Age 4
Entering Reception class

Minnie and Max Mathermatician

> This document was created by a collaboration of schools and settings in Dorset. It aims to support practitioners to plan for good progress for all children towards the ELGs for Mathematics.

It is not intended to be used as a checklist.

## Characteristics and Attitudes:

- Showing curiosity, using senses and open-ended activities.
- Initiating activities, taking risks and learning by trial and error.
- Seeking challenge and 'can do' attitude.
- Maintaining focus on an activity for a period of time and not easily distracted.
- Persisting with activity when challenges occur and bouncing back after difficulty.
- Being proud of how they accomplished something - not just the end result.
- Enjoying meeting challenges for their own sake rather than for reward or praise.
- Showing high levels of energy, fascination (especially in particular interests) and paying attention to details.
- Thinking of ideas and finding ways to solve problems.
- Finding new ways to do things and developing grouping, sequences, cause and effect.
- Planning, making decisions about how to approach a task, solve a problem and reach a goal.
- Using Language of Thinking and Learning - think, know, remember, forget, idea, makes sense, plan, learn, find out, confused, figure out, trying to do.
- Making links and noticing patterns.
- Testing their ideas and making predictions.
- Changing strategy as needed and reviewing how well the approach worked.


## Concepts, Knowledge and Skills:

## Cardinality and Counting

- Verbal counting- says number names in order to 10

Counts backwards " $5,4,3,2,1,0$," e.g. countdown to rocket take off or a number song.

- Object counting and cardinality

Knows that the last number in the count gives the total number of objects 1-10 (cardinality).
Counts up to 10 objects accurately.
Counts out a smaller number of objects from a larger collection.
Counts sounds 1-5 e.g. claps, drum beats.
Counts objects which cannot be moved e.g. animals in a book.
Knows that objects, sounds, actions etc can all be counted (abstraction).
Knows that it doesn't matter in what order you count objects the quantity remains the same.

- Subitising (knowing how many without having to count) - recognises small quantities, the number of rings on the cooker, the number of lego figures in a boat, the number of small play creatures in a field, 1-6 dice, 1-5 fingers held up and Numicon, without needing to count them.
- Recognising some numerals

Recognises numerals 1-4.
Asks questions about numerals they see.
Shows an interest in numerals in the environment e.g. "That number is on my door!"

- Conservation - knows that the total number of objects does not change even if the objects are rearranged, as long as nothing is added or taken away.


## Comparison

- Knows when 2 groups have the same quantity by matching objects one to one e.g. "Are there enough cups for everyone at this table?"
- Can compare two sets, saying which has more, when quantities involved are less obvious.
- Beginning to use the words 'more' and 'fewer' accurately.


## Composition

- Knows quantities can be made up of two or more smaller quantities.


## Children's Mathematical Mark Making

- Makes own representations of quantities that have been counted.
- Uses marks/own symbols/numerals they can explain.


## Pattern

- Able to spot and create patterns
- Able to continue a simple $A B A B$ pattern
- Able to continue a simple sound or action pattern e.g. clap, stamp, clap, stamp


## Age 5

End of Reception, ready for Year 1

## Minnie and Max

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## Concepts,

 Knowledge and Skills:- Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number (in a wide range of ways from irregular, moveable, unmoveable, abstract, non-tangible).
- Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.
- They solve problems, including doubling, halving and sharing.
- Children estimate a number of objects and check quantities by counting up to 20.
- They solve practical problems that involve combining groups of 2,5 or 10 , or sharing into equal groups.
- Children record number, using marks that they can interpret and explain.
- Children use vocabulary of addition and subtraction and 'more' and 'fewer'.

