

What is Computational Thinking?

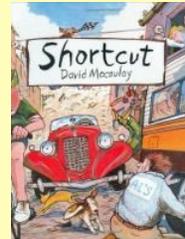
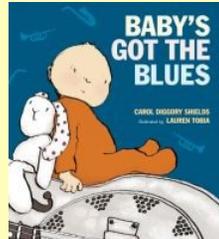
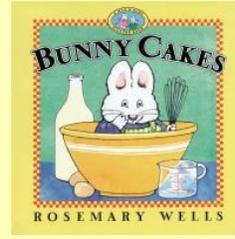
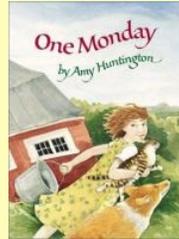
It is a process that can be used to develop and implement solutions to big complex problems. Simply, it is a set of skills that are used to solve problems.

These skills are:

- Pattern Recognition
 - Looking for similarities or trends; patterns, matching, identifying, and classifying
- Decomposition
 - Breaking something down into smaller parts; breaking larger actions into smaller, easily completed steps
- Abstraction
 - Focusing on what's important, ignoring what is unnecessary; thoughts and ideas
- Algorithmic Design
 - Create a step-by-step instructions to complete a task; following a specific order of actions or sequence.
 - Instructions, plans, recipe

All these work with everyday problems and are also part of the process of learning to read.

Algorithm Design

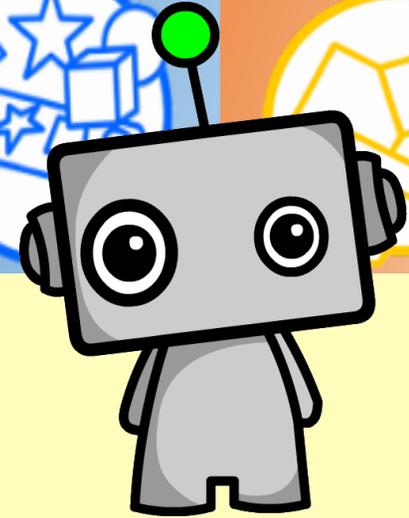


Activities:

- Draw a map
- Make patterns with colored blocks, pom-poms, etc.
- Turn a picture into a color by number
- Write a shopping list or a recipe
- Make up your own dance routine
- Do a dot-to-dot
- Build a pirate ship from LEGOs
- Cook or bake following a recipe

Literacy Link:

Telling a story and sequencing an order of events is a narrative skill. Guessing what may come next in a sequence is an important component.



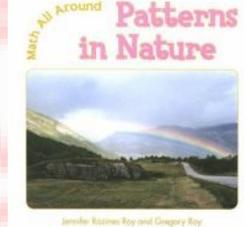
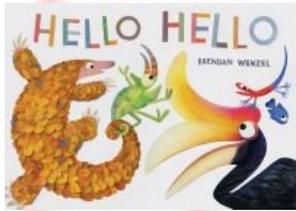
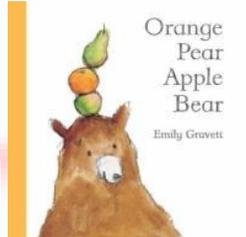
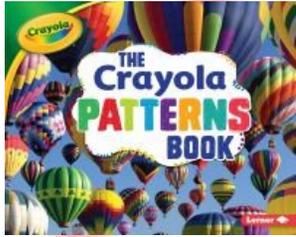
Computational Thinking STEM Literacy

Literacy in a Digital Age

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Pattern Recognition



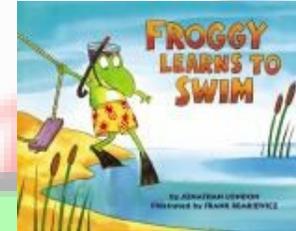
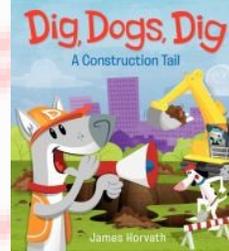
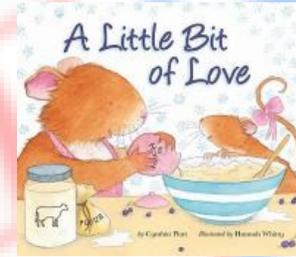
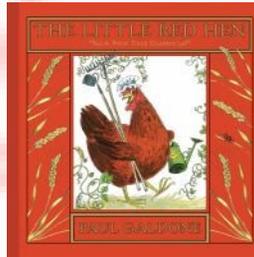
Activities:

- Color or shape scavenger hunt
- “That word sounds like....” (rhymes)
- Sorting activities
- Fitting shapes into the correct holes
- Matching games
- Spot the difference
- Learning days of the week and months of the year, counting

Literacy Link:

English is printed and read left to right. This pattern is called print awareness.

Decomposition



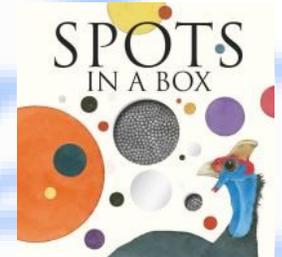
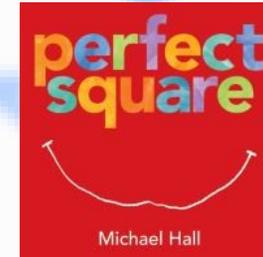
Activities:

- Be a chef: follow directions to make your lunch
- Break it down: explain tasks as you do them (laundry, dishes, making the bed, etc)
- Draw a map of your house or yard
- Write a shopping list
- Find a stories beginning, middle and end
- What did you do today?

Literacy Link:

Letters and sound are the building blocks of syllables and words. Breaking sentences into words and words into syllables is the decomposition of language.

Abstraction



Activities:

- Used recycled materials to make something specific
- What noise does this animal make?
- Draw a picture of your family
- What is today's weather?
- Play “I Spy” so that only 1 object could be it.
- Draw a map of your house or yard
- Music: how does that song go again?
- What is the plan for today?

Literacy Link:

Each letter has a specific shape. Identifying these shapes as letters is called letter recognition.