

Systems Thinking and Children's Literature

A Sampling of Possible Concepts/Strategies

Book Title, ISBN, and author	Summary	Fiction/NF	Graph (BOTG)	Causal Loop	Connection Circle	Stock/Flow Map	Ladder of Inference	Archetype	Iceberg	ST Concept(s) and/ or Habits of ST	ST Strategy Ideas
<i>Apple Trouble!</i> 0-545-04935-1 Scamell, Ragnhild	Hedgehog gets an apple stuck on his back right before it is time to hibernate. He asks other animal friends for help only to have the problem intensify.	F	✓					✓		Change over time, unintended consequences	Graph hedgehog's level of frustration; fixes that fail archetype
<i>Bee and Me</i> 978-0-7407-7734-9 McGuinness, Elle	A boy runs when he sees a bee, but he learns the bee is just as scared as he is.	F	✓				✓			Change over time, changes perspective	Graph the bee's fear and the boy's fear then compare. Use ladder of inf. to consider how the boy felt about the bee and/or how the bee felt about the boy.
<i>Buffalo Woman</i> 0-689-71109-3 Goble, Paul	A man is reunited with his family and heals the wounds between two nations.	F	✓							Change over time	Graph of happiness
<i>Butter Battle Book</i> 0-394-86580-4 Seuss, Dr.	Two communities take increasingly drastic actions in order to protect themselves from a perceived danger.	F	✓				✓	✓	✓	Change over time, accumulations, mental models, interdependencies	Escalation archetype
<i>Click, Clack, Moo Cows That Type</i> 0-439-21648-6 Cronin, Doreen	Unhappy cows use a typewriter as leverage to get what they want from the farmer.	F	✓		✓		✓	✓		Change over time, cause and effect, leverage, mental models	Graph for happiness of animals and the farmer; escalation archetype



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<i>Cloudy With a Chance of Meatballs</i> 0-689-7049-5 Barrett, Judi	A town experiences odd weather in which food falls from the sky.	F	✓		✓					Change over time, accumulations	Graph for messiness of town, cleaning time, need to cook & shop
<i>Color of His Own, A</i> 0-590-48279-3 Lionni, Leo	A chameleon expresses his dislike of changing colors to match his surroundings until he meets another chameleon.	F	✓							Change over time	Graph chameleon's happiness
<i>Common Ground</i> 0-590-10056-4 Bang, Molly	Resources and the effects of resource depletion are described.	F	✓		✓		✓	✓		Change over time, accumulations, mental models	Tragedy of the commons archetype
<i>Curious George</i> 0-395-15993-8 Rey, H.A.	A curious monkey gets himself into difficult situation	F	✓					✓		Change over time, unintended consequences	Fixes that fail archetype
<i>Elsie</i> 9780615706313 St. Aude, Cybille	A day in the life of Elsie who lives in Haiti with her family in a small house near the water.	F	✓							Change over time	Graph of Elsie's level of enjoyment or enthusiasm
<i>Er-lang and the Suns: A tale from China</i> 1-879531-21-6 Guo, Tony and Cheung, Euphine	Er-lang saves the world from too much heat through a cunning plan.	F	✓						✓	Change over time, leverage	Graph for happiness of the people, # of suns, heat on the earth
<i>Farmer Brown Shears His Sheep</i> 0-439-32913-2 Sloat, Teri	Sheep get cold when they are sheared, so the farmer knits sweaters for them.	F	✓		✓	✓			✓	Accumulations, leverage, unintended consequences	Graph for oscillation of wool on the sheep; map for sheep's happiness



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<i>Five Little Ladybugs</i> 158117218-4 Gerth, Melanie	The number of ladybugs increase and decrease over time.	F	✓			✓	✓			Accumulation, change over time, mental models	Graph for # of ladybugs; ladder to examine assumptions about the disappearing ladybugs
<i>Goggles</i> 0-14-056440-3 Keats, Ezra Jack	Peter must find a way to protect the "treasure" he found (a pair of Goggles).	F	✓							Change over time, leverage	Graph for excitement, fear
<i>Grow Flower Grow!</i> 0439283698 Bruce, Lisa	A tiny plant finally begins to grow.	F	✓							Change over time, leverage, mental models	Graphs for excitement or size of plant
<i>Happy Birthday, Sam</i> Hutchins, Pat	Sam wakes up on his birthday believing he will be able to accomplish many tasks now that he is older.	F	✓							Change over time, assumptions	Graph Sam's level of pride; ladder of inf. to consider Sam's beliefs about being older
<i>Have You Filled A Bucket Today</i> 0-9785075-1-7 McCloud, Carol	Everyone has an imaginary bucket. The bucket is filled or emptied based on kind acts.	F				✓				Accumulations, cause and effect	Stock-flow map of friendships or kindness
<i>Hey, Little Ant</i> 0-439-08565-9 Hoose, Phillip and Hannah	A little ant helps a boy see the world from an ant's perspective.	F					✓			Mental models, changes perspectives	Ladder to consider the beliefs of the boy vs. the ant
<i>Hilda Must Be Dancing</i> 1416950834 Wilson, Karma	Hilda Hippo loves to dance, but she makes a lot of noise, disturbing the peace	F	✓				✓	✓		Change over time, mental models, changes perspectives	Graphs of the characters' happiness levels; ladder to show different perspectives; fixes that fail



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<i>Hooway for Wodney Wat</i> 0-439-20087-3 Lester, Helen	"Wodney" is teased which results in shyness, thus increasing the teasing. When "Wodney" finally experiences some success, he gains confidence.	F	✓	✓	✓				✓	Accumulations, change over time, interdependencies, leverage	Connection circle or map to show interdependencies and leverage
<i>House for Hermit Crab, A</i> 0-590-42567-6 Carle, Eric	The hermit crab carries many of his friends on his shell, but must leave them behind when he must search for a new shell.	F	✓		✓	✓				Change over time, interdependencies, accumulations, limits to growth	Graph for hermit crab's fear, # of friends on his shell, safety, happiness, and/or comfort; Connection circle or stock-flow of happiness with same elements
<i>If You Give a Moose a Muffin</i> 0-590-45580-7 Numeroff, Laura	A moose that eats a muffin wants so much more. (Other similar stories by Numeroff would also have similar dynamics.)	F	✓	✓						Change over time, interdependencies, accumulations	Graph for number of muffins eaten, Boy's energy; CLD of wanting Jam and eating muffins
<i>Jumanji</i> 39530448 Van Allsburg, Chris	Two children play a game that escalates in intensity and danger over time.	F	✓					✓		Change over time, unintended consequences	Graph for excitement, fear, danger; fixes that fail archetype
<i>Ladybugs Red, Fiery, and Bright</i> 0-439-66472-1 Posada, Mia	The life cycle of the ladybug	N		✓						Interdependencies	Causal loop to represent amounts embedded in the life cycle, e.g. # of ladybugs

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<i>Legend of the Indian Paintbrush, The</i> 0-698-11360-8 dePaola, Tomie	A boy discovers his true talent – painting.	F	✓							Change over time	Graph for Little Gopher's self confidence, happiness
<i>Lemonade in the Winter</i> 978-0-325-85883-0 Jenkins, Emily & Kara, G	Two children experiment with money as they create and run a lemonade stand.	F	✓			✓				Change over time, accumulations	Stock-flow map of earning and spending money; graph amount of money
<i>Lorax, The</i> 0-394-82337-0 Seuss, Dr.	The Lorax uses up the resources he wants without considering the long-term effects.	F								Short and long-term effects, unintended consequences	Tragedy of the commons archetype
<i>Mama Miti</i> 1416935053 Napoli, Donna Jo	A woman plants trees to fight deforestation.	F	✓							Change over time	Graph of trees, wisdom, or independence
<i>Millions of Cats</i> 0-590-40612-4 Gag, Wanda	A couple try to find a cat to adopt.	F	✓							Change over time, accumulations	Graph for # of cats, happiness of the couple
<i>Mixed-Up Chameleon, The</i> 0-590-42143-3 Carle, Eric	A chameleon changes his shape to match others, believing that this will bring happiness.	F	✓	✓			✓	✓		Change over time, accumulations, mental models, unintended consequences	Graph for Chameleon's happiness with self, wishing to be different, How "mixed-up" the chameleon is; CLD of same elements
<i>Moostache</i> 0-590-53827-6 Palatini, Margie	Moose has an unwieldy mustache that affects every aspect of his life.	F	✓					✓		Change over time, unintended conse	Story structure archetype to show problem and resolution



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<i>Mr. Lincoln's Way</i> 0399237542 Polacca, Patricia	A principal works to help a boy appreciate differences between people.	F	✓				✓		✓	Change over time, mental models	Graph of Eugene's anger; ladder or iceberg to show cause of characters' actions
<i>Muncha! Muncha! Muncha!</i> 0-439-53941-2 Fleming, Candace	A farmer and a rabbit both want to eat the vegetables in the garden.	F	✓				✓	✓		Change over time, interdependencies, mental models	Graph for amount of vegetables, frustration of the farmer; escalation archetype
<i>Prairie Dog Town</i> 1-56899-201-7 Rogers, Bettye	Description of life as a prairie dog	N	✓		✓	✓		✓		Change over time, interdependencies, accumulations	Graph of fear, amount of grass, hunger, danger; connection circle of animals, plants, etc.; stock-flow of prairie dog population; tragedy of the commons archetype
<i>Remarkable Farkle McBride, The</i> 0-439-32954-X Lithgow, John	Farkle explores many different instruments until he discovers what really brings him happiness.	F	✓				✓			Accumulations, change over time, mental models	Graph for # of instruments tried by Farkle, Farkle's happiness; ladder to consider mental models about persistence vs. exploration
<i>Rosie Revere Engineer</i> 978-1-4197-0845-9 Beaty, Andrea	A modern tale for young readers on the power of pursuing your dreams					✓				Accumulations	Stock-flow map of ingenuity, innovation, persistence, or other accumulation



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<i>Seaman's Journal</i> 0-8249-5442-4 Eubank, Patricia	The journey of Lewis and Clark is recounted through the perspective of a Newfoundland dog belonging to Lewis.	N	✓							Change over time	Graph for temperature, hunger, distance traveled
<i>Seven Blind Mice</i> 698118952 Young, Ed	Blind mice all try to describe and identify an "object" by touch, but each of them only see a very small part. As a result, they have difficulty making an accurate conclusion.	F					✓			Mental models, seeks to understand the big picture	Ladder of inference
<i>Sixteen Runaway Pumpkins</i> 0-689-85009-0-5 Ochiltree, Dinae	Children gather pumpkins into a wagon. As the wagon starts to roll they lose pumpkins and eventually make pumpkin pies with them.	F				✓				Accumulations	Stock-flow map of how pumpkins can be gained or lost
<i>Stone Soup</i> 0-590-41602-2 McGovern, Ann	As the number of ingredients added to the soup rises, the soup gets better and better.	F	✓						✓	Accumulations, change over time, delays	Graph for soup quality, # of ingredients; iceberg to show mental models about ability to make soup
<i>Swimmy</i> 0-590-43049-1 Lionni, Leo	A little fish figures out a way to protect himself and the other little fish from predation.	F	✓						✓	Change over time, leverage	Graph for fear, happiness, loneliness, friends; iceberg to consider leverage



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<i>Tale of Peter Rabbit, The</i> 1587170523 Potter, Beatrix	Peter wants to eat good food, so he takes food from the farmer, getting himself into trouble.	F	✓					✓		Short and long-term effects, unintended consequences	Fixes that fail archetype
<i>Those Darn Squirrels</i> 478-0-547-57681-7 Rubin, Adam	Old Man Fookwire loves birds but not squirrels, at first....	F	✓							Change over time	Graph of the squirrel's level of frustration
<i>Tiny Seed, The</i> 0-590-42566-8 Carle, Eric	Describes the cycle of one seed on it's journey to becoming a flower and producing even more seeds.	F	✓	✓		✓				Change over time, interdependencies, accumulations	Graph for size of plant, temperature; CLD of flowers & seeds; stock-flow-size of plant
<i>Too Many Pumpkins</i> 0823413209 White, Linda	With countless unwelcome pumpkins to deal with, Rebecca Estelle turns disaster into a celebration.	F	✓							Change over time	Graph of pumpkins, Rebecca's love or hatred of pumpkin
<i>Trouble with Cauliflower, The</i> 0-8037-2707-0 Sutton, Jane	Mortimer likes cauliflower, but he is firmly convinced that cauliflower causes bad luck.	F					✓			Mental models	Ladder of Mortimer's errant beliefs and subsequent actions
<i>Two Bad Ants</i> 0-395-48668-8 Van Allsburg, Chris	Two ants get into trouble when they stay behind.	F					✓			Mental models, changes perspectives	Read the pages in isolation without allowing students to see the pictures. Have them guess what is happening.

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<i>Wangari's Trees of Peace</i> 978-0-15-206545-4 Winter, Jeanette	A woman plants trees to fight deforestation.	F	✓							Change over time	Graph of trees, wisdom, or independence
<i>Warthogs in the Kitchen</i> 0-7868-0399-1 Edwards, Pamela Duncan	When warthogs decide to do some cooking, chaos abounds.	F	✓							Accumulations, change over time, unintended consequences	Graph for number of warthogs or amount of messiness in the kitchen
<i>Water Hole, The</i> 0-8109-4568-1 Base, Graeme	The amount of water in the water hole decreases and then increases over time.	F	✓			✓				Accumulations, change over time, interdependencies	Graph or map for amount of water
<i>When Sophie Gets Angry-Really, Really Angry</i> 0-439-21319-3 Bang, Molly	Sophie's anger reinforces itself over time. The angrier she gets, the more bad things happen, thus increasing her anger.	F	✓	✓		✓		✓		Accumulations, change over time, interdependencies	Shifting the burden or fixes that fail archetype
<i>Wolf Island</i> 978-1-55455-008-1 Godkin, Celia	Illustrates the reality of what happens when a key species is removed from the ecosystem	F			✓					Interdependencies	Connection circle of ecosystem elements



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<i>Wretched Stone, The</i> 0-395-53307-4	Sailers become entranced by a glowing stone that they found.	F	✓	✓			✓			Mental models, seeks to understand the big picture	Graph for intelligent behavior of the sailors, hours watching the stone, mental stimulation, reading/music; ladder to explore identification of the stone in the world today
<i>Zoom</i> 0-670-85804-8	Pictures on each page "zoom out" revealing a wider view.	F					✓			Boundaries, seeks to understand the big picture, predicting	Ladder to explore viewer's assumption about reality on each page