STAGES OF EARLY ARITHMETICAL LEARNING (SEAL)

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Research in the 1990s showed there are significant differences in the numerical knowledge of children when they begin school.
These differences in number knowledge increase as children progress through schooling.

This is clear tendency for low attainers in the early years to continue to be low attainers through their primary years and develop negative attitudes towards mathematics.

There is an need therefore to give every child a positive understanding and success in early number work.

In 1992, Dr Robert Wright began developing the Maths Recovery Programme. This is
a distinctive approach that clearly links research to classroom pedagogy.

This was based on his research with Dr Leslie Steffe on identifying the Stages of Early Arithmetical Learning.

The Stages of Early Arithmetical Learning is a model that we can use to understand the development of children's numerical knowledge and is good introduction to this pedagogy.

Information below is a brief introduction to SEAL with video examples. This should be read in conjunction with the Maths Recovery books. Information about these books and Maths Recovery training can be found on the The Maths Recovery Website http://www.mathsrecovery.org.uk/resources/

Stage	Indicators
Stage 0: Emergent Counter	• Cannot count visible items • The child may not know the number words. • The child cannot coordinate number words with items.
Stage 1: Perceptual Counter	• Can count perceived items • May involve seeing, hearing or feeling items.
Stage 2: Figurative Counter	• Can count the total of two collections. • Counts from one
Stage 3: Initial Number Sequence	• Child uses and understands counting-on rather than counting-from-one. • Uses counting on to solve addition and missing addend tasks. • May use count-down-from strategies
Stage 4: Intermediate Number Sequence	• The child uses and understands count-down-from strategies and count-down-to strategies • The child can choose

	the most efficient strategy.
Stage 5:Facile Number Sequence (to 20) (to 100)	The child uses a range of non-count by one strategies: • Compensation • Using known results • Adding to ten • Commutativity • Subtraction as the inverse of addition • Awareness of ten as a teen numb