Hi, Mr Halliburton here and this is **PART 3** 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 write or draw the instructions (an algorithm) for something they've done today. Would a robot version of themselves be able to follow this? Is their algorithm precise enough? Test it!	Ask your child to create a timetable for tomorrow set out as a table. What are the key activities they will do? How will the day be structured?	Ask your child to design a workout for members of their family. Consider what would make a good workout first, and create a success criteria list. Try your child's workout with your family and ask everyone to evaluate it against the criteria.	With your child, cut, fold and staple paper into a little comic flick book. Ask them what they want to happen in an animation and together break this down into steps for the drawings on each page.	Ask your child to tidy their wardrobe! Can they sort their clothes based on similarities? They could sort by colour, purpose or even how much they like wearing them.	With your child, take turns to join dots with a line on dotted paper. Whoever completes a square puts their initial in it and gets an extra turn. The winner is the player with the most completed squares.
Learning Here your child has written an algorithm. Algorithms are a precise sequence of instructions or set of rules for completing a task. .	**Learning** A timetable is an example of an abstraction as it contains key events but doesn't include unnecessary detail - like 'nipping to the toilet between English and Maths'!	**Learning** Here your child identifies the criteria for evaluation of a successful workout. They receive feedback on their workout against these criteria.	**Learning** Here your child has decomposed the animation into a sequence of individual images. What other animations can your child create?	**Learning** Identifying similarities and differences between objects helps us to identify patterns. Here your child might spot a pattern that all their favourite clothes are yellow for example.	**Learning** This game encourages your child to think logically about the implications of each move so as not to give their opponent the advantage.