Hi, Mr Halliburton here and this is **PART 2** of my all ages

"Computing Mini Missions"

These quick, easy to do activities provide fun ideas to get children practising their computational thinking skills.

Computational Thinking.

I have split the missions into the **six computational thinking concepts** so it's easy to discover new ways to introduce and reinforce learning from school and at home.

Algorithms – An algorithm is a precise sequence of instructions, or set of rules, for performing a task.
Abstraction – Abstraction is about simplifying things – identifying what is important without worrying too much about detail..
Evaluation – We use evaluation when we make judgements based on different factors, including the end result.
Decomposition – Decomposition is the process of breaking down a task into smaller, more-manageable parts. It has many advantages. It helps us manage large projects and makes the process of solving a complex problem less daunting and much easier to take on.
Logical reasoning – Logical reasoning helps us explain why something happens. Logic is used throughout the activity as your child/children use their existing knowledge of spelling rules and rhyme from the information they are given (the letters) to work out the code.
Patterns – By spotting patterns we can make predictions, create rules and solve other problems

Algorithms - Making steps and rules	**Abstraction** - Removing unnecessary detail	**Evaluation** - Making judgements	**Decomposition** - Breaking down into parts	**Pattern** – Spotting and using similarities	**Logic** – Predicting and analysing
Ask your child to invent a game to play around the house and write out the rules (an algorithm). Play the game with them - do the rules explain everything about how to play? Can you find any loop holes in their rules?	Create a piece of abstract art with your child. Choose an inspiration for your art (person, object, view) but rather than recreating this exactly, use simple shapes to represent what you can see. E.g. triangles for trees/oval for face.	Ask your child to write a review of a book or film. Before writing the review, come up with a set of success criteria. E.g. exciting plot, interesting characters.	Ask your child to look at their own garden or think of a local green space and break it down into different parts. Grass, patio, decking, pond, vegetable patch. Get them to design their own perfect garden by sketching ideas for each part.	Using a variety of fruits or other suitable food (e.g. pasta pieces) arrange a repeating pattern and ask your child to predict what comes next and explain how they know	Provide your child with a 3x3 square. Can they add the digits 1-9 using each digit once so that all the rows, columns and diagonals add up to 15? Encourage your child to explain their thinking as they tackle the challenge.
Learning Algorithms can be rules as well as a sequence of instructions. The rules need to be precise and specific. accurately.	**Learning** Here your child is creating an abstraction within their artwork. They're not trying to reproduce what they see exactly, but representing key features with simplified shapes.	**Learning** Here your child is evaluating the work of others against a set of criteria which they have defined. They are making systematic judgements.	**Learning** Here your child has made the task of designing a garden easier by breaking it down and looking at each section separately	**Learning** By spotting similarities and differences, your child can identify patterns and create rules to predict what comes next.	**Learning** This maths puzzle helps your child develop both trial and improvement, and logical reasoning skills.