

# MOLESCROFT PRIMARY SCHOOL

## **CHARTERS: A quick guide to teaching and learning**

Published October 2019

## The Writer's Charter

Following close analysis of the performance of Writers at Molescroft Primary School, evaluation of teaching strategies and the support of Literacy Consultants and Leading Teachers from within the school and externally, we agree that the following constitutes the ideal when teaching children to write. We agree to use this as a basis for teaching children to write.

- Children will not be asked to write without preparation beforehand about what to write.
- There must be no loss of momentum between shared writing activities and independent writing activities.
- There must always be a reason for asking pupils to write, and they must know what it is.
- The atmosphere in the classroom must be conducive to writing.
- Writing sessions should be appropriately divided with short breaks between bursts of intensive and focused writing time.
- Before writing children should warm up, physically and mentally.
- Before writing children should have had the opportunity to imagine their work, use a range of Dramatic techniques including 'hot seating' and verbalise their writing with a partner or group.
- Young children should always verbalise their ideas before writing.
- Writing tasks should be broken down and linked to clear time limits, until the pupils have the maturity to do this for themselves.
- Children should know what they have to do to achieve the level they are aiming to reach.
- Teachers must use positive criticism with pupils and not accept basic answers; they should always challenge pupils. Teachers must not accept mediocrity.
- During Shared Writing, teachers must be explicit about what they are doing.
- In all subjects children should not be expected to write without there being some revision of the expectations of the piece.
- When writing in all subjects and in all situations, children must know the form, purpose and audience of the writing.
- Children should be reminded when necessary that 'If they have been taught something, they are expected to do it!'
- Pace should be expected at all times.
- Time targets are essential whenever children write.
- Children should be taught active punctuation with sound effects.
- Every writing activity including assessments should be preceded by quick fire activities.
- Peer/paired marking strategies should be employed where appropriate.
- Skeleton frames should be used to give children confidence and understanding when writing.
- Pupils should be exposed to good examples of the relevant, different elements of narrative writing that they will tackle. Children must be able to appreciate what a 'good one' looks like.
- Poetry must not be underestimated as a powerful tool for language development.
- The emotional ability of pupils to describe feelings/emotions must be developed orally and in writing.
- Visual and sensory stimulation (including video) should be used to excite pupils to write.
- When planning writing sometimes use a senses chart so that pupils consider for example what a character: saw, heard, smelt, touched, tasted.

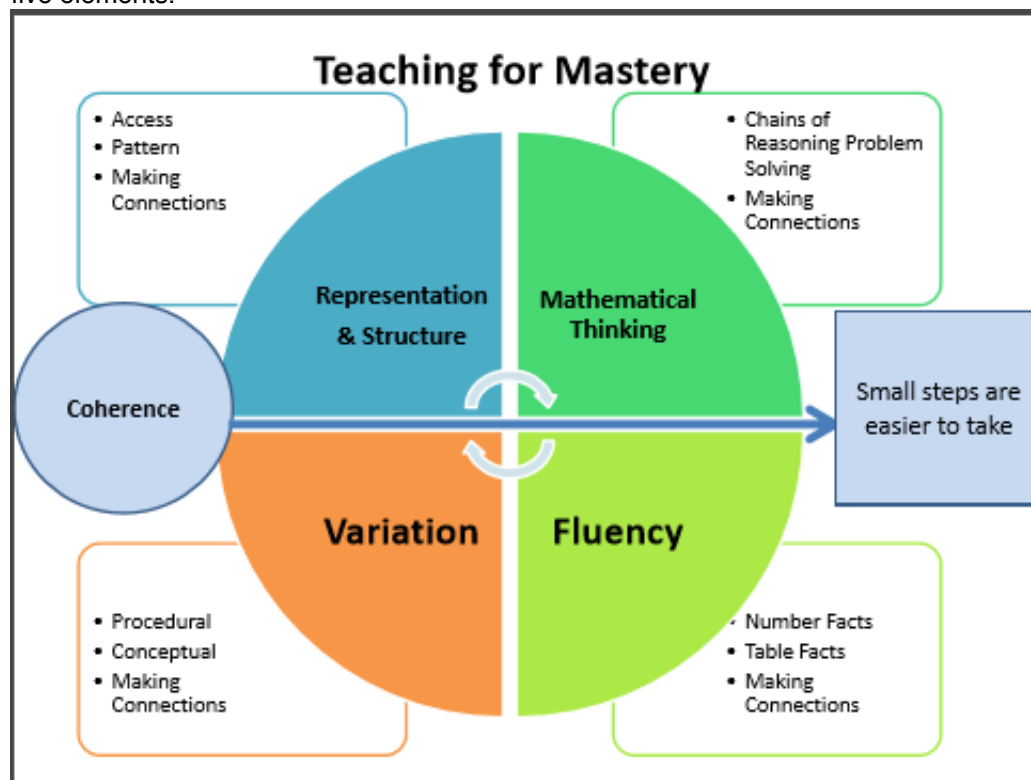
## The Reading Charter

- We will take every opportunity to promote the love of reading and love of books.
- Every child will have the experience of being immersed in a story, through regular class novel time.
- Every child from Y1 to Y6 will have the opportunity to enjoy their book in weekly library time.
- Children will be taught how to understand and enjoy stories through 'Story Masters' time .
- Children will have at least two Guided Reading sessions a week with an adult where they will be able to discuss books, share ideas, and gain an appreciation of a variety of literature.
- Throughout both Key Stages it will be ensured that children have a good understanding of phonics and can use this to decode words.
- Children will progress from basic decoding of words to the more complex skills of inference and deduction.
- Children will be able to give opinions about the texts they read.
- Children will be given the opportunity to read a variety of text types - both fiction and non-fiction.
- Children will be aware of the link between reading and writing.
- Children will be taught to 'magpie words and ideas' from authors.
- Children will be expected to read at home and discuss what they have read in subsequent Guided Reading sessions.
- Children will be encouraged to read with/read to an adult at home – even in upper KS2!
- Children will be given books which challenge them but which they are still able to access independently. Additional reading material will be available to those who require it.
- OUR AIM IS THAT ALL CHILDREN WILL DEVELOP A LOVE OF READING THAT WILL LAST A LIFETIME!

## The Maths Charter

Teaching and Learning:

Mathematics at Molescroft primary school is centred on Mastery and is supported by the Maths No Problem resources. Teaching and learning is built on the NCETM 'Five Big Ideas' of mastery. Each lesson plan, medium term plan and long term plan contains all five elements.



**Coherence** – Small steps. Learning is most successful when there are small mental steps between concepts.

**Representation and structure** – Models and images are used throughout the lesson and sequence of lessons to *expose* the mathematical structure being explored.

**Mathematical thinking** – Children are engaged constantly in mathematical conversation and the application of their knowledge and understanding in a range of practical contexts.

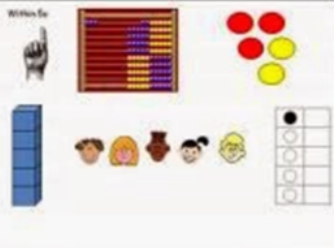
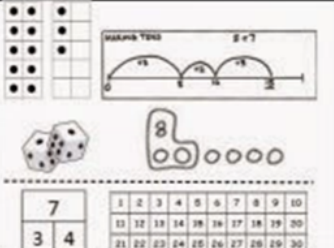

**Fluency** – This is not just speed of recall of number facts. Fluency is being able to notice connections between mathematics. To be efficient, accurate and flexible.

**Variation** – The most *powerful* part of mastery. Careful choice of what to vary, to make the children think in new ways about a concept. Variation should expose key elements of the structure, through small steps, to scaffold learning.

To support the teaching and learning of the *Five big ideas* we have adopted the DfE accredited textbook resource, Maths No Problem. Through this, typical lessons follow the format:

- **In Focus.** Centred on problem solving and real life context. The children work collaboratively, with the teacher as facilitator, to unpick a mathematical concept using the CPA approach (Concrete, Pictorial Abstract)



Concrete	Representational	Abstract
Students manipulate hands-on, concrete materials	Students draw and observe diagrams, or watch the teacher touching and moving hands-on materials	Numbers and mathematical symbols
		

- **Guided Practice.** Working collaboratively with peers and teaching staff, children use their text book to *read* the mathematics and explore a particular context or concept with the scaffold of visual representations and close support from teacher and peer.
- **Independent practice.** This will typically cover half of the lesson and will take many forms. The children's workbooks will be completed during this phase, they will have the opportunity to write in their maths journal and will spend time grappling with puzzles and challenges to deepen their understanding of the mathematical concept being explored.

#### Essential teaching techniques

- ✓ Variation leads to a **deeper understanding** of a concept – **mastery** of the concept
- ✓ When children see a concept in many slightly different way they are much more likely to **remember** it.
- ✓ When they spot patterns, interconnections and make links they are much more likely to **remember** it.
- ✓ Teachers should not leaving learning concepts to chance. Make the connections **explicit** to the children and discuss them.
- ✓ By presenting the maths carefully, children can discover the '**secret**' for themselves.

#### Assessment in maths

- Misconceptions are addressed 'in the moment' through the effective use of flash marking. Ideally, these are dealt with within the same lesson, the teacher *continuing* to teach.
- Regular feedback is given to pupils regarding their strengths and weaknesses in maths and how to improve, through both verbal and written feedback.
- Where appropriate pupils are given the opportunity to peer and self assess their own work and that of others (this would normally be seen from Year 2 upwards).



Molescroft Primary School  
**MATHEMATICS – ONE PAGE SUMMARY**  
 September 2019

### Our philosophy:

- every child has the right to a happy, caring, learning environment in which he or she can develop their full potential – whatever their needs and irrespective of ability, race or gender.
- The ability to succeed is not fixed and this is clear in both lesson design and class teaching.
- Learning in maths should focus on depth of understanding before breadth.
- Pupils should 'keep up' over 'catch up' and all children should be given the opportunity to access the lesson.
- High expectations are made clear to all learners.
- Emphasising the high value of mathematics education to all staff, governors, pupils, parents and carers is key to our children becoming successful mathematicians.
- All staff should actively attempt to improve their pedagogical understanding of mathematics and the importance of a mastery approach

### What does mathematics look like:

- **Whole class together:** we teach mathematics to whole classes and do not label children (this includes within the classroom). Lessons are planned based on formative assessment of what students already know and we include all children in learning mathematical concepts. At the planning stage, teachers consider what scaffolding may be required for children who may struggle to grasp concepts in the lesson and suitable challenge questions for those who may grasp the concepts rapidly. Decisions are not made about who these children may be prior to the lesson.
- **Longer, but deeper:** our long term plan focuses on a clear coherent journey through mathematics across each year to address the aims of the national curriculum. Concepts are taught in a structured way to build a secure knowledge and understanding before moving onto something new. Connections between mathematical concepts are made explicit.
- **Representations:** mathematical models, images and representations are an integral part of the mathematics curriculum. Concrete and pictorial materials are essential to expose the mathematical structure for children. Children cannot hold mathematics in their heads if they haven't first held it in their hands.
- Teaching for mastery is visible in all year groups across, including the EYFS.
- Some children will require extra support either during or after lessons to enable them to master certain concepts or elements. This will be carried out immediately to allow the child the ability to access the next lesson.
- Lessons will feature a lot of dialogue between the teacher and the pupils and between the children.
- Longer time will be given to each topic of the Maths curriculum to ensure sufficient depth of understanding.
- Differentiation will mainly be through the level of adult support each child receives. Generally, children will not be given different activities to complete.

## The Science Charter

- Establish **existing knowledge** by a class discussion or mind-map. Take the children's learning from this point.
- Identify the more knowledgeable children and think of appropriate **challenges** to extend their learning.
- A specific **learning objective** must be clearly displayed and the outcome of the lesson explained to the children.
- Scientific **vocabulary** should be on display or on prompt sheets for the children to refer to.
- There should be a **stimulating start** to the lesson which puts the less into perspective and ignites the children's curiosity. Wherever possible, investigations should be linked to real-life situations/questions that need testing and answering.
- The use of video clips, dance, drama and music should be actively encouraged.
- Science should be fun! 'Working Scientifically' is the at the heart of this subject. Children should be given the opportunity to be 'hands-on' scientists wherever possible.
- Children must be given the opportunity to use a variety of different approaches to "Working Scientifically". This includes:
  - observation over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing and research using secondary sources. They need to know when it is appropriate to use each.
  - Children need to be taught how to create a scientific question which they can investigate within school. These questions should be the starting point for learning within a topic.
  - Children will answer scientific questions through collecting data, presenting and analysing data to enable them to draw conclusions which develop their knowledge and understanding of a subject.
  - Children should be made aware of the work of real scientists and be able to link this to the areas of science they are studying.
- **Equipment** must be gathered, checked and organised prior to the lesson and should be readily available for the children to use
- Children should be encouraged to work in different pairs and groupings in order to gain the **true ability** of each 'scientist' i.e. mixed ability groups to support and scaffold but similar ability groups to extend.
- Think quality not quantity. It is **not** necessary to predict, plan, investigate, record and analyse in every lesson. Focus on just one or two skills until it becomes second nature to the children.
- Never ask the children to copy the outcomes of an investigation. Encourage them to write what they have learned in their **own words** to show a true reflection of their understanding. Writing prompts may be used for children needing support.
- In the plenary session or mini-plenaries throughout the lesson, encourage the children to talk about their learning using specific **scientific vocabulary**. Question further to ensure their answers are detailed and relevant.
- Actively support and encourage the children to **question** what they are observing.

‘Why did this happen?’ ‘What might happen if ...’

- In the plenary session, recap on what has been learned and what the **next step** might be. Put the science learning in perspective. How will knowing this help us in the real world?



## The P.E Sports & Games Charter

A high-quality physical education curriculum inspires all pupils to succeed and excel in competitive sport and other physically demanding activities such as gymnastics, dance and athletics. It should provide opportunities for pupils to become physically confident in a way which supports their health and fitness. Opportunities to compete in sport and other activities build character and help to embed values such as fairness and respect.

PE lessons should include:

### Warm up

- Identify skills (i.e. throwing, catching, dancing)
- Practice skills
- Refine skill
- Apply skills (either game or finished movement of dance)
- Evaluate skills- discussion (Teacher assess using FLiC)
- Moving forward (next steps for improvement)

### Cool down

The aims of PE are to include Knowledge, Skills and understanding.

- To develop a range of physical skills.
- To develop stamina and strength.
- To develop an appreciation of fair play, honest competition and good sportsmanship.
- To learn how to cooperate with each other and work successfully in pairs, groups and teams.

To develop physical and mental coordination, self-control and confidence.

To develop self-confidence through the understanding of one's own capabilities and limitations.

Through Personal Challenge have children set own targets for improvement and plan activities to achieve this.

Personal Challenge:

**Y3- Swim a length**

**Y4- Skipping challenges**

**Y5- Bleep testing**

**Y6- My Multi-Skills**

To motivate each child so that they retain a lifelong interest in all aspects of PE and recognise the importance of living and maintaining a healthy life.

All pupils will work at levels appropriate to their abilities.

School to adhere to school philosophy of School Sports:

**DETERMINATION**

**PASSION**

**RESPECT**

**HONESTY**

**SELF BELIEF**

**TEAMWORK**

## The P.S.H.C.E Charter

**We should ensure the PSHCE curriculum adheres to the ten principles outlined by the PSHE Association. These are as follows:**

- Start where children and young people are: find out what they already know, understand, are able to do and able to say. For maximum impact involve them in the planning of your PSHCE education programme.
- Plan a 'spiral programme' which introduces new and more challenging learning, while building on what has gone before, which reflects and meets the personal developmental needs of the children and young people.
- Take a positive approach in which children and young people can keep themselves and others healthy and safe and lead happy and fulfilling lives.
- Offer a wide variety of teaching and learning styles with an emphasis on interactive learning and teacher as facilitator.
- Provide information which is realistic and relevant and which reinforces positive social norms.
- Encourage young people to reflect on their learning and the progress they have made, and to transfer what they have learned to say and to do from one school subject to another, and from school to their lives in the wider community.
- Recognise that the PSHCE education programme is just one part of what a school can do to help a child to develop the knowledge, skills, attitudes and understanding they need to fulfil their potential. Link the PSHE education programme to other school approaches, to pastoral support, and provide a setting where the responsible choice becomes the easy choice.
- Embed PSHCE education within other efforts to ensure children and young people have positive relationships with adults, feel valued and where those who are most vulnerable are identified and supported.
- Provide opportunities for children and young people to make real decisions about their lives, to take part in activities which simulate adult choices and where they can demonstrate their ability to take responsibility for their decisions.
- Provide a safe and supportive learning environment where children and young people can develop the confidence to ask questions, challenge the information they are offered, draw on their own experience, express their views and opinions and put what they have learned into practice in their own lives.

**Fundamentally the staff team must respect children as *individuals*, ensuring their voices are heard.**

## The Design & Technology Charter

### What it means to achieve mastery in Design Technology

Pupils fully understand how to use creativity and imagination to design and make high quality prototypes and products that solve real and relevant problems within a variety of contexts. Pupils instinctively in this process consider their own and others' needs, wants and values.

Through the process pupils take risks, are resourceful, innovative and enterprising. They are capable and confident with the range of materials and tools to be used.

Through the process pupils are critical, evaluate and test their ideas and products and the work of others to achieve the best possible results.

Pupils understand and apply the principles of nutrition and can cook.

**KEY CONCEPTS/THEMES/PROCESSES which run through the units which need to be developed, step by step, and show progression year on year? These are reflected in the organisation of objectives in FLiC and the assessment grids.**

- Critically disassembling and evaluating articles from the real world.
- Mastering the techniques and skills required to design and make prototypes and products.
- Creating effective and realistic designs.
- Realising designs using technical knowledge.
- Evaluating and testing their own designs, products and those of others.
- Learn how to cook understanding nutritional principles.

### All children should have the opportunity to:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>■ See <u>real life examples</u> of finished products. However, it should be stressed that these should only be used for inspiration not for the children to make exact copies.</li> </ul>                                     | <p>should look like.</p>  |
| <ul style="list-style-type: none"> <li>■ <u>Deconstruct</u> a real example. Discussions about mechanisms / structures / fabrics / material choices should take place.</li> </ul>   | <ul style="list-style-type: none"> <li>■ <u>Quality resources</u> – children should know at the design stage what they have the opportunity to use.</li> </ul>  |
| <ul style="list-style-type: none"> <li>■ <u>Design</u>. This should be the child's ideas. Children should be encouraged to be innovative. They should create a plan showing the construction steps with a labelled drawing of what their finished product</li> </ul> | <ul style="list-style-type: none"> <li>■ <u>Modelled teaching</u>: children should witness the process of making a structure / mechanism.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>■ <u>Evaluate</u> – a vital stage. Children should have the opportunity to comment not only on the things they would change but on their successes.</li> </ul> |

## The Geography Charter

A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives.

Teaching should equip pupils with knowledge about diverse places, people, resources and natural and human environments, together with a deep understanding of the Earth's key physical and human processes.

### **Geography learning must be enjoyable.**

#### **Geography:**

- Fosters learners' sense of wonder at the beauty of the world around them.
- Stimulates learners' interest in their surroundings and in the variety of human and physical conditions on the Earth's surface.
- Helps learners to develop an informed concern about the quality of the environment and the future of the human habitat.
- Enhances learners' sense of responsibility for the care of the Earth and its people.

#### **Successful Geography Lessons:**

- Address varied learning preferences.
- Take learners on a virtual journey to places and cultures.
- Access places and cultures via the learners' five senses.
- Require learners to think about places and cultures and to make sense of the world.
- Allow learners to use a range of practical geographical equipment including maps, globes, atlases, compasses, books and the Internet.
- Allow learners to develop appropriate ICT skills and use current technology to demonstrate and to extend learning.
- Purposefully feature cross-curricular learning.
- Are inclusive; differentiation challenges every learner.
- Are progressive, cumulatively building upon prior learning.
- Are exciting! Learners like to move around and don't want to sit in the same place for too long, so ...
- Are chunked into progressive, bite-size sections, with a range of types of activity planned.
- Allow learners to respond to learning using a range of media, not just writing.
- Nurture essential geography skills using research, questioning, map work, presentation, exploration and discovery.
- Include clear assessment criteria to inform future planning.
- Build on and relate to learners' personal experiences.
- Require learners to think in terms of similarities and differences in places and cultures and promote reasoning.
- Cultivate a questioning approach; I wonder ...
- Avoid stereotyping.
- Instil values of stewardship; learners are Earth's future custodians.
- Recognise that knowing a country's capital city may be important but not as important as understanding why.
- Take place both indoors and outdoors, visiting appropriate locations where feasible.

#### **Successful Geography teachers:**

- Are interested in what they are teaching.
- Encourage learners to be inquisitive.
- Teach to objectives but are not afraid to develop unintended routes that a lesson might take.
- Have high expectations.
- Respect the pupil voice.



## The Educational Visits Charter

### Educational Visits will enhance one or more of the following ...

- To enhance children's understanding of the curriculum
- To place the curriculum in a wider arena
- To be able to compare the home environment with other locations
- To extend first hand experiences
- To inspire the children to produce work of quality
- To develop children's independence, self-responsibility and social interaction
- To enhance the children's awareness and understanding of the multi-cultural society in which we live
- To enhance awareness and understanding of the wider world

### **SAFETY IS THE PRIME CONSIDERATION. IT SHOULD NOT BE COMPROMISED IN ORDER TO MEET EDUCATIONAL OR OTHER OBJECTIVES**

- The following basic information for any Educational Visits must be provided for and approved in advance by the EVC and Head Teacher (who will need to seek the approval of the Governing Body for category B visits). The mechanism for this is the EVOLVE on line system.
- ✓ Purpose of visit.
- ✓ Educational objectives of the visit.

- ✓ Full details of the proposed visit including any special circumstances or activities and nature of accommodation.
- ✓ Nature of any hazardous activities.
- ✓ Place(s) which it is proposed to visit, with existing knowledge of them (and a preliminary visit details).
- ✓ Mode of transport.
- ✓ Name/address and telephone number(s) of any accommodation to be used or places to be visited.
- ✓ Financing arrangements/insurance arrangements.
- ✓ Dates and times of visit(s)/journey(s) – leaving – activities – returning.
- ✓ Name of party leader/deputy leader, proposed size of party, and students/staff ratio.
- ✓ Number, names, including First Aider of staff accompanying the party.
- ✓ Briefing information/Risk Assessments to be signed by staff and volunteer helpers.
- ✓ Information for briefing of pupils.
- ✓ Information for parents and consent form.
- ✓ EVOLVE and Risk Assessment Forms.
- A short written report about the trip can be useful to keep on file.
- SMT and EVC will go along on trips at least once a year if possible to oversee the range of Educational Visits offered.

## Art Charter

Art should be concerned with the development of the whole child. Children should be provided with opportunities to explore the world of thoughts and feelings and to express original ideas in ways that are powerful alternatives to the written word. All children should be taught techniques based on a range of medium, encouraged to use their Visual Journals to develop ideas, then be given the opportunity to explore a wide range of activities based on the visual elements. Art should be about experiencing, experimenting, developing and discussing. Teachers should see an activity as being part of a developmental process and opportunities sought to promote:

- Spiritual development
- Moral development Social development
- Cultural development

Pupils should make progress in:

- Exploring and developing ideas
- Investigating and making
- Evaluating and developing work
- Developing knowledge and understanding

To ensure this they should-

- Develop drawing and painting skills in line with the Progressive Schemes of Work.
- Gather resources and materials to stimulate and develop ideas
- Use Visual Journals to develop ideas and reflect on previous learning [this can include words and thoughts]
- Explore and use two and three-dimensional media, working on a range of scales
- Review and modify work as it progresses
- Develop an understanding of artists applying knowledge to their own

work.

- Respond to and evaluate their own and others' work

### Paint & Painting

Children should always mix their own paint from the powder paint colours provided. White, yellow, blue, cyan, red and crimson. Children need to be reminded every time how to mix paint into the consistency of tooth paste in a palette. To create a selection of tones add the pigment from the colours listed to a white base using a damp brush or the thin end of a spatula. A watered down Marvin Medium can be painted over finished paintings if an oil effect is required. **Ready mixed paint** is only available for Design and Technology work. In the Foundation Year it is however acceptable to pre mix paint in the colours listed above. In Year 1 it is acceptable to pre mix a vat of white paint in the initial stages.

When painting, children should map out their work in either chalk or preferably in an off white shade of paint. **Never allow children to draw an outline in pencil first.**

### Pastels

Oil pastels should be used on paper with a texture. They can look better when on produced on coloured display paper - not on white. Informed choices should be encouraged regarding the colour of paper.

### Pencil Crayons

**Never ever at any age should children draw an outline in pencil.** Outlines should be in the colour which is to be used for the shading.

### Pencil Sketching

Always provide sketching pencils **not** writing pencils.

## **When studying Art, we believe all children should:**

- Enjoy creating.
- Develop artistic skills and techniques
- Explore and experiment with two and three-dimensional media, working on a range of scales in a variety of environments
- Have the opportunity to develop their creativity and imagination through original and personal responses.
- Seek out opportunities to broaden their understanding of Art and stimulate ideas.
- Work with Art practitioners and visit galleries and exhibitions
- Empathise with the lives and situations of artists from around the world
- Have the opportunity to discuss their own and others artists work
- Work collaboratively and independently on a project
- Apply knowledge to their own work
- Review and modify work as it progresses
- Have their work celebrated through exhibition and display

## The History Charter

### When studying history, children should

- Above all, develop a chronological framework within which they can fit the time periods they study in the broad context of time.
- Instinctively question the validity of evidence and consider how we know what we do about the past.
- Make comparisons across time periods considering why those differences have developed or not as the case may be.
- Consider the time period in comparison to their lives today.
- Consider the idea of cause and consequence relating to significant events.
- Have the opportunity to pose deep and searching questions around a variety of stimuli.
- Invoke discussion within which children will generate hypothesis using evidence and reasoning.

### History should:

- Inspire children's curiosity
- Promote questioning and discussion
- Give children perspective from their own history to the history of the wider world



# The Primary Languages Charter

## Teaching and Learning

- Languages planning is based on the 2014 National Curriculum objectives. Medium Term plans are prepared by the Primary Languages Subject Leader, who provides learning resources to ensure progression and appropriate pitch and pace. Objectives consider all aspects of language learning; speaking, listening, reading, and writing. Planning also takes into consideration intercultural understanding, although this is not a requirement.
- Children learn **one** of two languages from the Foundation Stage onwards; either Spanish and French.
- Children learn a primary language with a language specialist and then complete a follow up lesson with their class teacher, to help reinforce and further their learning.
- The emphasis through learning languages is not just upon the specific language but also upon the language learning skills, including; ability to listen for sounds and words, reading words and finding links with other languages, looking for patterns in words or phrases, using what they already know, to identify and work out new words.
- Lessons are taught in a fun and exciting way, ensuring that the children's language learning skills are fully exploited.
- Children are taught phonics in the target language in each lesson and classrooms have vocabulary and phonics displayed.
- The class teacher is provided with explicit details and planning to help reinforce children's knowledge and move them forward as part of the follow up lesson.
- Any new vocabulary taught is discussed and the children are involved in discussing the letter sounds and spelling patterns of new vocabulary.
- Pupils are constantly encouraged to practise their speaking and listening skills and use the target language on a daily basis. This includes; answering the register, using greetings and signs in and around school and the classroom. There are several APP's (iLanguages) which the children can access on iPad's to further develop these skills.
- Weekly assemblies are conducted using key phrases in the target language, to further increase children's familiarity with the language and encourage a whole-school approach! The key to success!
- Children participate in a range of practical activities to enhance their learning; matching cards, show me games, flash card activities, translation games, language detective games.
- Support staff are used effectively in all lessons to support the children and assessment process which is done against FLiC objectives.
- ICT is used as a resource and a number of Apps are available for the children to use. Children in Y5 and Y6 are encouraged to use iPads to enhance their speaking and listening skills.
- Short plenaries are used throughout the lessons to ensure clear understanding of the language learning taking place.
- Lessons are differentiated with opportunities created for more and less able pupils.
- Pupils are given the opportunity to share their ideas and strategies used to help them

to recall vocabulary.

- Language booklets provide the opportunity for children to self-assess and for the class teacher to highlight a relevant descriptive outcome.

## **Assessment in Languages**

- Children are assessed against language objectives using FliC.
- AFL information is gathered through observing pupils in lessons and targeting children during language lesson plenaries. All written work is set against differentiated success criteria.
- Half termly assessment lessons take place, conducted by the language specialist to assess the children's progress.
- Children are given the opportunity to assess one another's written work in Spanish or French, using peer marking.

## **The Learning Environment**

- All classrooms have a 'Phrase of the Fortnight' display with a new word and phonic focus every two weeks.
- All classrooms have a 'We are learning' poster to show what the children are currently learning
- All classrooms have some form of language display.
- All areas are labelled throughout the school in the target languages.
- Teachers are encouraged to write the date on the board in Spanish/French on a daily basis.
- The learning objective is made clear to the children on the board at the start of the lesson.
- Exciting resources are employed in all language learning lessons.

# The Computing Charter

## The teaching of computing should include three main areas:

- Using apps and programs to support and enhance the curriculum
- Coding - creating your own apps and programs
- Responsible online citizenship

### Using Apps and Programs to Support and Enhance the Curriculum

It is vital that children are proficient technology users. They will not grow up in a world where using a pencil and paper is a valuable skill.

Being a confident technology user does not mean learning how to use a few apps, but being fluent in learning new applications and making choices about when to use which type of technology. Lessons must enable children to increase their ability to make these choices and discover new ways of using technology to enhance their productivity and quality of work.

As often as possible, children should make choices about whether to use technology and which app, program or device they want to use. This should develop throughout the school.

Technology should be seen as a tool - just like a pencil, a book or a ruler.

### Coding - Creating Your Own Apps and Programs

Coding is a specific skill that empowers children to be able to control computers. It will be important for adults to be able to control computers in the future - coding is seen as a vital skill. It doesn't matter which apps or programs are used for coding - the key is that children learn to solve problems and take control of the computer.

### Responsible Online Citizenship

In a connected world, it is also vital that whenever we use online technology, we remind children of how to be a responsible online citizen. This includes both staying safe and

## THINKing. Is what I say online:

True

Helpful

Inspiring

Necessary

Kind

Refer to Computing Policy and eSafety policy for further details.

# The Music Charter

## When learning about Music, children should:

- Enjoy listening to and creating a variety of music
- Have the opportunity to experience and respond to different styles & genres of music including live performances & works by great composers.
- Be taught key musical skills discreetly.
- Always be given a musical starting point for composition.
- Be used to hearing correct musical vocabulary.
- Be given the chance to be creative, after being taught a key concept or skill.
- Be given the chance to learn an instrument.
- Have the opportunity to read and interpret a variety of notation.
- Be given the chance to perform.



# The Religious Education Charter

## R.E is effective when:

- Learning is investigative
- Learning is creative and creative processes are used
- This creativity of approach helps the understanding of the RE and is not secondary to another subject's objectives
- Neither is the use of 'creativity' banal nor an excuse to keep children occupied
- Children are encouraged to create their own questions for investigation
- Resources are used imaginatively
- Clear links are made regarding learning ABOUT and learning FROM RELIGION.
- Teachers understand the underlying purpose of R.E
- Lessons plan to develop core skills and enquiry
- Sustained study is allowed by the blocking of units and time (i.e. NOT the weekly lesson).
- Visits to a special places of worship are used to bring a unit to life both in the Christian and annual religion of choice
- Time is spent considering how faith impacts on the personal, social and institutional
- Time is spent **reflecting** as well as understanding
- **Relevant visitors** are invited, but with clear guidance as to what is required
- **A specific RE day** is arranged to coincide with a festival/celebration during the annual chosen faith

- **A food and technology day** is organised to further enhance the understanding and real life experience of the chosen faith and its specific cuisine

## R.E is organised at Molescroft so that:

- One faith per year is studied by the whole school IN ADDITION TO CHRISTIANITY
- Staff can train together on the chosen faith and develop clear knowledge and understanding
- Resources can be purchased, developed and shared
- Festivals and other special events linked to a faith can be marked and shared by the whole school together
- A growing appreciation of the traditions and beliefs of a particular faith can develop over a year.
- The cultural impact of a faith can be realised.
- The RE syllabus is therefore adapted around the chosen faith AND Christianity

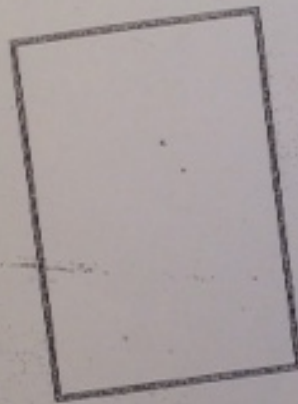
**The aim is to develop a strong understanding in the children enabling them to access, appreciate, understand, empathise and engage in other religions, faiths, cultures and everyday life with a real appreciation of diversity in their community and the outside world.**

## The Handwriting Charter

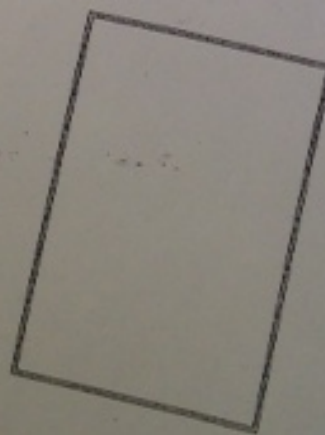
### Posture

#### Posture

*Developing a good posture is as important as developing a good pencil grip.*



*Paper position for right-hander*



*Paper position for left-hander*

# Handwriting

## Four Basic Joins

### Handwriting Charter

Molescroft Primary school's teaching of handwriting aims to ensure that all children will be able to

- recall the required movement and "patter" for each letter
- develop a style which enables letters to be easily joined
- write in a way that is legible, fluent and fast

### The Agreed "Patter" for teaching

From the Foundation stage onwards handwriting will be taught using the four main movement groups,

The four groups are:

- down and off in another direction, exemplified by the letter l -long ladder letters  
l i j t u y
- down and retrace upwards, exemplified by the letter r-one-armed robots  
r b h k m n p
- anticlockwise round, exemplified by the letter c-curly caterpillar letters  
c a d e g o q s f
- zig-zag-letters  
v w x z

From the Foundation Stage onwards, digraphs and trigraphs will be taught as joined units.

eg. oo oa ch th air igh ow

### Developing an effective pencil grip

Children need to learn to hold a pencil with a grip that is relaxed but allows for efficient control of the pencil. The children will be encouraged to hold the pencil between the thumb and fore finger with the pencil resting on the third finger; the thumb and fore finger should also be able to move slightly-this is known as "froggy legs."

Once the children are able to form all letters with the correct orientation and size they will be introduced to the joined script and the four basic handwriting joins,

The four basic joins are:

- diagonal joins to letters without ascenders  
am an in is man
- horizontal joins to letters without ascenders  
on hop box
- diagonal joins to letters with ascenders  
it at about able shout
- horizontal joins to letters with ascenders  
hot pat

Letters not joined: b,s,j,y,g,p,x

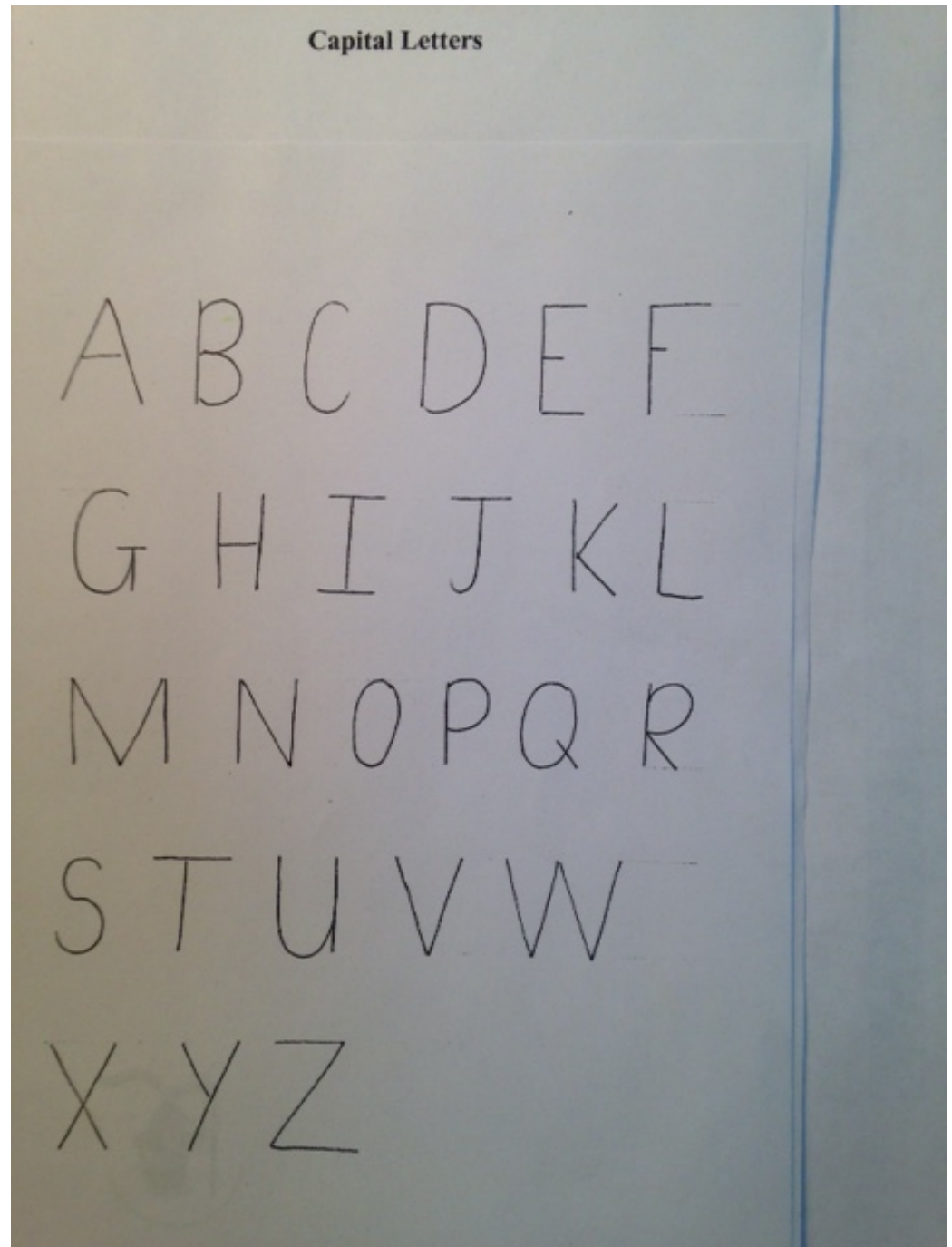
By the end of Year 1 most children will be expected to join letters using the four basic handwriting joins showing clear ascenders and descenders.

In Years 2, 3 and 4 the children will have a regular handwriting session which will build upon the skills learnt from FY and Y1. In Year 5 and 6 the children will be encouraged to develop their own handwriting styles in line with the school script and teachers will plan handwriting sessions as appropriate.

For the direct teaching of handwriting and guided independent practise children will be expected to work on lines to ensure they understand the orientation of the letter to the line. In the Foundation Stage and Year 1 handwriting practise may be done on lined white boards with white board pens or in a lined literacy book. When appropriate in Year 1 or Year 2 the children will be introduced to and use the school's handwriting book this will continue to be used through Key Stage 2.

## Handwriting

### Capital Letters



## Teaching Reading

At Molescroft, we promote, encourage and expect children to have or develop a love of reading books. We believe that children who love reading stories become better readers, writers, empathisers and well-rounded people.

Our teaching of reading skills and developing a love of reading is achieved through the following:

- Phonics – Our teaching of phonics follows Letters and Sounds and takes place in FY, Y1 and part of Y2.
- Guided reading – children will take part in guided reading sessions each week where discussion will take place about the plot, characters, use of vocabulary, inferred meaning and the structure of texts. Between sessions, children will have a target to read to which forms part of the homework for the week.
- Share and Care Reading - This is a time for Year 1 and Year 2 children to enjoy a book with a partner. Children work in mixed ability pairs so the less able reader practises their decoding skills and the more able will develop questioning and comprehension skills.
- Story Masters - These sessions happen twice weekly in Years 2 to 6. They are a time to focus on the class novel and 'master' reading skills following the VIPERS theme: Vocabulary, Inference, Prediction, Explanation, Retrieval and Summarising. Children will answer questions about specific sections or chapters of the class novel.
- Class Library Time – this is a weekly opportunity for children to choose a fiction book from the school library which they can read at their leisure. Library time provides a chance to sit quietly and enjoy their guided reading or chosen book in peace and quiet.
- Class Novel – every class will have daily time to enjoy hearing their class novel. This time is important for children to build their love of stories, to hear stories read with expression and intonation and to experience and discuss new vocabulary as appropriate.

**Reading Journal – These booklets are used to record targets, but also for children to note down quality vocabulary ideas, questions they want to ask and words they don't yet understand. They are a resource for children to use when writing.**

## Teaching Writing

Teaching of writing skills takes place during literacy lessons and is reinforced wherever possible across all curriculum areas whenever writing takes place. We teach to National Curriculum objectives and the specific year group objectives in our English curriculum, which are reflected on our assessment system.

We follow a writers' charter (which can be found earlier in this document) which ensures the following of a sound writing process. Children must always have the opportunity to plan, draft and edit their writing to ensure it is of the best quality they can produce. When drafting and editing writing, children should be clear which features they are expected to include in any particular piece. These criteria might be from a target list in books, displayed on the board or on children's iPads.

We follow a clear progression of features of writing in using punctuation, conjunctions and varied sentence structures. The expectations for each year group are displayed in every classroom and children will learn how to use the features correctly before using them in their own writing.

Writing should be composed both digitally and using handwriting. At Molescroft we aim to equip children to write in the 21<sup>st</sup> century world where most composition is done digitally, however we recognise that writing by hand is still currently an important skill and handwriting is taught discretely in Key Stage 1. Through key Stage 2, it is expected that children will follow the school handwriting style in all writing across the curriculum. Teachers should ensure that handwriting expectations remain consistently high.

**Teaching of spelling is delivered through discrete lessons following word lists from the National Curriculum and other patterns set out in our spelling lists which form part of homework packs. Learning spellings will be part of children's weekly homework.**

## Calculation Policy

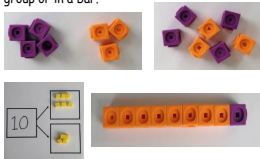
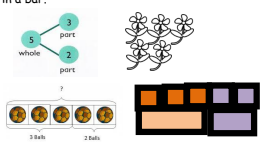
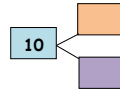

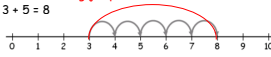




# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

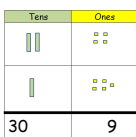
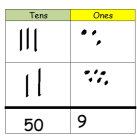
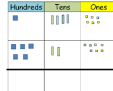
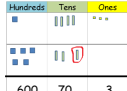
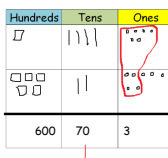
## I. PROGRESSION TOWARDS A STANDARD WRITTEN METHOD OF CALCULATION

Addition			
Concrete	Pictorial	Abstract	
<p>Use objects to add two numbers together as a group or in a bar.</p> 	<p>Use pictures to add two numbers together as a group or in a bar.</p> 	<p>Use the part-whole diagrams to move into the abstract.</p> $2 + 8 = 10$ $10 = 6 + 4$ 	
<p>Counting on</p> <p>Count on from the larger number - 3 + 5 a child chooses the larger number, even when it is not the first number, and counts on from there: 'six, seven, eight'</p> <p>Start with the larger number on the bead string and then count on to the smaller number 1 by 1 to find the answer.</p> 	<p>Children then begin to use numbered lines to support their own calculations using a numbered line to count on in ones or one big jump.</p> $3 + 5 = 8$  <p>Children will begin to use 'empty number lines' themselves starting with the larger number and counting on. First counting on in tens and ones.</p> $34 + 23 = 57$	<p>Place the larger number in your head and count on the smaller number to find your answer.</p> $8 = 14$	



# Molescroft Primary School MATHEMATICS POLICY

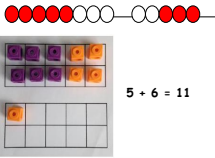
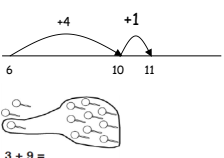
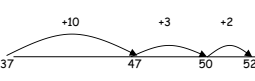
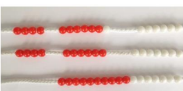
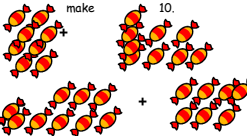
Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Addition			
Concrete	Pictorial	Abstract	
<p>Column, no regrouping</p> <p>Add together the ones first then add the tens. Use the Base 10 blocks first before moving onto place value counters.</p> $24 + 15 =$  $\begin{array}{ c c } \hline \text{Tens} & \text{Ones} \\ \hline \text{  } & \text{..} \\ \hline \text{  } & \text{..} \\ \hline \hline \text{30} & 9 \\ \hline \end{array}$	<p>After practically using the base 10 blocks and place value counters, children can draw the counters to help them to solve additions.</p> $33 + 26 =$  $\begin{array}{ c c } \hline \text{Tens} & \text{Ones} \\ \hline \text{   } & \text{..} \\ \hline \text{  } & \text{..} \\ \hline \hline \text{50} & 9 \\ \hline \end{array}$	<p>Children use informal pencil and paper methods (jottings) to support, record and explain partial mental methods building on existing mental strategies. They begin to use an expanded layout that underpins the standard written method.</p> $\begin{array}{r} 85 \\ + 46 \\ \hline \end{array} = \begin{array}{r} 80 + 5 \\ 40 + 6 \\ 120 + 11 \\ \hline 131 \end{array}$	
<p>Column with regrouping</p> <p>Make both numbers on a place value grid, this example is completed using place value counters.</p>  $146 + 527 =$ <p>Add 527 units and exchange 10 ones for one 10.</p>  <p>Add up the rest of the columns, exchanging the 10 counters from one column for the next place value column until every column has been added.</p> $\begin{array}{ c c c } \hline \text{Hundreds} & \text{Tens} & \text{Ones} \\ \hline \text{■} & \text{   } & \text{..} \\ \hline \text{■} & \text{  } & \text{..} \\ \hline \hline \text{600} & 70 & 3 \\ \hline \end{array}$	<p>Children can draw a pictorial representation of the columns and place value counters to further support their learning and understanding.</p>  <p>Once drawn, the children group any series of counters which are greater than ten. They should circle ten of the counters before adding onto the next column (like the exchange in the previous example).</p>	<p>Start by partitioning the numbers before moving on to clearly show the exchange below the line</p> $\begin{array}{r} 20 + 5 \\ 40 + 8 \\ 60 + 13 = 73 \end{array}$ <p>Children will consolidate the above and move on to carrying below the line.</p> $\begin{array}{r} 625 \\ + 48 \\ \hline 673 \end{array} \quad \begin{array}{r} 783 \\ + 42 \\ \hline 825 \end{array} \quad \begin{array}{r} 367 \\ + 85 \\ \hline 452 \end{array}$	



# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Addition			
	Concrete	Pictorial	Abstract
Regrouping to make 10	<p>Start with the bigger number and use the smaller number to make 10. Bead strings or 10 frames and objects can be used to illustrate addition including bridging through ten by counting on 2 then counting on 3.</p>  <p><math>5 + 6 = 11</math></p>	<p>Use pictures or a number line. Regroup or partition the smaller number to make 10.</p> <p><math>6 + 5 = 11</math></p>  <p><math>3 + 9 =</math></p>	<p>Bridging through ten can help children become more efficient.</p> <p><math>37 + 15 = 52</math></p> 
Adding single digit	<p><math>4 + 7 + 6 = 17</math> Put 4 and 6 together to make 10. Add on 7.</p>  <p>Following on from making 10, make 10 with 2 of the digits (if possible) then add on the third digit.</p>	<p>Add together three groups of objects. Draw a picture to recombine the groups to make 10.</p> 	<p>Combine the two numbers that make 10 and then add on the remainder.</p> <p><math>4 + 7 + 6 = 10 + 7 = 17</math></p>

R Atkinson

18/1/17


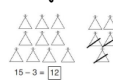
Page 6 of 28



# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Addition				
National Curriculum Guidance	Addition and subtraction			
	789 + 642 becomes	874 - 523 becomes	932 - 457 becomes	932 - 457 becomes
	$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \end{array}$	$\begin{array}{r} 874 \\ - 523 \\ \hline 351 \end{array}$	$\begin{array}{r} 932 \\ - 457 \\ \hline 475 \end{array}$	$\begin{array}{r} 932 \\ - 457 \\ \hline 475 \end{array}$
	Answer: 1431	Answer: 351	Answer: 475	Answer: 475

Subtraction			
	Concrete	Pictorial	Abstract
Taking away ones	<p>Use physical objects, counters, cubes etc to show how objects can be taken away.</p> 	<p>Cross out drawn objects to show what has been taken away.</p>  <p><math>15 - 3 = 12</math></p>	<p><math>18 - 3 = 15</math></p> <p><math>8 - 2 = 6</math></p>

R Atkinson

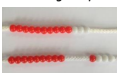


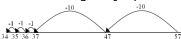
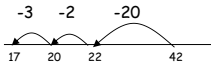
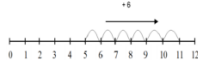
18/1/17

Page 8 of 28



# MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Subtraction			
	Concrete	Pictorial	Abstract
Counting back	<p>Make the larger number in your subtraction. Move the beads along your bead string as you count backwards in ones.</p> <p><math>13 - 4 = 11</math></p>  <p>Use counters and move them away from the group as you take them away counting backwards as you go.</p> 	<p>Children to also use number lines to count back.</p> <p>10 and 4 less</p>  <p>Start at the bigger number and count back the smaller number showing the jumps on the number line.</p>  <p>This can progress all the way to counting back using two 2 digit numbers. Then helping children to become more efficient by subtracting the units in one jump (by using the known fact <math>7 - 3 = 4</math>). Subtracting the tens in one jump and the units in one jump. Bridging through ten can help children become more efficient.</p> <p><math>42 - 25 = 17</math></p> 	<p><math>18 - 3 = 15</math></p> <p><math>8 - 2 = 6</math></p>
Counting on – finding the difference	<p>Compare amounts and objects to find the difference.</p> <p>Use cubes to build towers or make bars to find the difference.</p>	<p>Using a number line to count on.</p>  <p><math>11 - 5 = 6</math></p>	<p><math>18 - 3 = 15</math></p> <p><math>8 - 2 = 6</math></p>

R Atkinson

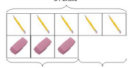

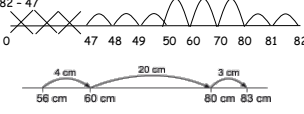


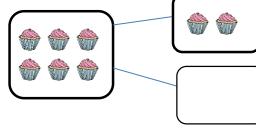

18/1/17

Page 9 of 28



# MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

	<p>Use basic bar models with items to find the difference.</p>  <p>A teddy costs 50p and doll costs 20p. How much more does the teddy cost?</p> 	<p>When dealing with larger numbers, the number line should still show 0 so children can cross out the section from 0 to the smallest number. They then associate this method with 'taking away'.</p> <p><math>82 - 47</math></p>  <p>Using the bar method.</p> 	
Part whole	<p>Link to addition- use the part whole model to help explain the inverse between addition and subtraction.</p>  <p>If 10 is the whole and 6 is one of the parts. What is the other part?</p> <p><math>10 - 6 =</math></p>	<p>Use a pictorial representation of objects to show the part-part whole model.</p> 	<p>Move to using numerals within the part whole model.</p> 

R Atkinson


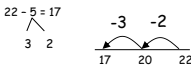


18/1/17

Page 10 of 28



# MATHEMATICS POLICY


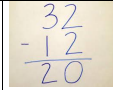

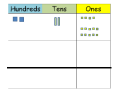
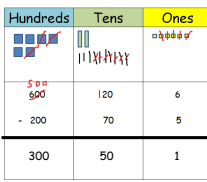
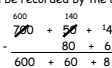
Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Subtraction															
	Concrete	Pictorial	Abstract												
Make 10	<p>Make 14 on the ten frame. Take away the four first to make 10 and then takeaway one more so you have taken away 5. You are left with the answer of 9.</p> $14 - 5 = 9$ 	<p>Using a numberline whilst partitioning the number you re subtracting.</p> <p>Start at 22. Take away 2 to reach 20. Then take away the remaining 3 so you have taken away 5 altogether. You have reached your answer.</p> $22 - 5 = 17$ 	<p><math>16 - 8 =</math></p> <p>How many do we take off to reach the next 10?</p> <p>How many do we have left to take off?</p>												
Column method without regrouping	<p>Use Base 10 to make the bigger number then take the smaller number away. Always write the calculation alongside, as seen in the example below.</p> $37 - 13 =$ 	<p>Draw the Base 10 or place value counters alongside the written calculation to help to show working.</p> 	<p>Initially, the children will be taught using examples that do not need the children to exchange.</p> <p>Partitioning and decomposition.</p> <p>e.g.</p> <table><tr><td></td><td>tens</td><td>ones</td></tr><tr><td>89</td><td>=</td><td>80 + 9</td></tr><tr><td><u>- 57</u></td><td></td><td><u>- 50 + 7</u></td></tr><tr><td></td><td></td><td>30 + 2 = 32</td></tr></table> <p>This will eventually lead to:</p>		tens	ones	89	=	80 + 9	<u>- 57</u>		<u>- 50 + 7</u>			30 + 2 = 32
	tens	ones													
89	=	80 + 9													
<u>- 57</u>		<u>- 50 + 7</u>													
		30 + 2 = 32													



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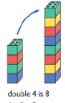


	<p>Show how you partition numbers to subtract. Again make the larger number first.</p> 																																
Column method with regrouping	<p>Use Base 10 to start with before moving on to place value counters. Start with one exchange before moving onto subtractions with 2 exchanges.</p> <p>Make the larger number with the place value counters</p>  <p>Start with the ones, can I take away 8 from 4 easily? I need to exchange one of the tens for ten ones.</p> <p>Now I can subtract the ones.</p> <p>Now look at the tens, can I take away 8 tens easily? I need to exchange one hundred for ten tens. Now I can</p> 	<p>Draw the counters onto a place value grid and show what you have taken away by crossing the counters out as well as clearly showing the exchanges you make.</p>  <p>When confident, children can find their own way to record the exchange/regrouping.</p>	<p><b>Partitioning and decomposition</b></p> <p>Children can start their formal written method by partitioning the number into clear place value columns.</p> $\begin{array}{r} 754 \\ - 86 \\ \hline \end{array}$ <p>Step 1</p> <table><tr><td>H</td><td>T</td><td>O</td></tr><tr><td>700</td><td>+ 50</td><td>+ 4</td></tr><tr><td>-</td><td>80</td><td>+ 6</td></tr></table> <p>Step 2</p> <table><tr><td>H</td><td>T</td><td>O</td></tr><tr><td>700</td><td>+ 40</td><td>+ 14 (exchange T-O)</td></tr><tr><td>-</td><td>80</td><td>+ 6</td></tr></table> <p>Step 3</p> <table><tr><td>H</td><td>T</td><td>O</td></tr><tr><td>600</td><td>+ 140</td><td>+ 14 (exchange H-T)</td></tr><tr><td>-</td><td>80</td><td>+ 6</td></tr><tr><td>600</td><td>+ 60</td><td>+ 8 = 668</td></tr></table> <p>This would be recorded by the children as</p>  <p><b>Decomposition</b></p>	H	T	O	700	+ 50	+ 4	-	80	+ 6	H	T	O	700	+ 40	+ 14 (exchange T-O)	-	80	+ 6	H	T	O	600	+ 140	+ 14 (exchange H-T)	-	80	+ 6	600	+ 60	+ 8 = 668
H	T	O																															
700	+ 50	+ 4																															
-	80	+ 6																															
H	T	O																															
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Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

	<p>Take away eight tens and complete the subtraction.</p> <p>Show the written methods beside to gather understanding.</p> <div><table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td>2</td><td>3</td><td>4</td></tr><tr><td></td><td></td><td>0</td></tr></table><p>Calculation</p><math display="block">\begin{array}{r} 234 \\ - 88 \\ \hline \end{array}</math></div> <div><table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td>1</td><td>5</td><td>6</td></tr><tr><td></td><td></td><td>0</td></tr></table><p>Calculation</p><math display="block">\begin{array}{r} 234 \\ - 88 \\ \hline 146 \end{array}</math><p>100    40    6</p></div>	Hundreds	Tens	Ones	2	3	4			0	Hundreds	Tens	Ones	1	5	6			0	<p>Just writing the numbers as shown here shows that the child understands the method and knows when to exchange/regroup.</p> <div><p>42 - 18 = 24</p><table><tr><td>Step 1</td><td>Step 2</td></tr><tr><td>42</td><td>42</td></tr><tr><td>- 18</td><td>- 18</td></tr><tr><td>24</td><td>24</td></tr></table><p>Step 2</p><table><tr><td>42</td><td>42</td></tr><tr><td>- 18</td><td>- 18</td></tr><tr><td>24</td><td>24</td></tr></table></div> <p>Where the numbers are involved in the calculation are close together or near to multiples of 10, 100 etc counting on using a number line should be used.</p> <div><p>1997    2000    3000    3002</p><p>+2</p></div>	Step 1	Step 2	42	42	- 18	- 18	24	24	42	42	- 18	- 18	24	24	<p>When children are secure with the previous method they move on to decomposition.</p> <div><p>6143</p><p>74</p><p>- 86</p><p>6057</p></div>
Hundreds	Tens	Ones																																	
2	3	4																																	
		0																																	
Hundreds	Tens	Ones																																	
1	5	6																																	
		0																																	
Step 1	Step 2																																		
42	42																																		
- 18	- 18																																		
24	24																																		
42	42																																		
- 18	- 18																																		
24	24																																		

	Concrete	Pictorial	Abstract
Doubling	<p>Use practical activities to show how to double a number.</p>  <p>double 4 is 8 <math>4 \times 2 = 8</math></p>	<p>Draw pictures to show how to double a number.</p> <p>Double 8</p> 	<p>Partition a number and then double each part before recombining it back together.</p> 

R Atkinson


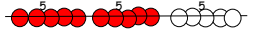
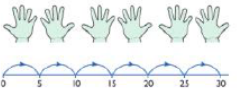


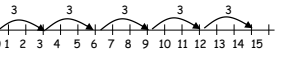
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Page 13 of 28



# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Counting in multiples	<p>Count in multiples supported by concrete objects in equal groups (commutativity).</p>  <p>Show on bead bar or on a number line:</p> $3 \times 5 = 5 + 5 + 5$ 	<p>Use a number line or pictures to continue support in counting in multiples.</p> 	<p>Count in multiples of a number aloud.</p> <p>Write sequences with multiples of numbers.</p> <p>2, 4, 6, 8, 10</p> <p>5, 10, 15, 20, 25, 30</p>
Repeated addition	<p>Use different objects to add equal groups.</p>  	<p>Children will develop their understanding of multiplication and use jottings to support calculation:</p> <p>Repeated addition can be shown easily on a number line:</p> $5 \times 3 = 3 + 3 + 3 + 3 + 3$ (5 lots of 3) 	<p>Using symbols to stand for unknown numbers to complete equations using inverse operations</p> <p><math>\square \times 5 = 20</math></p> <p><math>3 \times \triangle = 18</math></p> <p><math>\square \times \bigcirc = 32</math></p>

R Atkinson


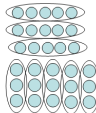

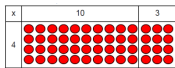
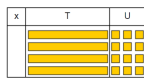
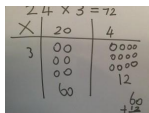
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Page 14 of 28



## Molescroft Primary School MATHEMATICS POLICY


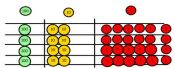
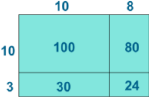
Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Arrays – Showing commutative multiplication	Create arrays using counters/ cubes to show multiplication sentences. 	Children should be able to model a multiplication calculation using an array.  Arrays can be in different rotations to find <b>commutative</b> multiplication sentences. 	Use an array to write multiplication sentences and reinforce repeated addition.  e.g.  $5 + 5 + 5 = 15$ $3 + 3 + 3 + 3 + 3 = 15$ $5 \times 3 = 15$ $3 \times 5 = 15$									
Grid method – NOT in national curriculum	Show the link with arrays to first introduce the grid method. e.g. $13 \times 4 =$  Move on to using Base 10 to move towards a more compact method. 	Children can represent the work they have done with place value counters in a way that they understand.  They can draw the counters, using colours to show different amounts or just use circles in the different columns to show their thinking as shown below. 	This can be followed by the formal written grid method.  <b>TU x TU</b> $72 \times 38$ Children will approximate first: $72 \times 38$ is approximately $70 \times 40 = 2800$ <table data-bbox="1185 698 1308 748"><tr><td>x</td><td>70</td><td>2</td></tr><tr><td>30</td><td>2100</td><td>60</td></tr><tr><td>8</td><td>560</td><td>16</td></tr></table> <div data-bbox="1382 710 1423 799"><math display="block">\begin{array}{r} 2100 \\ + 560 \\ + 60 \\ \hline 2736 \end{array}</math></div>	x	70	2	30	2100	60	8	560	16
x	70	2										
30	2100	60										
8	560	16										



## Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

	Move on to <b>place value counters</b> to show how we are finding groups of a number. We are multiplying by 4 so we need 4 rows.  Calculations $4 \times 126$  Fill four rows with 126.  Calculations $4 \times 126$  Add them together making any appropriate exchanges (see addition section).		<i>Grid method used for area work.</i> 
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# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Column multiplication	<b>Short multiplication</b>  $24 \times 6$ becomes $\begin{array}{r} 24 \\ \times 6 \\ \hline 144 \\ \hline \end{array}$ <p>Answer: 144</p>	$342 \times 7$ becomes $\begin{array}{r} 342 \\ \times 7 \\ \hline 2394 \\ \hline \end{array}$ <p>Answer: 2394</p>	$2741 \times 6$ becomes $\begin{array}{r} 2741 \\ \times 6 \\ \hline 16446 \\ \hline \end{array}$ <p>Answer: 16 446</p>
	<b>Long multiplication</b>  $24 \times 16$ becomes $\begin{array}{r} 24 \\ \times 16 \\ \hline 144 \\ 240 \\ \hline 384 \\ \hline \end{array}$ <p>Answer: 384</p>	$124 \times 26$ becomes $\begin{array}{r} 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \\ \hline \end{array}$ <p>Answer: 3224</p>	$124 \times 26$ becomes $\begin{array}{r} 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \\ \hline \end{array}$ <p>Answer: 3224</p>



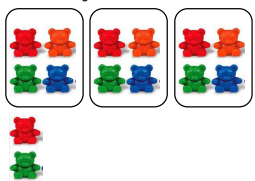
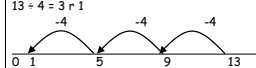

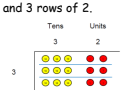
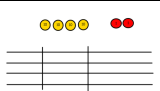
# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

Division			
	Concrete	Pictorial	Abstract
Sharing into groups	<p>Children will understand equal groups and share items out in play and problem solving.</p> <p>e.g. <math>6 \div 3 =</math></p>	<p>Children will develop understanding of division use jottings to support calculation.</p> <p>e.g. <math>6 \div 2 =</math></p>	<p>Share 9 buns between three people.</p> <p><math>9 \div 3 = 3</math></p> <p>Using symbols to stand for unknown numbers to complete equations using inverse operations</p> <p><math>\square \div 2 = 4</math>  <math>20 \div \square = 4</math>  <math>\square \div \square = 4</math></p>
Division as grouping	<p>Divide quantities into equal groups. Use cubes, counters, objects or place value counters to aid understanding.</p> <p><math>96 \div 3 = 32</math></p>	<p>Use a number line to show jumps in groups. The number of jumps equals the number of groups (repeated subtraction).</p> <p>For bar method, split it the number of groups you dividing by and work out many would be within each</p>	<p>into are how group.</p>





Division			
	Concrete	Pictorial	Abstract
Division with a remainder	<p>Divide objects between groups and see how much is left over. E.g. <math>14 \div 3 = 4</math> remainder 2.</p> 	<p>Children may use an empty number line to support their calculation. Children should also move onto calculations involving remainders.</p> <p><math>13 \div 4 = 3 \text{ r } 1</math></p>  <p>Draw dots and group them to divide an amount and clearly show a remainder.</p> 	<p>Complete written divisions and show the remainder using r.</p> <p><math>32 \div 5 = 6 \text{ r } 2</math></p>
Short division	<p>Use place value counters to divide using the bus stop method. Place the counters in the bus stop, partitioning the tens and ones. Then place them into groups. For example; <math>96 \div 3 = 3</math> rows of 30 and 3 rows of 2.</p> 	<p><math>42 \div 3 =</math></p> <p>Start with the biggest place value, we are sharing 40 into three groups.</p> <p>We can put 1 ten in each group and we have 1 ten left over.</p>  <p>Calculations  <math>42 \div 3</math></p>	



# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

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Short and long division	<div><div><b>Short division</b></div><div><div>98 ÷ 7 becomes</div><div><div><div><div>1</div><div>4</div></div><div><div>2</div><div></div></div><div><div>7</div><div>9</div><div>8</div></div></div><div>Answer: 14</div></div><div><div>432 ÷ 5 becomes</div><div><div><div><div>8</div><div>6</div><div>r2</div></div><div><div>3</div><div></div><div></div></div><div><div>5</div><div>4</div><div>3</div><div>2</div></div></div><div>Answer: 86 remainder 2</div></div><div><div>496 ÷ 11 becomes</div><div><div><div><div>4</div><div>5</div><div>r1</div></div><div><div>5</div><div></div><div></div></div><div><div>1</div><div>1</div><div>4</div><div>9</div><div>6</div></div></div><div>Answer: 45 <math>\frac{1}{11}</math></div></div></div></div></div></div>		



# Molescroft Primary School MATHEMATICS POLICY

Updated November 1994, October 1995, July 1997,  
October 1998, January 2003, July 2010, November 2013, January 2017

	<b>Long division</b> <div> <math>432 \div 15</math> becomes           <math display="block">\begin{array}{r} 28 \text{ r } 12 \\ 15 \overline{) 432} \\ \underline{30} \phantom{0} \\ 132 \\ \underline{120} \\ 12 \end{array}</math> <p>Answer: 28 remainder 12</p> </div> <div> <math>432 \div 15</math> becomes           <math display="block">\begin{array}{r} 28 \\ 15 \overline{) 432} \\ \underline{30} \phantom{0} \\ 132 \\ \underline{120} \\ 12 \end{array}</math> <p><math>\frac{12}{15} = \frac{4}{5}</math></p> <p>Answer: <math>28 \frac{4}{5}</math></p> </div> <div> <math>432 \div 15</math> becomes           <math display="block">\begin{array}{r} 28.8 \\ 15 \overline{) 432.0} \\ \underline{30} \phantom{0} \\ 132 \\ \underline{120} \\ 120 \\ \underline{120} \\ 0 \end{array}</math> <p>Answer: 28.8</p> </div>	
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