

Teaching young people to think for themselves in the age of AI

By Howard Rheingold

I have a 5 year old grandson and I am concerned that he develops strong critical thinking capabilities before his learning and intellectual production is linked to artificial intelligence, so I prompted chatGPT to generate a literature review of research into the cognitive effects of undisciplined use of Large Language Models such as chatGPT, Claude, and Gemini. The research converges on a consensus that such undisciplined use of “cognitive offloading” may diminish individual thinking ability (explanation of this process with links to the literature reviews may be found [here](#)). Then I prompted to do a literature review of what to do about it. Finally, I prompted to create a series of seven illustrated books, suitable for a 5 year old. I composed the prompts but chatGPT created the illustrations and copy with no further input from me.

The Kas Thinking System

Master Guide: Pedagogical Arc and Learning Guides for Book 0 plus Books 1-7

This guide explains the complete pedagogical arc of the Kas Thinking System and provides a practical learning guide for every book in the sequence. It is designed for parents, grandparents, teachers, tutors, and caregivers who want to help young children build independent thinking habits in an age when AI can provide fast answers but cannot replace judgment, reflection, creativity, collaboration, or self-correction.

Final message for children: You do not have to be right fast. You just have to be a good thinker.

The sequence begins with the foundation of metacognition - noticing thoughts and recognizing that thinking can be guided. It then develops applied thinking skills: solving problems, testing ideas, questioning answers, comparing choices, creating new ideas, thinking with others, and correcting mistakes in thinking.

The books are meant to be read slowly. Each page represents one thinking move. The adult reader should pause, ask one open question, and let the child do the thinking. The goal is not to tell children what to think, but to help them notice how thinking works.

Notice Think Check Decide Try Improve Share Reflect

The full loop includes internal thinking, social thinking, and error correction. It gives children a simple language for noticing what is happening in their minds and for improving how they act, learn, and work with others.

Recommended Sequence		
Order	Book	Primary skill
0	Kas and the Thinking Hat	Metacognition: notice and choose your thinking
1	Kas and the Mystery of the Missing Fuel	Problem solving
2	Kas and the Great Dino Building Challenge	Experimentation and iteration
3	Kas and Robo's Silly Answers	Critical thinking and evidence
4	Kas and the Best Choice	Decision-making

	5 Kas and the Big Idea Machine	Creativity and invention
	6 Kas and the Team Thinkers	Collaboration and perspective-taking
	7 Kas and the Tricky Thinking Traps	Self-correction and intellectual humility

Why this order works: it follows cognitive development from awareness to action, testing, questioning, choosing, creating, collaborating, and correcting.

Book 0 - Kas and the Thinking Hat

Core skill: Notice and choose your thinking.

What this does

Builds the meta-layer of thinking. Children learn that they have thoughts, can notice those thoughts, and can choose better thoughts when a thought is not helping.

What's being learned

- Thoughts are not facts.
- Thinking can be guided.
- Awareness comes before control.
- A child can pause and ask, "What am I thinking?"

Key idea

I can think about how I think.

Developmental shift

Kas moves from doing things automatically to noticing how he thinks before, during, and after acting.

Lesson plan

- Read the story slowly.
- Pause whenever the Thinking Hat asks a question.
- Ask the child to name one thought they are having.
- Ask whether that thought is helping.
- Invite the child to choose a more useful thought.

Teacher prompts

- What are you thinking right now?
- Is that thought helping you?
- Can you choose a better thought?
- What could your Thinking Hat ask you?

Activity

- Draw three thought bubbles: worried, curious, and brave.
- Play "change your thought": turn "I cannot do it" into "I can try one step."
- Act out helpful and unhelpful thoughts.

How to read this book aloud

Use a gentle, curious tone. Do not correct the child too quickly. The point is to make thinking visible and safe to discuss.

Book 1 - Kas and the Mystery of the Missing Fuel

Core skill: Problem solving: notice, think, plan, try, and reflect.

What this does

Introduces structured problem-solving through a concrete problem. Kas notices that something is wrong, thinks about possible causes, makes a plan, tries it, and reflects on what worked.

What's being learned

- Problems can be noticed and named.
- A plan helps before action.
- Trying is part of thinking.
- Reflection helps children reuse what they learned.

Key idea

Notice - Think - Plan - Try - Reflect.

Developmental shift

Kas moves from reacting to a problem to working through a sequence of thinking steps.

Lesson plan

- Read the story.
- Ask the child to identify the problem.
- Ask what Kas notices.
- Brainstorm two possible plans.
- Talk about which plan worked and why.

Teacher prompts

- What is the problem?
- What do you notice?
- What could Kas try?
- Did the plan work?
- What did Kas learn?

Activity

- Set up a simple broken object scenario, such as a toy missing a wheel.
- Play "find the problem" in a room or picture.
- Have the child draw a three-step plan.

How to read this book aloud

Emphasize the calm sequence of problem solving. Praise noticing and planning more than getting the right answer quickly.

Book 2 - Kas and the Great Dino Building Challenge

Core skill: Experimentation: try, fail safely, learn, and try again.

What this does

Builds experimental thinking. Kas has an idea, tests it, sees it fail, investigates why, changes the design, and succeeds through iteration.

What's being learned

- Predictions can be tested.
- Failure gives useful information.
- Balance, structure, and cause-and-effect matter.
- Improvement comes from trying again.

Key idea

Try it. Learn from it. Try again.

Developmental shift

Kas moves from guessing to understanding how ideas improve over time.

Lesson plan

- Build a small tower before reading or after reading.
- Ask the child to predict what will happen.
- Let the structure wobble or fall.
- Ask what caused the result.
- Try a revised design.

Teacher prompts

- What do you think will happen?
- What happened?
- Why did it fall or stand?
- What can we change?
- How did the second try improve?

Activity

- Tower-building challenge with blocks.
- Prediction game: before each test, say what might happen.
- Redesign challenge: make a tower stronger after it falls.

How to read this book aloud

Treat failure as a discovery moment. Say "Now we have information" instead of "That did not work."

Book 3 - Kas and Robo's Silly Answers

Core skill: Critical thinking: question answers and check evidence.

What this does

Teaches children not to accept every answer automatically. Kas hears a confident but silly answer, feels doubt, asks questions, checks evidence, and decides what is true.

What's being learned

- Confident answers can still be wrong.
- Questions are tools for thinking.
- Evidence helps us decide what is true.
- It is okay to pause before believing an answer.

Key idea

Ask - Think - Check - Decide.

Developmental shift

Kas moves from receiving an answer to evaluating an answer.

Lesson plan

- Read a page where Robo gives a silly answer.
- Ask whether the answer could be true.
- Ask how to check.
- Compare a silly claim with evidence.
- Let the child explain the better answer.

Teacher prompts

- How do you know?
- Is that true?
- What evidence do we have?
- What else could be true?
- How could we check?

Activity

- True-or-silly sorting game.
- Evidence hunt: find something in the room that proves a claim.
- Ask three questions before accepting an answer.

How to read this book aloud

Let the silly answer be playful. The lesson is not cynicism; it is curiosity plus checking.

Book 4 - Kas and the Best Choice

Core skill: Decision-making: compare options and explain why.

What this does

Builds judgment. Kas compares two possible choices, tests what matters, chooses the stronger option, and explains the reason for his decision.

What's being learned

- There can be more than one possible idea.
- Some ideas work better for a purpose.
- Good choices are based on reasons, not just preference.
- Explaining why strengthens thinking.

Key idea

Compare - Choose - Explain Why.

Developmental shift

Kas moves from picking what he likes to choosing based on evidence and purpose.

Lesson plan

- Present two simple options.
- Ask the child to compare them.
- Ask what matters for the task.
- Have the child choose.
- Ask them to explain why.

Teacher prompts

- Which is better for this job?
- Why do you think so?
- What is the difference?
- What would happen if we chose the other one?

Activity

- Compare two objects, such as a wide block and a narrow block.
- Choice game: pick the best tool for a task.
- Draw two options and circle the better one.

How to read this book aloud

Encourage reasons. If the child says "because I like it," ask, "What does it do well?"

Book 5 - Kas and the Big Idea Machine

Core skill: Creativity: combine, create, test, and improve ideas.

What this does

Teaches that creativity is a process. Kas uses what he already knows, combines ideas in a new way, tests a first version, improves it, and creates something useful.

What's being learned

- New ideas often come from old ideas combined.
- First ideas are usually imperfect.
- Simplifying can improve an invention.
- Creative ideas can help others.

Key idea

Create - Combine - Improve.

Developmental shift

Kas moves from using existing solutions to making a new solution.

Lesson plan

- Name the problem in the story.
- Ask what Kas already knows.
- Identify two ideas he combines.
- Discuss why the first version was not perfect.
- Talk about how improvement led to success.

Teacher prompts

- What does Kas already know?
- What can he combine?
- What can he change?
- How did the idea get better?
- Who did the invention help?

Activity

- Invent a new tool from two ordinary objects.
- Draw a silly first idea, then improve it.
- Build a small prototype with blocks, paper, or craft materials.

How to read this book aloud

Protect imaginative ideas. Do not judge too soon. Ask how the idea could be improved.

Book 6 - Kas and the Team Thinkers

Core skill: Collaboration: listen, share, combine ideas, and build together.

What this does

Builds social thinking. Kas starts with his own idea, hears other ideas, experiences conflict, learns to listen, combines ideas, and discovers that a shared idea can be better.

What's being learned

- Other people think differently.
- Listening helps ideas grow.
- Conflict can be redirected into cooperation.
- Combining perspectives can create a better result.

Key idea

Our idea can be better than my idea.

Developmental shift

Kas moves from protecting his own idea to building together.

Lesson plan

- Read the story and stop at the conflict page.
- Ask what each child wants.
- Practice listening to each idea.
- Ask how the ideas could fit together.
- Celebrate the shared result.

Teacher prompts

- What do you think?
- What do they think?
- How can we combine ideas?
- What did listening change?
- How is the team idea better?

Activity

- Build-together challenge with assigned roles.
- Add-to-the-idea game: each child adds one feature.
- Draw a shared playground or invention.

How to read this book aloud

Make disagreement normal. The goal is not to avoid conflict, but to show how listening changes what the group can build.

Book 7 - Kas and the Tricky Thinking Traps

Core skill: Self-correction: notice, check, and fix thinking.

What this does

Teaches that thinking can go wrong and can be repaired. Kas makes a fast guess, lets feelings make the guess feel true, checks the evidence, discovers the real answer, and learns to slow down next time.

What's being learned

- Fast guesses can be wrong.
- Strong feelings can mislead thinking.
- Checking improves accuracy.
- Good thinkers can change their minds.

Key idea

Even when I am sure, I should still check.

Developmental shift

Kas moves from fixing one mistake to thinking better in the future.

Lesson plan

- Read the scary or confusing moment slowly.
- Ask what Kas thinks is happening.
- Ask whether he has checked.
- Look at the evidence together.
- Name the thinking trap and the fix.

Teacher prompts

- Could that be wrong?
- Did we check?
- What else could explain it?
- What did Kas feel?
- What helped him think better?

Activity

- Spot-the-mistake game.
- Fast guess versus careful thinking game.
- Draw a thinking trap and a thinking fix.

How to read this book aloud

Do not shame the wrong guess. The core lesson is intellectual humility: good thinkers can be wrong and then improve.

For parents and grandparents

Read one book per week. Keep sessions short and warm. The most important move is to pause and ask

one good question. The child should feel that thinking is interesting, safe, and useful.

For teachers

Use one book as a mini-unit. Pair read-aloud sessions with a hands-on activity. Make thinking visible through drawings, simple charts, and repeated language from the Master Thinking Loop.

Assessment through observation

- Can the child name the problem or thought?
- Can the child make a prediction?
- Can the child ask how we know?
- Can the child explain a choice?
- Can the child improve after failure?
- Can the child listen to another idea?
- Can the child check a fast guess?

A child does not need to master every skill immediately. The goal is repeated exposure to a

language of thinking that becomes familiar and usable over time.

The Kas Thinking System - Master Guide Page 11

How to personalize the seven books for your child

Use this exact prompt to swap any child into the full Kas Thinking System while preserving layout, pedagogy, and illustration quality.

PROMPT

You are adapting an illustrated 7-book children's metacognition series for a new child.

Your task is to replace Kas with a new child while preserving:

- story structure
- page layouts
- educational goals
- illustration style
- page numbering
- typography placement
- learning progression
- emotional tone

The output must look like the same professionally illustrated book series, but personalized for the new child.

INPUTS

I will provide:

1. A reference image of the child
2. The child's name
3. The original book pages

GLOBAL REQUIREMENTS

CHARACTER CONSISTENCY

Use the uploaded child image as the canonical reference.

Maintain across ALL books/pages:

- same face
- same hairstyle
- same skin tone
- same eye shape
- same smile
- same approximate age
- same body proportions

The child must remain visually consistent throughout the entire series.

ART STYLE

Preserve the existing style exactly:

- warm painterly children's book illustration
- soft lighting
- expressive faces
- cozy environments
- detailed but uncluttered scenes
- storybook composition

Do NOT:

- change artistic style
- simplify illustrations

- turn into cartoons or anime
- alter page layouts

TEXT REPLACEMENT

Replace:

- “Kas”
- with:
- the new child’s name

Preserve:

- all page numbering
- all typography hierarchy
- all story wording unless name substitution is required

Do NOT rewrite stories unless specifically instructed.

PAGE PRESERVATION

Preserve:

- exact composition
- object placement
- educational structure
- visual storytelling sequence

Do NOT:

- crop pages
- resize composition
- move text unnecessarily
- remove educational elements

BOOK ORGANIZATION

Apply changes consistently across all books:

1. Thinking Hat
2. Missing Fuel
3. Dino Challenge
4. Silly Answers
5. Best Choice
6. Big Idea Machine
7. Team Thinkers
8. Thinking Traps

EDUCATIONAL CONSISTENCY

Preserve the cognitive progression:

- awareness
- problem solving
- experimentation
- questioning
- decision-making

- creativity
- collaboration
- self-correction

Do NOT alter:

- pedagogical sequence
- learning goals
- teacher prompts
- emotional arc

OUTPUT REQUIREMENTS

For every page:

Generate:

- full-page PNG
- print-quality
- 300 DPI appearance
- portrait orientation

Preserve:

- page numbers
- margins
- readability

QUALITY CONTROL

Before finalizing:

Verify:

- the child's face remains consistent
- no pages drift stylistically
- names are replaced correctly
- no page text is cut off
- all pages remain full-page
- educational content is preserved

FINAL OUTPUT

Produce:

- updated PNG pages
- organized by book
- sequentially named

Example:

Plain text:

ChildBook01_Cover.png

ChildBook01_Page01.png

ChildBook01_Page02.png

...

Do NOT:

- summarize
- explain
- redesign
- omit pages

Only:

- personalize
- preserve
- render final pages
- organize outputs