

Maths and Numeracy at Llanhari Primary School



Maths in the Curriculum for Wales

In the early years, play forms an important part in the development of mathematics and numeracy, enabling learners to solve problems, explore ideas, establish connections and collaborate with others. In later years, learners need to have opportunities to work both independently and collaboratively to build on the foundations established in the early years.



Mathematics and Numeracy

Progression in the Mathematics and Numeracy Area of Learning and Experience (Area) involves the development of five connected and interdependent proficiencies which have no hierarchy. These are crucial considerations for schools when designing their curriculum to ensure the progression of learners.

Conceptual understanding
Communication using symbols
Fluency
Logical reasoning
Strategic competence



Foundation Learning Maths

The first few years of a child's life are especially important for mathematics development. For many education experts, no other group represents a greater opportunity to improve mathematical standards than children in the early years.

The more grounded in mathematical concepts young children become, the better their later outcomes.





Progression Step 1



Counting

By the end of nursery pupils are expected to count to 10. By the end of Reception, pupils will have explored counting up to 100. It is important children can count using 1:1 correspondence and not just learn through reciting.



Understanding and using numbers

It is important children understand what a number means. Throughout Nursery and Reception pupils will be given opportunities to explore numbers and their values, including the number 0.



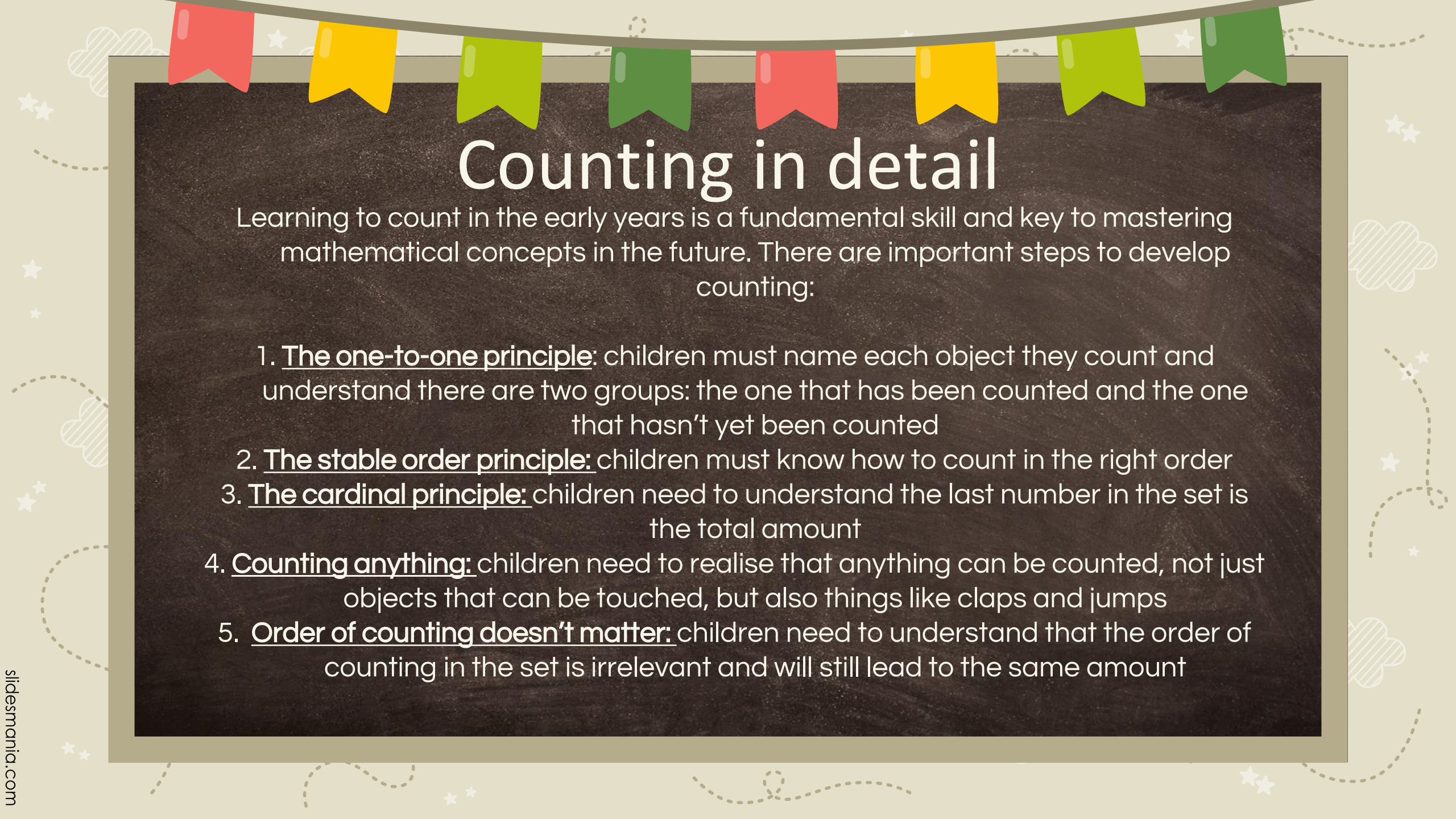
Calculating simple addition and subtraction problems

In Nursery, pupils explore practically the concept of one more and one less. As pupils progress through Reception, they explore simple number sentences and number bonds within 10.



Describing shapes, spaces and measures

Throughout Progression Step 1, pupils explore 2D and 3D shape through play. They also explore weight and non standard measurement. They develop a concept of time through days of the week, daily timetable and months.



Counting in detail

Learning to count in the early years is a fundamental skill and key to mastering mathematical concepts in the future. There are important steps to develop counting:

1. The one-to-one principle: children must name each object they count and understand there are two groups: the one that has been counted and the one that hasn't yet been counted
2. The stable order principle: children must know how to count in the right order
3. The cardinal principle: children need to understand the last number in the set is the total amount
4. Counting anything: children need to realise that anything can be counted, not just objects that can be touched, but also things like claps and jumps
5. Order of counting doesn't matter: children need to understand that the order of counting in the set is irrelevant and will still lead to the same amount

Maths in the classroom

Children need lots of opportunities to develop number sense and deepen their conceptual understanding. In school we incorporate maths skills in all areas of our continuous provision. In addition to the continuous opportunities we follow a scheme which allows structured tasks to explore mathematical concepts.



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Questions you can ask

Do you
have
more?

How
many
...?

How tall
is ...?

How do
you
know?

Are there
more...?

Make maths real

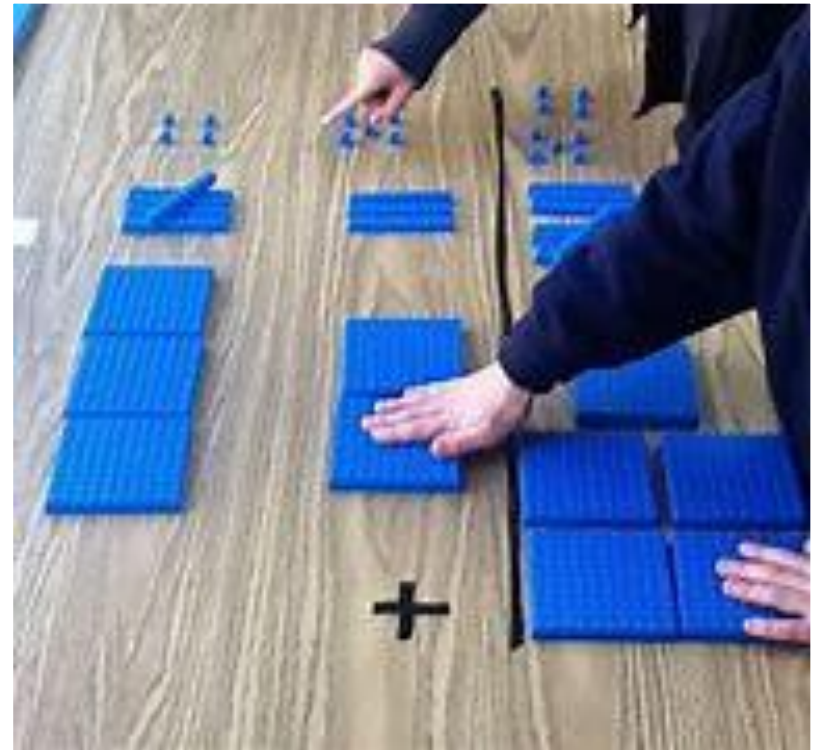
Developing maths talk in your daily routine gives learners a chance to understand concepts while using real-life concepts. It also means that children can consolidate what they have learned. Use real life opportunities- shopping, money, road signs, numbers in the environment.



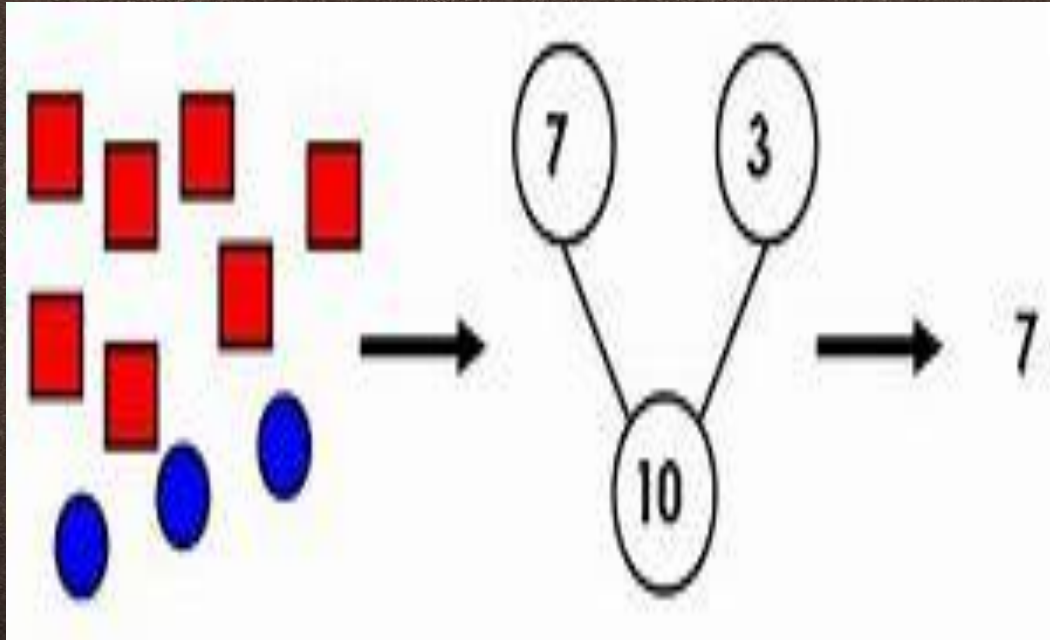
Progression Step 2

Concrete is the “doing” stage. During this stage, students use concrete objects to model problems allowing children to experience and handle physical (concrete) objects.

The theorist Jerome Bruner (1966) stresses the importance of children spending time learning maths through tangible items. Spending lots of time using real-life objects, solving real-life problems, and manipulating abstract concrete objects (when ready) such as cubes and counters is essential in the early years.



Pictorial



Pictorial is the 'seeing' stage. Here, visual representations of concrete objects are used to model problems. This stage encourages children to make a mental connection between the physical object they were just handling and the abstract pictures, diagrams, or models that represent the objects from the problem. Once children are confident using a part-whole model with concrete resources, you can begin to introduce pictorial images.

Process of maths

Nursery/ Reception

Real life, authentic opportunities.
Hands on practical exploring of number. Singing rhymes.

Year 1/2
Concrete maths-
using practical
apparatus to
explore
mathematical
concepts.

Year 3/4

Develop to pictorial
maths, alongside
concrete
resources to revisit
and embed
concepts.

Year 5

Secure concepts
using pictorial
methods to
support and move
onto abstract
maths.

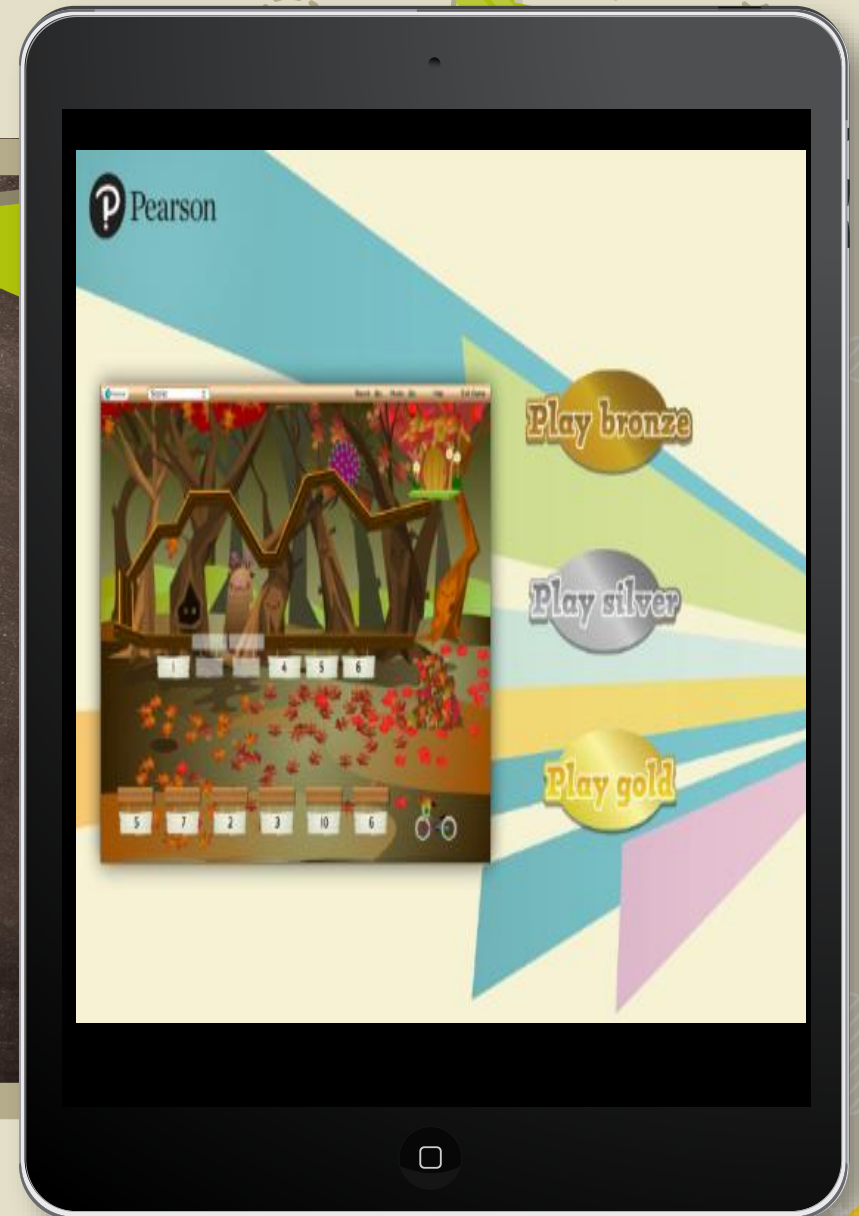
Year 6

Revisit and embed
abstract maths.



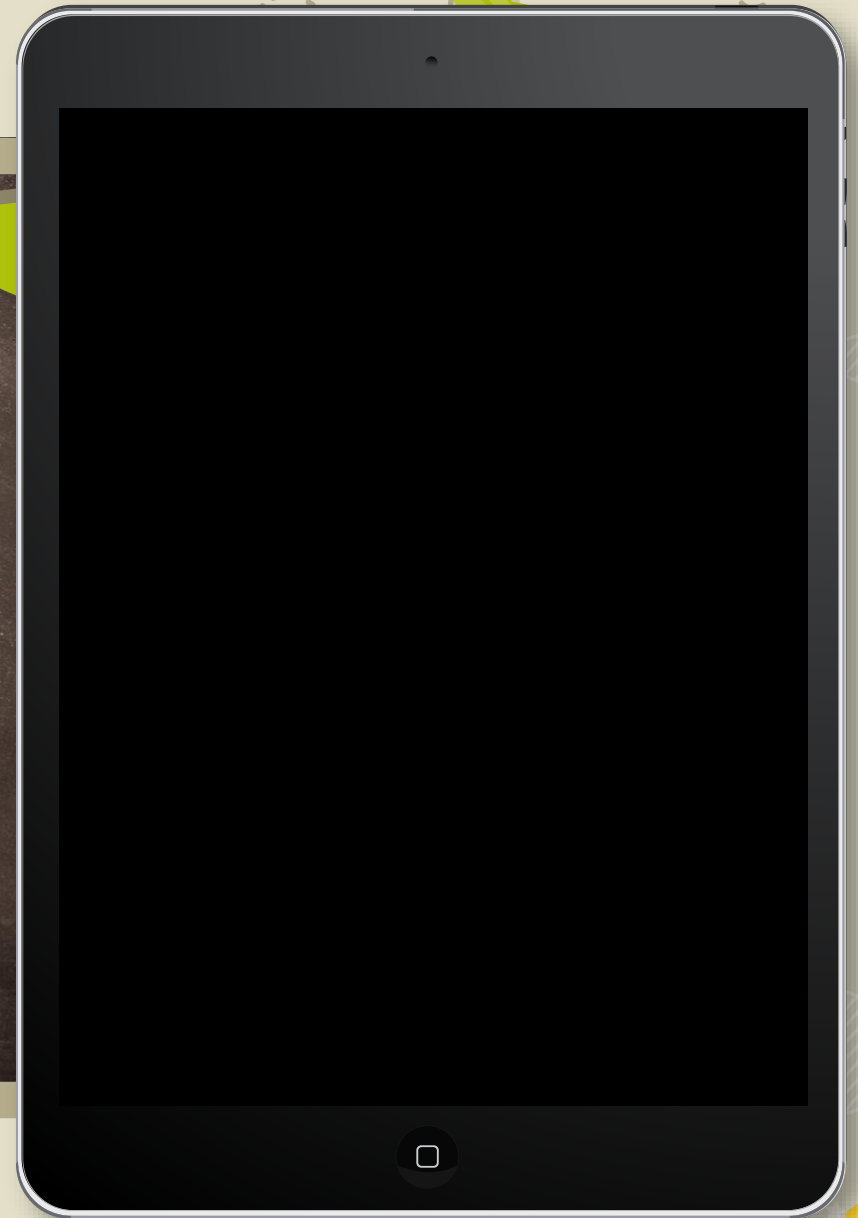
Abacus Maths- Active learn

Abacus is our maths scheme of work. Homework is set for Year 1 upwards. Videos available to explore teaching of methods.



PUMA Maths

If you are presenting a website, an internet product or an app, you can place a screenshot of it here.





Thank you!

Do you have any questions?

