 10,100,1,000, 10,000, 100,000. Solve number problems and practical problems that involve all the above. Recognise patterns in Roman numerals.</p>	<p><b>Addition and subtraction</b> Add and subtract mentally with increasingly large numbers. Add and subtract whole numbers with mental methods (including using normal written methods for addition and subtraction). Use rounding to check answers to the context of a problem level of accuracy. Solve addition and subtraction multi step problems in contexts deciding which operations and methods to use and why.</p>	<p><b>Multiplication and division</b> Multiply and divide whole numbers mentally drawing upon known facts. Identify multiples and factors, including finding all factor pairs of a given number, and use square numbers and cube numbers and the notation for squared and cubed. Solve problems involving multiplication and division including using mental methods to check answers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 13.</p>	<p><b>Fractions</b> Compare and order fractions whose denominators are multiples of the same number. Identify, name and write equivalent fractions of a given fraction, representing visually using strips and hundred squares. Add and subtract fractions with the same denominator and convert from one form to the other and write mathematical statements <math>\frac{1}{2} + \frac{1}{4} = \frac{3}{4}</math> and <math>\frac{3}{4} = \frac{6}{8}</math> in a number line for example <math>\frac{2}{5} + \frac{1}{5} = \frac{3}{5}</math>. Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p>	<p><b>Fractions</b> Compare and order fractions whose denominators are multiples of the same number. Identify, name and write equivalent fractions of a given fraction, representing visually using strips and hundred squares. Add and subtract fractions with the same denominator and convert from one form to the other and write mathematical statements <math>\frac{1}{2} + \frac{1}{4} = \frac{3}{4}</math> and <math>\frac{3}{4} = \frac{6}{8}</math> in a number line for example <math>\frac{2}{5} + \frac{1}{5} = \frac{3}{5}</math>. Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p>	<p><b>Decimals</b> Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places.</p>	<p><b>Decimals</b> Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places.</p>	<p><b>Decimals</b> Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. 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Solve problems involving number up to three decimal places.</p>	<p><b>Decimals</b> Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places.</p>

<b>T4W - place value, column method addition and subtraction, multiplication/division</b>
<b>Creative Maths - Multiplication art puzzle (Maths Masterpieces pp. 27-29)</b>
<b>Creative Maths - decimals art puzzle (Maths Masterpieces - Baines at Aeslises or The Scapogot)</b>
<b>Outdoor learning - 3 digit numbers in the local environment</b>
<b>Outdoor learning - design year group's garden link to 4 operations</b>

Year 5 Spring	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	
<p><b>Year 5 Spring</b> each concept needs to covers fluently, reasoning and problem solving activities using practice and CPA approach.</p>	<p><b>Fractions</b> Read and write decimal numbers as fractions (for example, <math>0.71 = \frac{71}{100}</math>). Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p>	<p><b>Fractions</b> Read and write decimal numbers as fractions (for example, <math>0.71 = \frac{71}{100}</math>). Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p>	<p><b>Decimals</b> Solve problems involving numbers up to three decimal places. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000. Use all four operations to solve problems involving money (for example, lengths, mass, volume) using decimal notation, including scaling.</p>	<p><b>Decimals</b> Solve problems involving numbers up to three decimal places. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000. Use all four operations to solve problems involving money (for example, lengths, mass, volume) using decimal notation, including scaling.</p>	<p><b>Percentages</b> Recognise the percent symbol (%) and understand that per cent relates to 'number of parts per hundred' and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25.</p>	<p><b>Percentages</b> Recognise the percent symbol (%) and understand that per cent relates to 'number of parts per hundred' and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25.</p>	<p><b>Time</b> Solve problems involving converting between units of time. Revise solving problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.</p>	<p><b>Time</b> Solve problems involving converting between units of time. Revise solving problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.</p>	<p><b>Measures - volume</b> Estimate volume (for example using 1 cubic cm blocks) and calculate (including cubic) and capacity (for example using water). Use all four operations to solve problems involving measures. Consolidate learning and summative assessments</p>	<p><b>Measures - volume</b> Estimate volume (for example using 1 cubic cm blocks) and calculate (including cubic) and capacity (for example using water). Use all four operations to solve problems involving measures. Consolidate learning and summative assessments</p>	<p><b>Measures - volume</b> Estimate volume (for example using 1 cubic cm blocks) and calculate (including cubic) and capacity (for example using water). Use all four operations to solve problems involving measures. Consolidate learning and summative assessments</p>

<b>T4W - Fractions</b>
<b>Creative Maths - multiplying fractions by whole number puzzle (Maths Masterpieces pp. 45 - 47)</b>
<b>Outdoor learning - representing how vegetable patch divided as a fraction of the patch, % of the patch by the type of vegetables</b>

Year 5 Summer	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<p><b>Year 5 Summer</b> each concept needs to covers fluently, reasoning and problem solving activities using practice and CPA approach.</p>	<p><b>Geometry - angles and properties of shapes</b> Identify 3D shapes, including cubes and other cuboids from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees, estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees. Identify angles at a point and one whole turn (360 degrees), angles at a point on a straight line and two supplementary angles (180 degrees).</p>	<p><b>Geometry - angles and properties of shapes</b> Identify 3D shapes, including cubes and other cuboids from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees, estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees. Identify angles at a point and one whole turn (360 degrees), angles at a point on a straight line and two supplementary angles (180 degrees).</p>	<p><b>Geometry - angles and properties of shapes</b> Identify 3D shapes, including cubes and other cuboids from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees, estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees. Identify angles at a point and one whole turn (360 degrees), angles at a point on a straight line and two supplementary angles (180 degrees).</p>	<p><b>Geometry - angles and properties of shapes</b> Identify 3D shapes, including cubes and other cuboids from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees, estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees. Identify angles at a point and one whole turn (360 degrees), angles at a point on a straight line and two supplementary angles (180 degrees).</p>	<p><b>Geometry - position and direction</b> Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p>	<p><b>Geometry - position and direction</b> Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p>	<p><b>Measurement - converting units: perimeter/area</b> Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate and compare the area of rectangles (including squares), and estimate the area of irregular shapes. Convert between different units of metric measure (for example, km and m, cm and m, and kg, and g, and ml). Understand and use approximate equivalents between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time.</p>	<p><b>Measurement - converting units: perimeter/area</b> Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate and compare the area of rectangles (including squares), and estimate the area of irregular shapes. Convert between different units of metric measure (for example, km and m, cm and m, and kg, and g, and ml). Understand and use approximate equivalents between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time.</p>	<p><b>Statistics</b> Complete, read and interpret information in tables, including frequency tables. Solve comparison, sum and difference problems using information presented in a line graph.</p>	<p><b>Statistics</b> Complete, read and interpret information in tables, including frequency tables. Solve comparison, sum and difference problems using information presented in a line graph.</p>	<p><b>Consolidation, revision and summative assessment</b> Consolidate learning, closing the gaps based on teachers' assessment and summative assessments</p>	<p><b>Consolidation, revision and summative assessment</b> Consolidate learning, closing the gaps based on teachers' assessment and summative assessments</p>

<b>T4W - angles, position and direction</b>
<b>Creative Maths - sketching objects in the local environment with angles and identifying those angles</b>
<b>Outdoor learning - angles and shapes in the local environment using position and direction with map in the local environment</b>
<b>Outdoor learning - measuring the perimeter and area of the chosen area in our local environment, e.g. the 6</b>

Year 6 Autumn	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
<p><b>Year 6 Autumn</b></p> <p>Each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.</p>	<p><b>Week 1</b></p> <p><b>Number and place value</b></p> <p>Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. Round any whole number to a required degree of accuracy. Use negative numbers in context, and calculate their arithmetic. Solve problems that involve all the above.</p>	<p><b>Week 2</b></p> <p><b>4 operations</b></p> <p>Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. Multiply multi-digit numbers up to 4 digits by a 2 digit number using the formal written method of long multiplication. Divide multi-digit numbers up to 4 digits by a 2 digit number using long division. Remainder problems involving whole number remainders, fractions, or by rounding as appropriate for the context. Divide numbers up to 4 digits by a 2 digit number using the formal written method of long division, interpreting remainders according to the context. Perform mental calculations, including with mixed operations and large numbers. Identify common factors, common multiples and prime numbers. Find pairs of numbers that multiply to carry out calculations involving the four operations. Solve problems involving the four operations. Use estimation to check answers to calculations and determine if an answer is reasonable or accurate.</p>	<p><b>Week 3</b></p> <p><b>Fractions and decimals</b></p> <p>Use common factors to simplify fractions, use common multiples to express fractions in the same denominator. Compare and order fractions, including those with different denominators. Generate and describe linear number sequences (both fractions). Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions. Write the answer to its simplest form (for example <math>\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}</math>). By whole numbers multiply simple pairs of proper fractions. Associate a decimal fraction equivalent (for example <math>0.35</math>) for a simple fraction (for example <math>\frac{7}{20}</math>).</p>	<p><b>Week 4</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 5</b></p> <p><b>Algebra</b></p> <p>Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Find the area and perimeter of a rectangle with two unknown sides. Find the probabilities of combinations of two variables.</p>	<p><b>Week 6</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 7</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 8</b></p> <p><b>Fractions and decimals</b></p> <p>See also Autumn week 6 and 7. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100, and 1,000 giving answers to 3 decimal places. Multiply one-digit numbers with up to 2 decimal places by whole numbers. Use written division methods in cases where the answer has up to 2 decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy.</p>	<p><b>Week 9</b></p> <p><b>Fractions and decimals</b></p> <p>See also Autumn week 6 and 7. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100, and 1,000 giving answers to 3 decimal places. Multiply one-digit numbers with up to 2 decimal places by whole numbers. Use written division methods in cases where the answer has up to 2 decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy.</p>	<p><b>Week 10</b></p> <p><b>%</b></p> <p>Solve problems involving the calculation of percentages and conversion of percentages to fractions, decimals and vice versa. Use, read, write and convert between standard units, converting measurement of length, mass, volume and time from a smaller unit of measure to a larger unit, e.g. mm to cm, g to kg, s to min, using decimal notation to express fractions of an hour, up to 360. Convert between miles and kilometres.</p>	<p><b>Week 11</b></p> <p><b>Measurement</b></p> <p>Consolidate skills. Solve problems involving the calculation and conversion of units of measure, using simple fractions, decimals and percentages such as 15% of. Use, read, write and convert between standard units, converting measurement of length, mass, volume and time from a smaller unit of measure to a larger unit, e.g. mm to cm, g to kg, s to min, using decimal notation to express fractions of an hour, up to 360. Convert between miles and kilometres.</p>	<p><b>Week 12</b></p> <p><b>Revision/summative assessments</b></p> <p>Consolidate learning and summative assessments</p>	<p><b>Week 13</b></p> <p><b>Revision/summative assessments</b></p> <p>Consolidate learning and summative assessments</p>	<p><b>Week 14</b></p> <p><b>Revision/summative assessments</b></p> <p>Consolidate learning and summative assessments</p>
<p><b>Year 6 Spring</b></p> <p>Each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.</p>	<p><b>T4W - place value, column method addition and subtraction</b></p> <p><b>Creative Maths - multiplying by 2 digit numbers puzzle artwork (Maths Masterpieces pp. 30 - 32)</b></p> <p><b>Outdoor learning - 3 digit numbers in the local environment</b></p>													
<p><b>Year 6 Summer</b></p> <p>Each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.</p>	<p><b>Week 1</b></p> <p><b>Number and ratios</b></p> <p>4 operations. Review the 4 operations. Ratio. Solve problems involving the relative sizes of two quantities where one quantity is known and the other is unknown. Use integer multiplication and division facts. Scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiplication.</p>	<p><b>Week 2</b></p> <p><b>Algebra</b></p> <p>Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Find the area and perimeter of a rectangle with two unknown sides. Find the probabilities of combinations of two variables.</p>	<p><b>Week 3</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 4</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 5</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 6</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 7</b></p> <p><b>Geometry and statistics</b></p> <p>Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using appropriate units (cubic cm and cubic dm). Interpret and construct pie charts and line graphs and use the mode as an average.</p>	<p><b>Week 8</b></p> <p><b>Geometry, properties of shapes, measures – position and direction</b></p> <p><b>Time</b></p> <p>Illustrate and name parts of circles, including radius, circumference and diameter. Know that the diameter is twice the radius.</p>	<p><b>Week 9</b></p> <p><b>Geometry, properties of shapes, measures – position and direction</b></p> <p><b>Time</b></p> <p>Illustrate and name parts of circles, including radius, circumference and diameter. Know that the diameter is twice the radius.</p>	<p><b>Week 10</b></p> <p><b>Revision/summative assessments</b></p> <p>Revise and consolidate learning based on teachers' assessments.</p>	<p><b>Week 11</b></p> <p><b>Revision/summative assessments</b></p> <p>Revise and consolidate learning based on teachers' assessments.</p>	<p><b>Week 12</b></p> <p><b>Revision/summative assessments</b></p> <p>Revise and consolidate learning based on teachers' assessments.</p>	<p><b>Week 13</b></p> <p><b>Revision/summative assessments</b></p> <p>Revise and consolidate learning based on teachers' assessments.</p>	<p><b>Week 14</b></p> <p><b>Revision/summative assessments</b></p> <p>Revise and consolidate learning based on teachers' assessments.</p>
<p><b>Year 6 Summer</b></p> <p>Each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.</p>	<p><b>T4W - time</b></p> <p><b>Creative Maths - sketching a building from the local environment, identifying the angles and lines</b></p> <p><b>Outdoor learning - comparing time and time zones on the clocks outside the classroom, position and direction in the local environment</b></p>													
<p><b>Year 6 Summer</b></p> <p>Each concept needs to cover fluency, reasoning and problem solving activities using intelligent practice and CPA approach.</p>	<p><b>Revision, closing the gaps, SATS tests</b></p> <p>Preparing for SATS tests, teachers to close the gaps and identified through assessment.</p> <p><b>T4W - linked to identified gaps</b></p> <p><b>Creative Maths - linked to identified gaps</b></p> <p><b>Outdoor learning - linked to identified gaps</b></p>													

