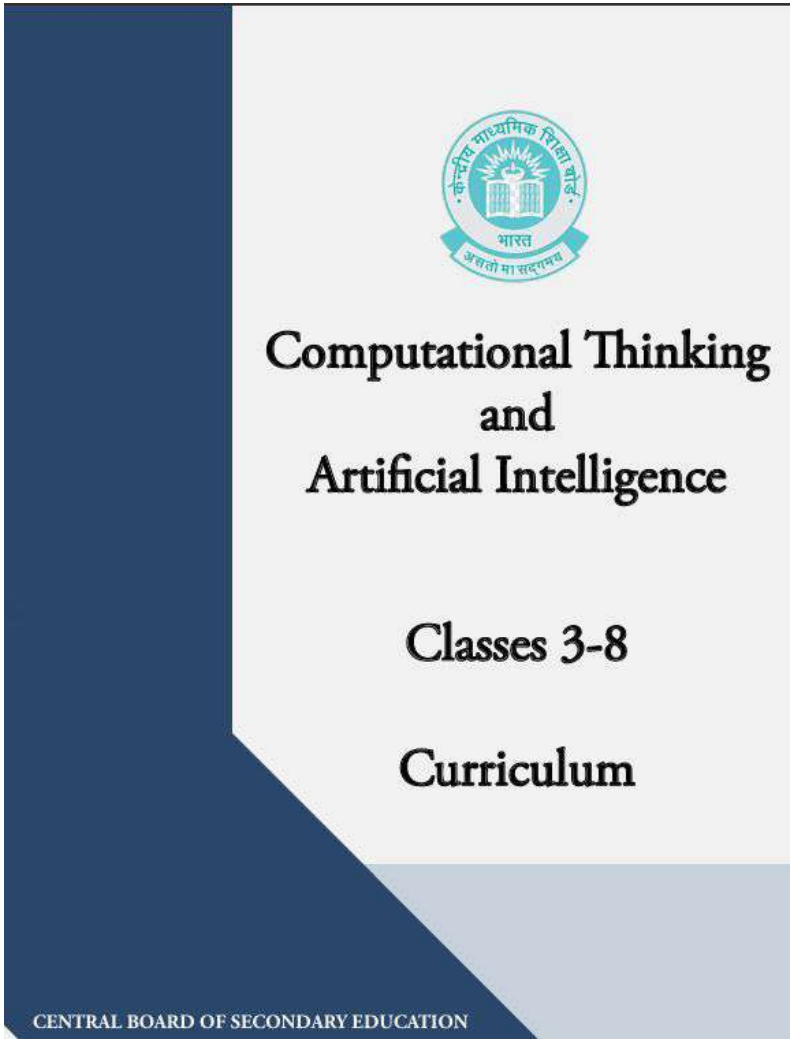
CBSE’s CT and AI curriculum:

What Every Teacher Should Know?

Recommendations and inferences



What has CBSE announced?

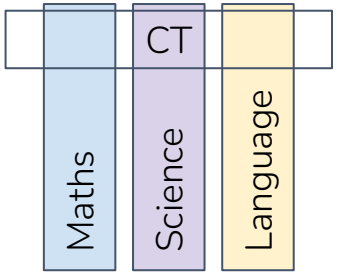
Curriculum framework for
Computational Thinking (CT) and Artificial Intelligence (AI)

Classes
3-8

Starting from
2026-27 academic year

What was happening before this?

- Schools chose/ built their own content and assessments methods for their ICT classes
- The focus was mostly on computer parts + softwares / tools + coding languages
- Subjects mostly operating in isolation from each other + no ‘connector’



What is expected post the curricular announcement?

- Integration of CT and AI as a mandatory subject
- Have a standard way to assess CT and AI skills
- Clarity on roles and responsibilities of teachers while integrating the CT and AI curriculum

Primary and Middle school

Preparatory stage (GRADE 3 to 5)

- 50 hours/ year
- Integrated with Mathematics and The World Around Us (TWAU) and handled by corresponding subject teachers
- Computational Thinking Skills:
  - Abstraction
  - Decomposition
  - Pattern Recognition
  - Algorithmic Thinking
  - Data Analysis
  - Troubleshooting

Middle stage (GRADE 6 to 8)

- 100 hours/ year
  - 40/100 hours - Integrated with Mathematics, Science and other subjects and handled by corresponding subject teachers (Intermediate CT)
  - 20/100 hours - Introducing AI, handled by Computer Science Teachers
  - 40/100 hours Interdisciplinary projects, handled by Computer Science Teacher
- Computational Thinking Skills and AI topics

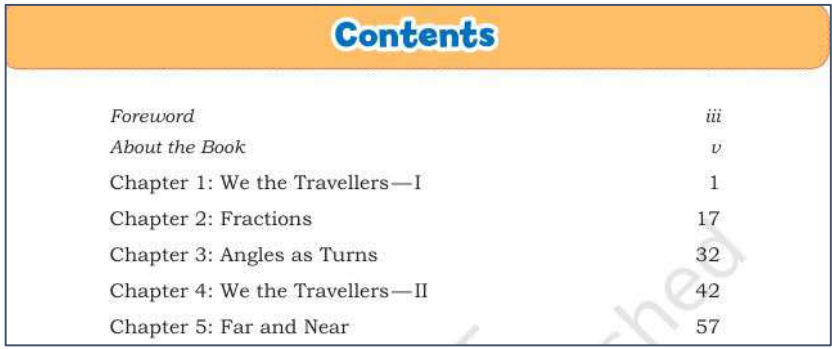
CT is seen as a key underlying foundational/ thinking skill for AI and all other subjects

The integration: Grade 3

Contents

The integration

Grade 4: Math Mela index



Contents

Grade 4: CT and AI index

SR. NO.	CHAPTER	PAGE NO.
1.	Introduction	5
2.	How to Use This Book?	8
3.	We the Travellers – I	9
4.	Fractions	12
5.	Angles as Turns	15
6.	We the Travellers – II	18
7.	Far and Near	21

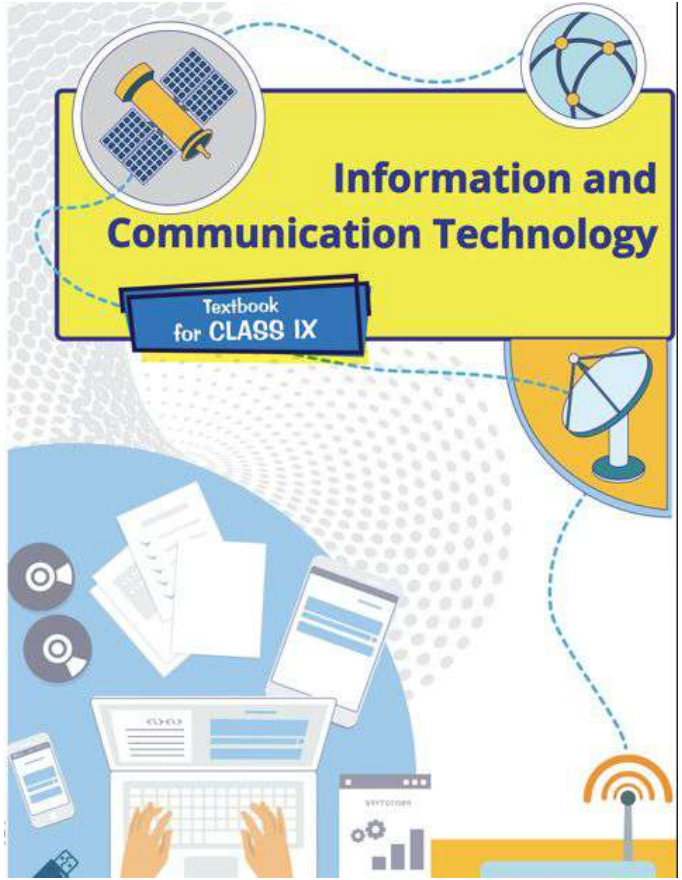
Grade 5: Math Mela index

Contents

Grade 5: CT and AI index

SR. NO.	CHAPTER	PAGE NO.
1.	Introduction	5
2.	How to Use This Book?	8
3.	Shapes Around Us	9
4.	Hide and Seek	12
5.	Patterns Around Us	15
6.	Thousands Around Us	20
7.	Sharing and Measuring	25
8.	Measuring Length	28

Plan for senior grades



Academic year 2027-28

- Grade 9
  - The existing ICT - elective subject will be phased out
  - Computational Thinking and Artificial Intelligence as a mandatory subject.

Academic year 2029 - 30

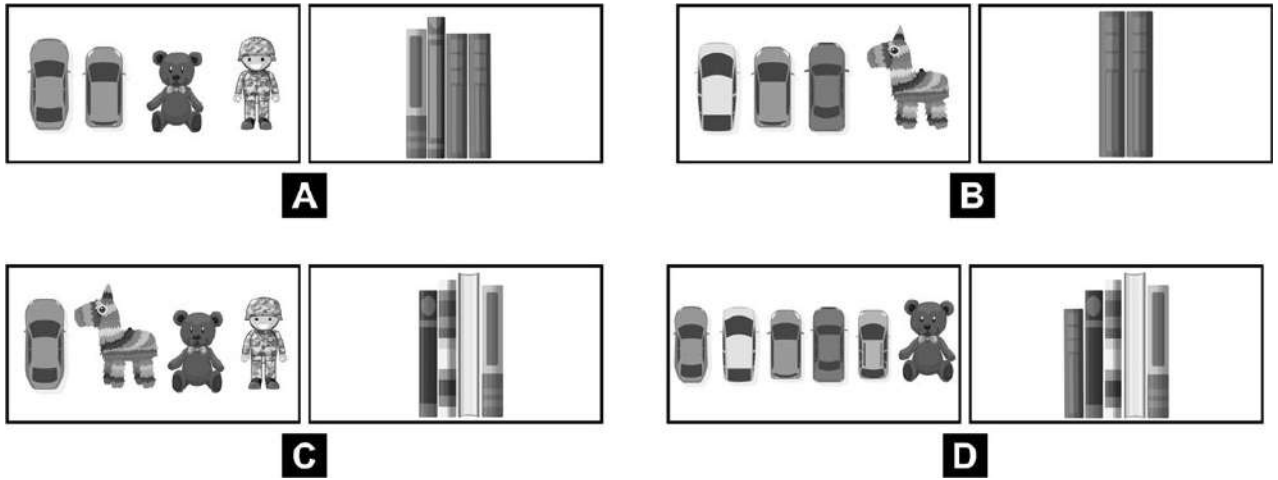
- Grade 10
  - A new curriculum should be proposed in the near future.
  - Board exams begin

Guess the most common wrong answer

Grade: 3/4
Skill: Logical Reasoning

Charu has toy cars, dolls and books on her shelf. One day, she looks at her shelf and says “I have MORE toy CARS than BOOKS on my shelf."

Q: Which shelf belongs to Charu?



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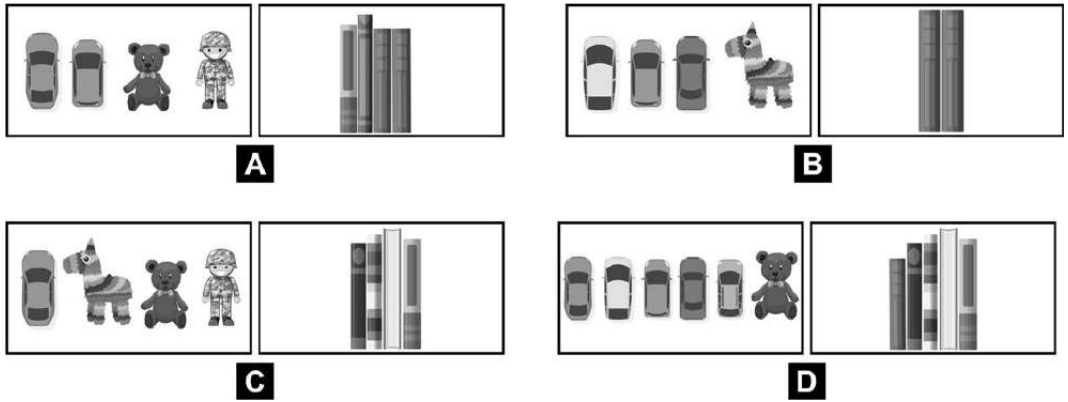
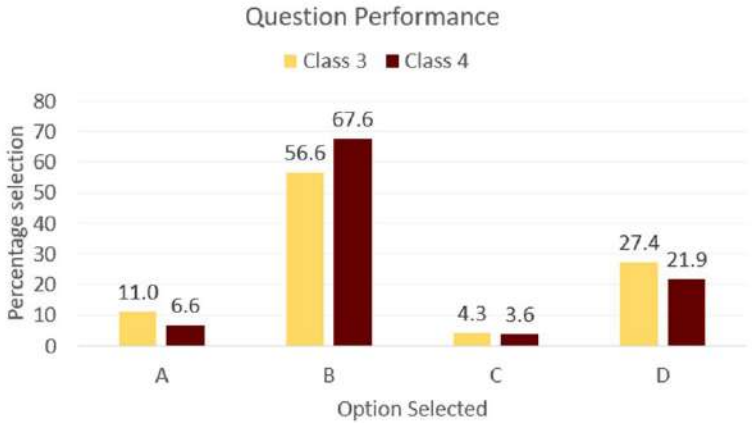




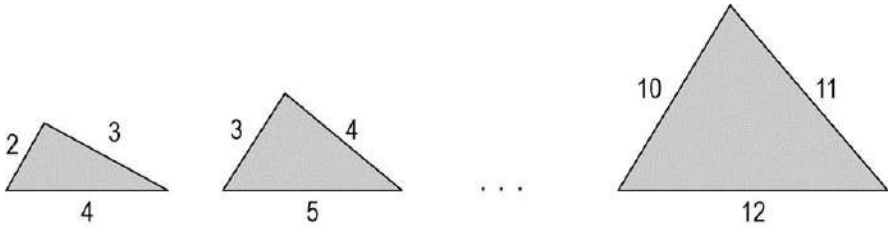
Option B is (CA)

Option D is the most common wrong answer

Guess the most common wrong answer

Grade: 9/10
Skill: Pattern Recognition

A mathematician drew the following sequence of triangles for his students:



(Note: The triangles shown here are not drawn to scale.)

He started with a triangle whose side lengths were 2, 3, and 4 units long. Then he drew a triangle with side lengths 3, 4, and 5 units, and so on. When he finished, the last triangle had side lengths 10, 11, and 12 units.
Some side lengths appear in three different triangles. For example, the side of length 5 units appears in triangles with side lengths (3, 4, 5), (4, 5, 6), and (5, 6, 7).

Q: In total, how many such side lengths are there in this sequence?

A: 6
B: 7
C: 8
D: 9

Guess the most common wrong answer

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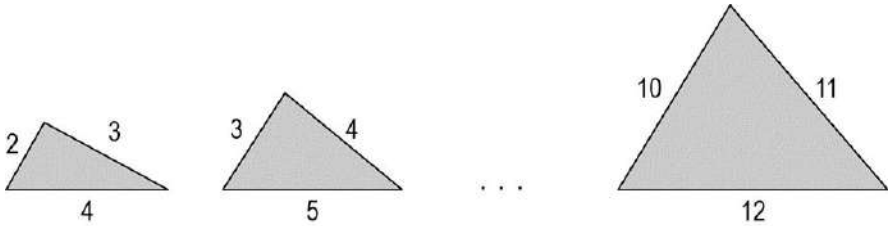

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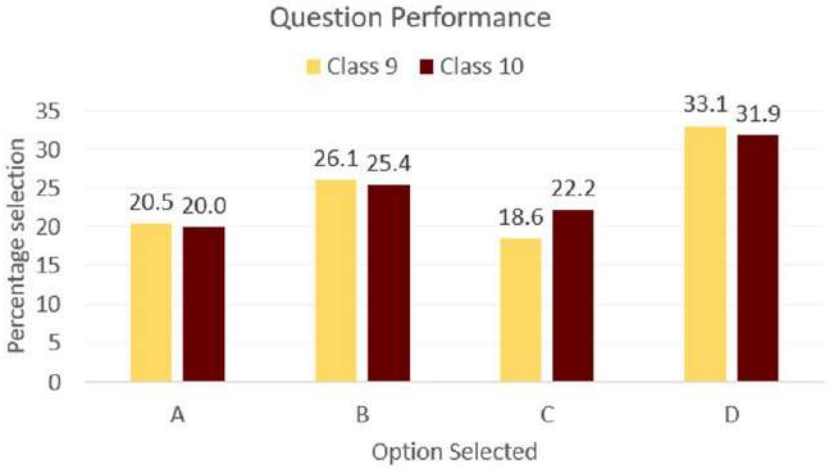
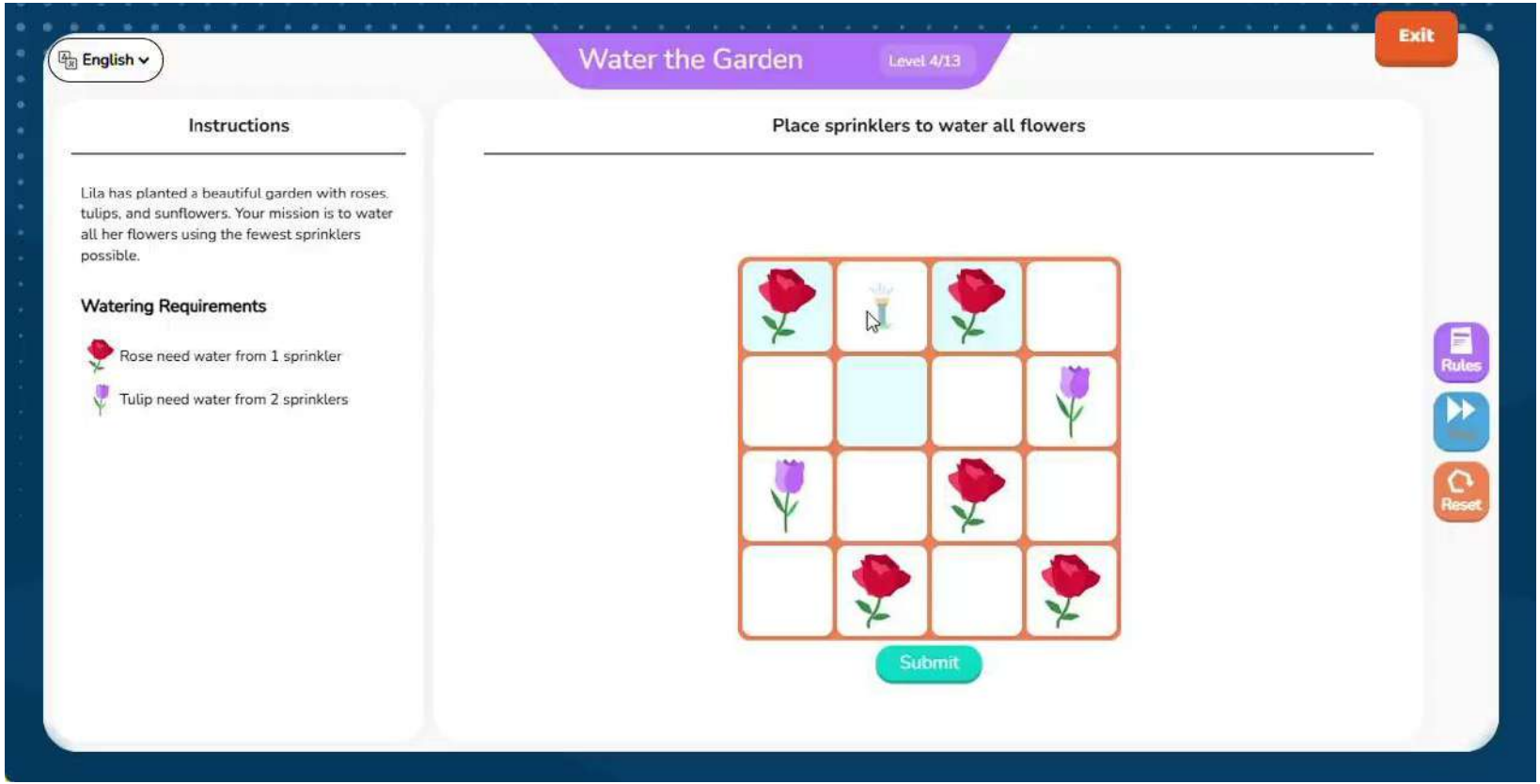


A few examples of how ‘thinking’ could be taught:



Source: Ei Mindspark AI & Digital Thinking (https://aidt.site/)

Is there any reference to ‘coding’ in the curriculum?

‘Coding’ as a term appears just **thrice** in the curriculum

‘**Block-coding**’ appears **once** in the curriculum

Curricular Goal	Competencies
CG-3 Demonstrate understanding of basic computer concepts, including hardware and software.	C-6: Develops familiarity with parts of a computer, input/output devices, file management, internet safety, educational software, and block-based coding (e.g. Scratch).

Occurrences of the term ‘coding’

The National Education Policy (NEP) aims for India to emerge as a global leader in new emerging knowledge domains such as Artificial Intelligence (AI), machine learning (ML), data analytics, and 3-D machining. To realise this goal, the policy suggests teaching students Mathematics and Computational Thinking (CT), along with new subjects such as AI, Machine Learning, Coding, and Data Science, during their school education.

3.3 Pedagogy and Assessment

Pedagogy suggested is activity-based and experiential, engaging students through interactive and hands-on experiences.

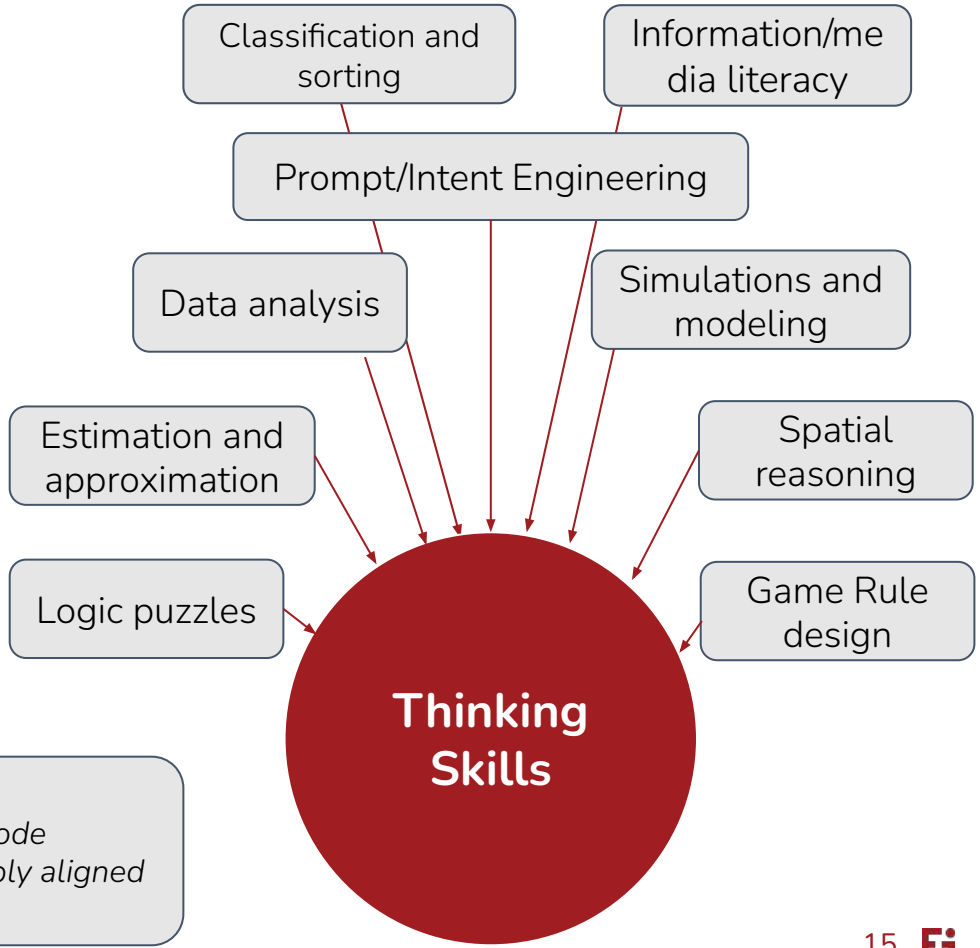
- *Classes 3–5:* Worksheets based on games, puzzles, and activities to enhance CT skills and creativity.
- *Classes 6–8:* Hands-on and real-world problems, collaborative and group work to solidify and apply multidisciplinary foundational knowledge on coding, data analysis, and AI tools, aiming to learn advanced CT and problem-solving skills.

Does this mean the CBSE is asking you NOT to teach coding?

What does the shift mean for your coding curriculum?

What CBSE is really saying:

1. CT is BIGGER than coding.
2. Ask: Does this teach ‘real’ thinking?
3. Is this a mechanical task?
4. Can AI already do this better?
5. Re-evaluate the coding curriculum



Bottomline:

Syntax drills → less defensible now that AI writes code
Thinking-with-code → debugging, building, testing → deeply aligned

Example of ‘mechanical’ vs ‘thinking’ coding

What does the shift mean for your coding curriculum?

In a certain video game, commands are given to a robot mouse to make it move on the screen.The mouse understands 4 commands:

move 1 tile ahead in the direction you are facing and eat the nut on that tile

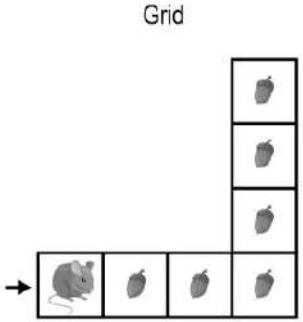
turn right in your place

turn left in your place

repeat all the commands inside this block *x* times

Example of ‘mechanical’ vs ‘thinking’ coding

What does the shift mean for your coding curriculum?



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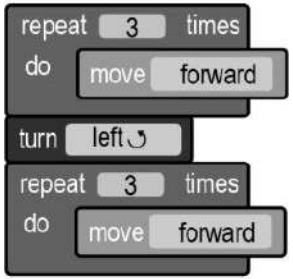
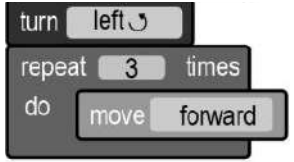


Q

R



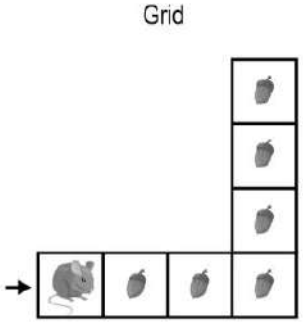
S

Q: Which code sequence will result in the mouse eating all the nuts in the grid?

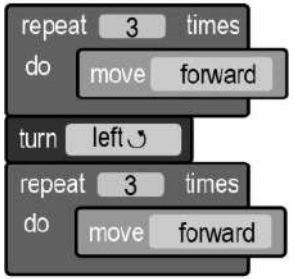
A: Only code P
B: Only code Q
C: Only code P and Q
D: Only code P, Q and S

Example of ‘mechanical’ vs ‘thinking’ coding

What does the shift mean for your coding curriculum?



P



Q

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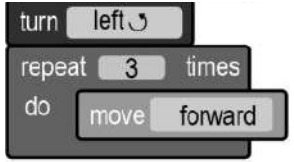

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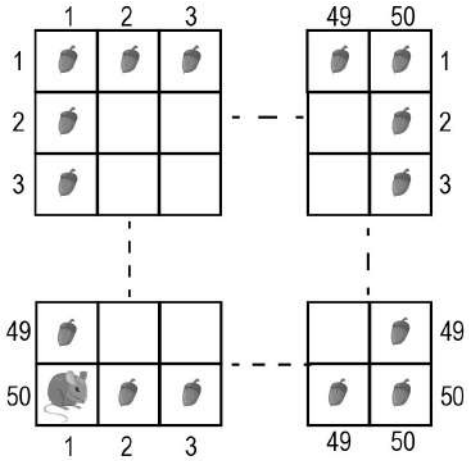
Example of ‘mechanical’ vs ‘thinking’ coding

What does the shift mean for your coding curriculum?

If the repeat block in the video game is NOT working, how many commands are needed for the mouse to eat ALL nuts in the below 50x50 grid?



A: 204
B: 200
C: 198
D: 196

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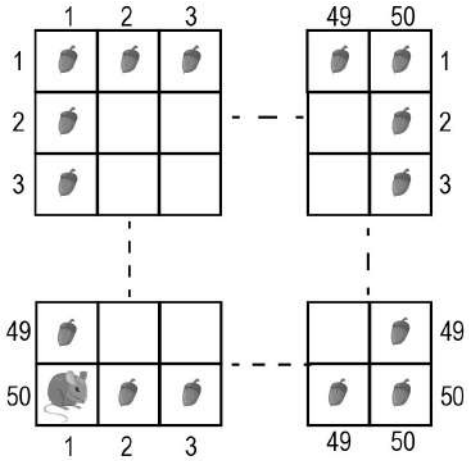
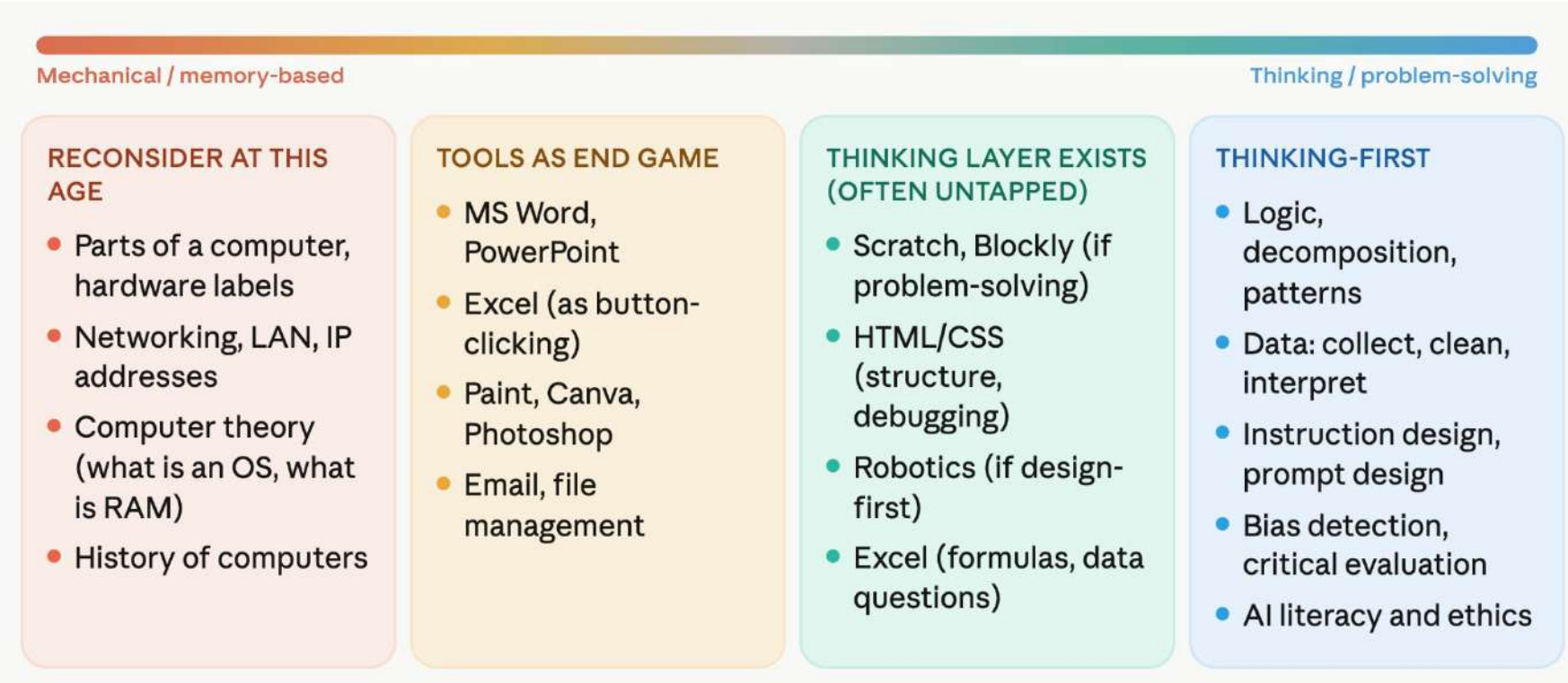


A: 204
B: 200
C: 198
D: 196

Does this replace the current ICT curriculum?

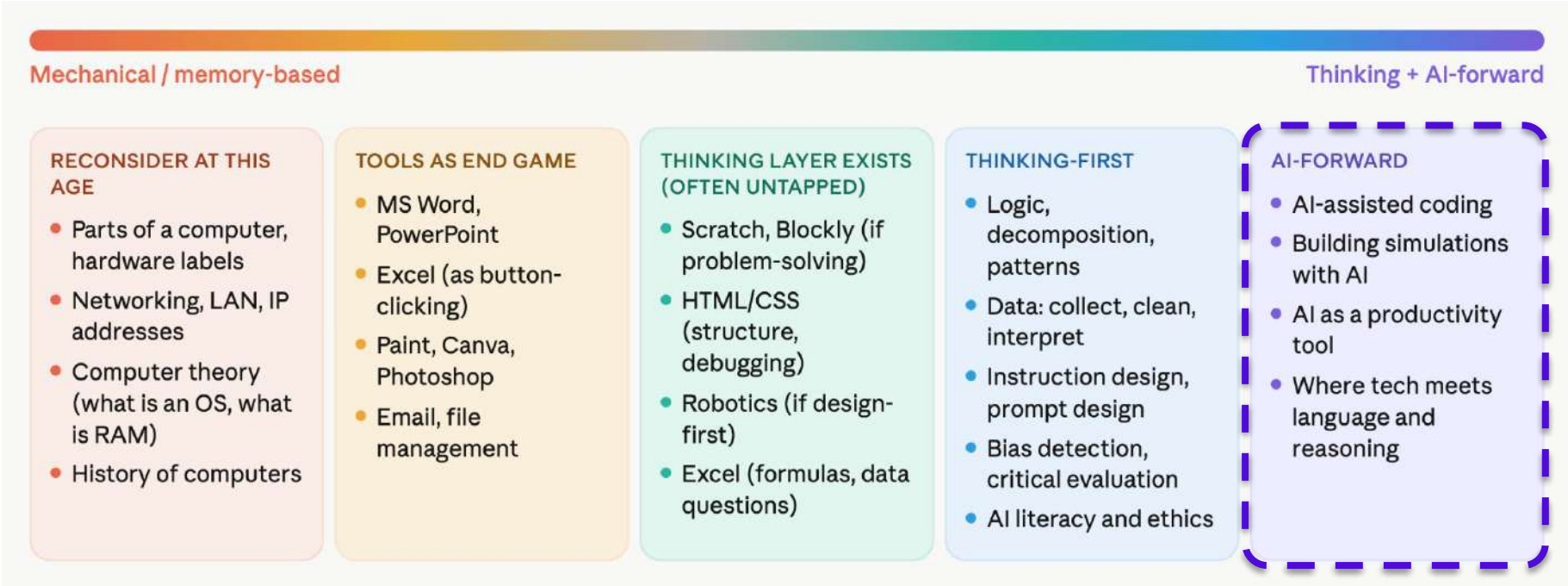
Depends on what each school is doing. There are 4 layers where ICT operates currently



Work your way to the right, based on where you are

Does this replace the current ICT curriculum?

Depends on what each school is doing. Add the AI layer if you have the skills and resources



Work your way to the right, based on where you are

CBSE's AI Curriculum – A closer look

Grade 6

- What is AI? How is it different from automation?
- Types of AI learning: supervised, unsupervised, reinforcement
- Types of data AI uses
- Ethics - when should AI be used?

Grade 7

- Classification, regression, clustering
- AI applications: NLP, computer vision, data science
- AI in industries (healthcare, transport, etc.)
- Data visualization and bias in AI

Grade 8

- AI project lifecycle: define, collect, test, reflect
- Hands-on with no-code AI tools
- Fairness and responsible AI
- Building and testing a simple AI project

Guess the most common wrong answer

Grade: 5/6
Skill: AI Technologies

A library has 2 robots:
Robot 1 can see videos of visitors and tell if there are any faces in it. Robot 2 can tell who the person in the video is.

Robot 1: "There is a face in this picture!"

Robot 2: "This is Sam!"

Q: Which of these questions can Robot 1 answer?

A: How many people are there in the library today?
B: Who is the boy standing next to the librarian?
C: How many times did Drina come this week?
D: Who are the people standing in the line?

Guess the most common wrong answer

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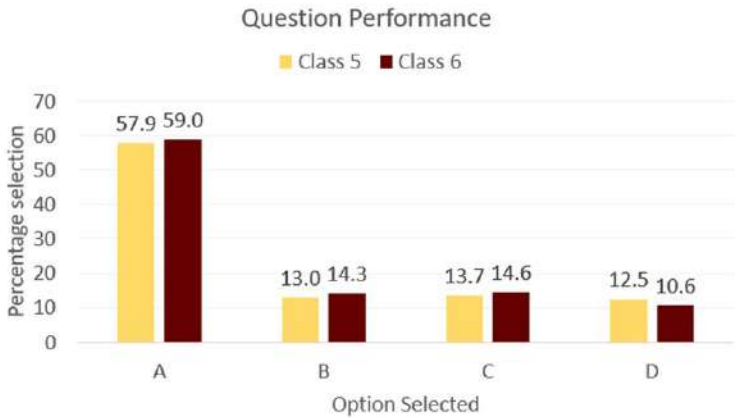


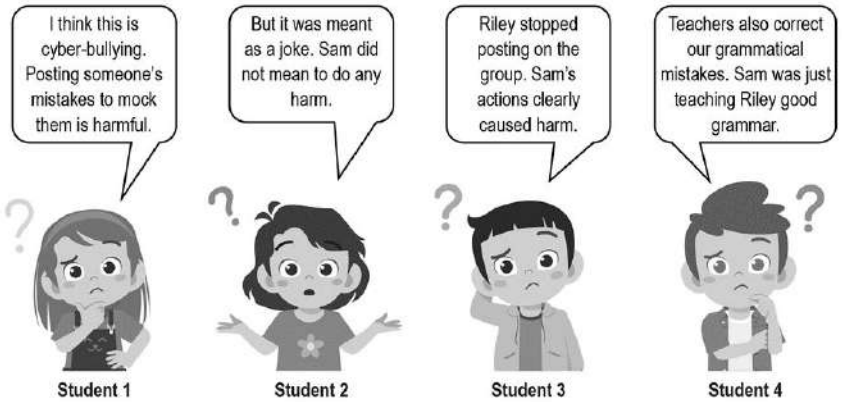
Guess the most common wrong answer

Grade: 7/8
Skill: Information & Media Literacy

Cyber-bullying is when someone uses chats or online posts to shame or hurt another person.

In a class group chat, Sam kept sharing screenshots of Riley's grammar mistakes with a "laughing" emoticon. Soon Riley stopped posting on the group.

A few of their classmates discuss this situation:



Q: Which classmates are correct as per good online behaviour in the class group chat?

A: Student 1 only
B: Student 1 and 3
C: Student 2 and 4
D: Student 1, 3 and 4

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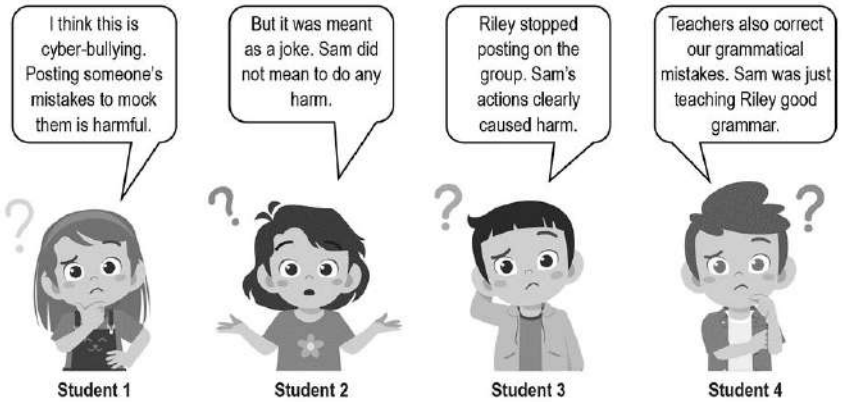

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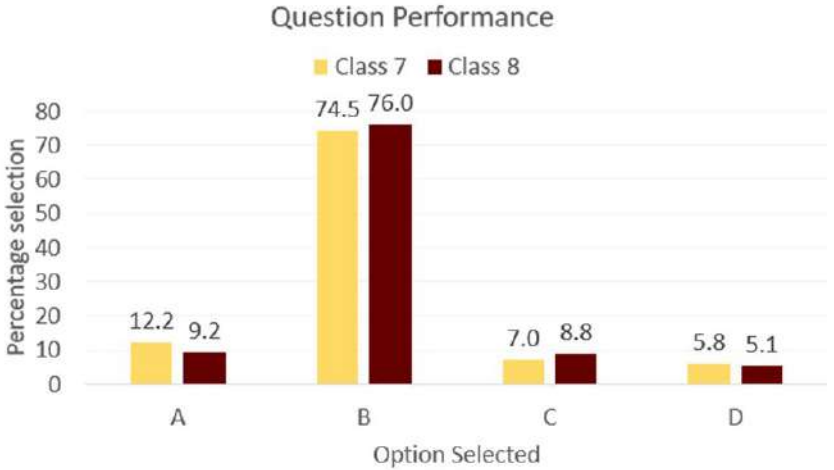
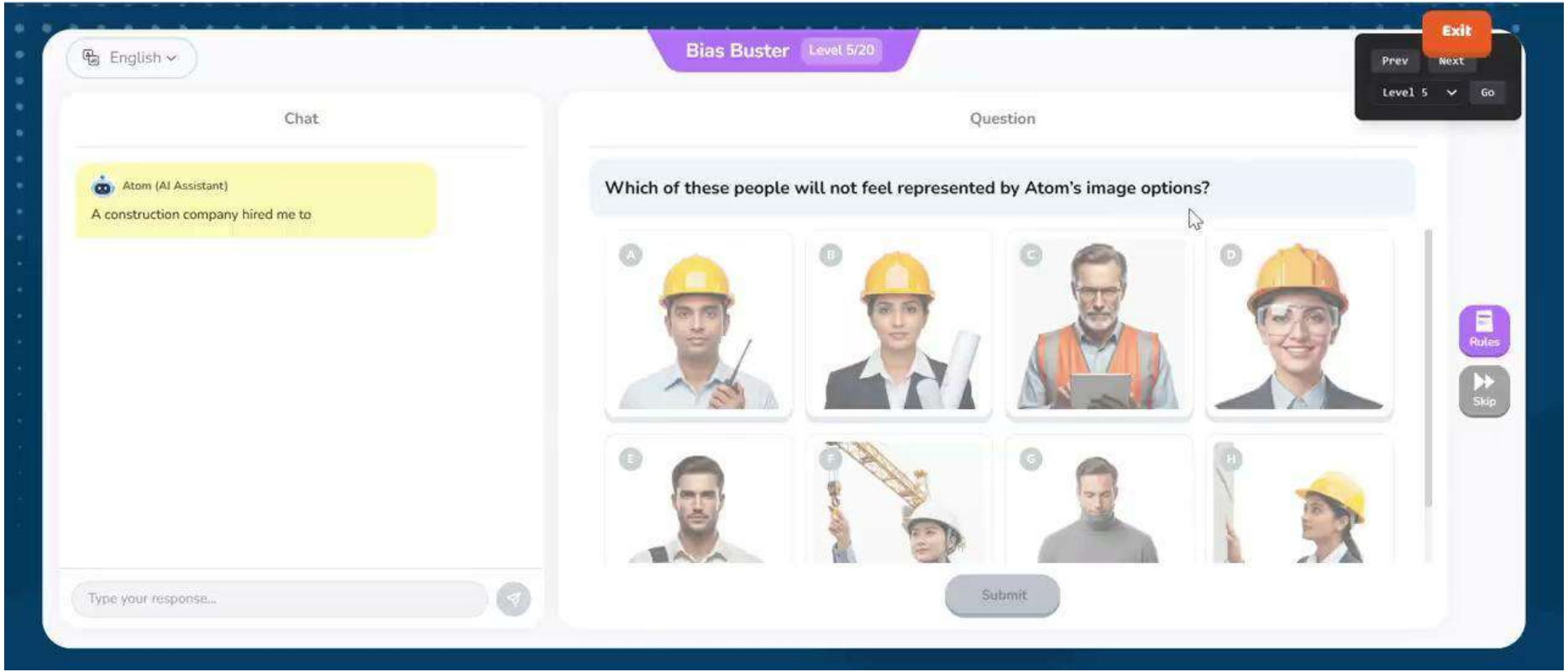


An example of what a ‘thinking’ curriculum looks like



Source: Ei Mindspark AI & Digital Thinking (https://aidt.site/)

Suggested Assessment methods

Preparatory stage (GRADE 3 to 5)

- Written test with CT questions and puzzles
- Interactive group activities
- Teacher Observation Journal

(Note: assessed by Mathematics and TWAU teachers)

Middle stage (GRADE 6 to 8)

- Written tests
- Interactive group activities
- Practical examinations
- Teacher Observation Journal
- Thematic projects
- Reflections and group discussions.

(Note: the intermediate CT is assessed by Mathematics and other subject teachers while the AI and interdisciplinary projects assessed by ICT teachers)

Grade 3-5: How should schools divide up the 50 hours? (Variation 1)

~30 hrs in Math | ~20 hrs in TWAU

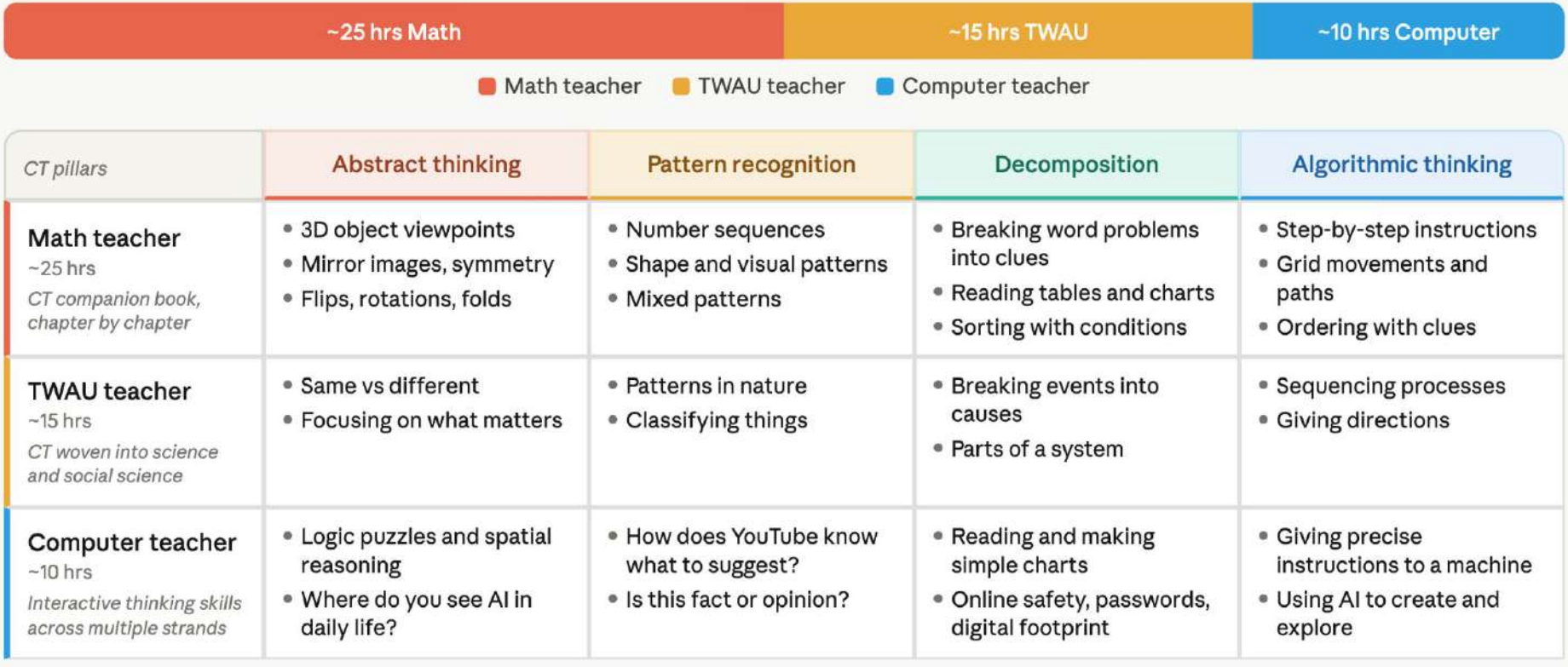
Math teacher | TWAU teacher

No AI content at this stage. No computer teacher involvement. CT only, embedded in existing subjects.

CT pillars	Abstract thinking	Pattern recognition	Decomposition	Algorithmic thinking
Math teacher ~30 hrs *CT companion book follows Math textbook chapter by chapter*	• 3D object viewpoints • Mirror images, symmetry • Flips, rotations, folds	• Number sequences • Shape and visual patterns • Mixed patterns (numbers + shapes + letters)	• Breaking word problems into clues • Reading tables and charts • Sorting and grouping with conditions	• Step-by-step instructions • Grid movements and paths • Ordering using before/after clues
TWAU teacher ~20 hrs *CT woven into science and social science topics*	• What's the same and what's different? • Focusing on relevant information	• Patterns in nature (seasons, life cycles) • Classifying plants, animals, materials	• Breaking an event into causes • Parts of a system (food chain, water cycle)	• Sequencing events or processes • Following and giving directions

Variation 1: No CT learning goals undertaken by the computer teacher

Grade 3-5: How should schools divide up the 50 hours? (Variation 2)



CT pillars	Abstract thinking	Pattern recognition	Decomposition	Algorithmic thinking
Math teacher ~25 hrs *CT companion book, chapter by chapter*	• 3D object viewpoints • Mirror images, symmetry • Flips, rotations, folds	• Number sequences • Shape and visual patterns • Mixed patterns	• Breaking word problems into clues • Reading tables and charts • Sorting with conditions	• Step-by-step instructions • Grid movements and paths • Ordering with clues
TWAU teacher ~15 hrs *CT woven into science and social science*	• Same vs different • Focusing on what matters	• Patterns in nature • Classifying things	• Breaking events into causes • Parts of a system	• Sequencing processes • Giving directions
Computer teacher ~10 hrs *Interactive thinking skills across multiple strands*	• Logic puzzles and spatial reasoning • Where do you see AI in daily life?	• How does YouTube know what to suggest? • Is this fact or opinion?	• Reading and making simple charts • Online safety, passwords, digital footprint	• Giving precise instructions to a machine • Using AI to create and explore

Variation 2: CT goals contributed to by the computer teacher as well

Grade 6-8: How should schools divide up the 100 hours?

Subject teachers · Computer teacher · Computer teacher leads, others contribute

	Advanced CT (40 hrs)	AI literacy (20 hrs)	Projects (40 hrs)
Math ~20 hrs CT	• Pattern recognition in sequences • Decomposing word problems • Algorithm design • Data representation	-	• Contributes math context to projects
Science ~15 hrs CT	• Observation → pattern → hypothesis • Controlling variables • Classifying and sorting by properties	-	• Contributes science context to projects
English ~5 hrs CT	• Evaluating claims and sources • Structured argumentation • Writing clear instructions	-	• Contributes communication skills
Computer 20 hrs AI + 40 hrs projects	• Supports debugging, logic in code	• How does AI learn? • Bias, fairness, ethics • Prompt and instruction design • No-code AI tools • AI project lifecycle	• Leads and coordinates projects • AI-assisted coding • Building with AI tools • Assesses project outcomes

Example project:

"How much water does our school use, and is it fair?"

Math contributes data collection and analysis,

Science contributes measurement and variables,

English contributes presenting findings and evaluating claims, prompt design with AI

Computer teacher leads the project, brings in AI tools for analysis, and assesses the outcome.

What Ei's AI, Computational Thinking and Digital Literacy curriculum looks like:

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
17 sessions · ~8 hrs · 7 strands	17 sessions · ~8 hrs · 7 strands	26 sessions · ~13 hrs · 8 strands	26 sessions · ~13 hrs · 8 strands	36 sessions · ~18 hrs · 8 strands	36 sessions · ~18 hrs · 8 strands	36 sessions · ~18 hrs · 9 strands	36 sessions · ~18 hrs · 9 strands

Source: Ei's Mindspark AI & Digital Thinking (https://aidt.site/curriculum)

Some Credible Sources

This question comes from South Korea

Years 3+4 Hard
Years 5+6
Years 7+8
Years 9+10
Years 11+12

Burger recipe

Mei is making burgers according to the rules below.

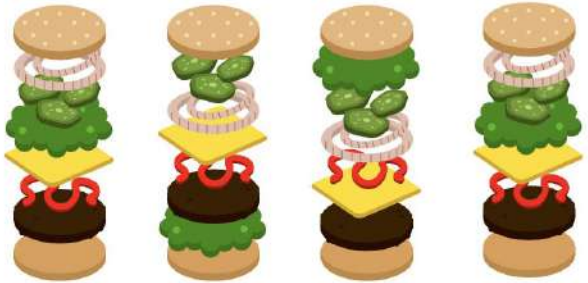
Rules:

1. The sauce should be right above the meat.
2. Meat and cheese should be below the pickles, lettuce and onions.
3. Onions should not be in contact with the buns.

Buns	Meat	Sauce	Pickles	Lettuce	Onions	Cheese
						

Question

Which burger is correctly made according to the rules?



The Bebras Global Challenge:

Link: https://www.bebraschallenge.org/

- Contains: MCQs on computational thinking skills.
- Grades covered: 1 to 12
- Digital/**Unplugged**
  (some countries take it digitally)
- **Free/** Paid

Explanation

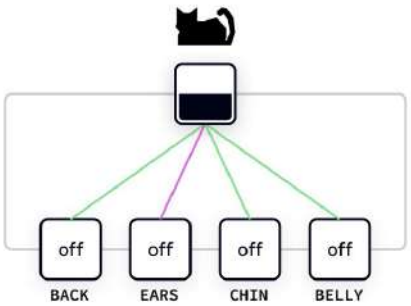
This hamburger follows rules #1 and #2, but the onion touches the top bun, so it doesn't follow rule #3.

This hamburger follows rule #1, but the lettuce is below the meat and the cheese, so rule #2 was not followed.

The cheese is between the meat and the sauce, so it doesn't follow rule #1.

This hamburger satisfies all the rules, so this is the correct answer!

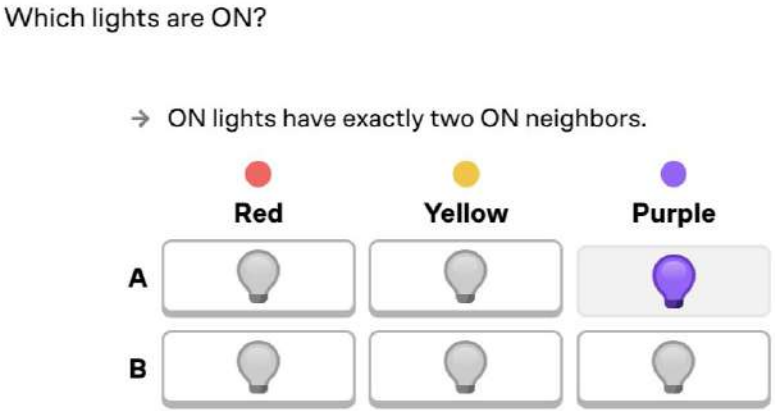
Some Credible Sources



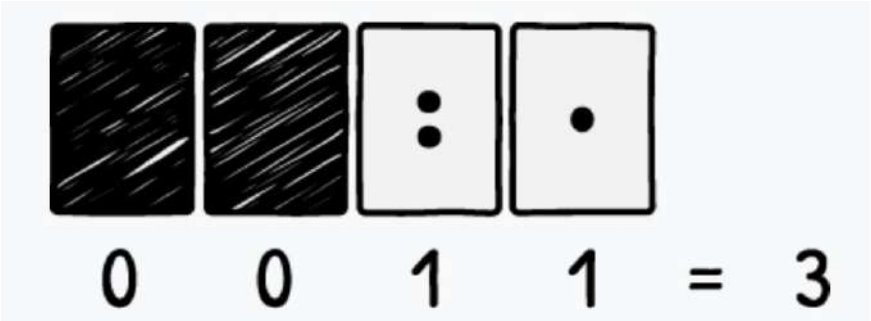
Brilliant.org

Link: https://brilliant.org

- Contains: Interactive CS, logic, scientific thinking, AI Basics
- Grades covered: 5 to adult
- **Digital/** Unplugged
- Free/**Paid**
- **Level: High**



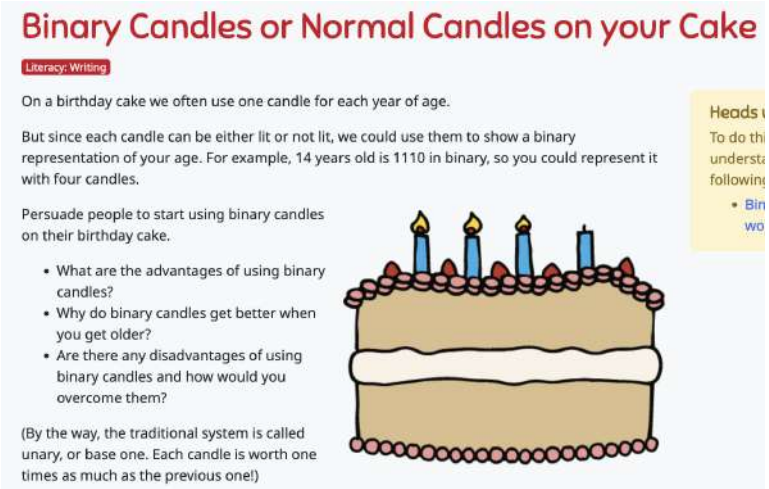
Some Credible Sources



CS Unplugged

Link: https://www.csunplugged.org/en

- Contains: PDF activities with worksheets, teacher notes, background on CS concepts
- Grades covered: KG to 12
- Digital/**Unplugged** (printable worksheets)
- **Free/** Paid



Binary Candles or Normal Candles on your Cake

Literacy: Writing

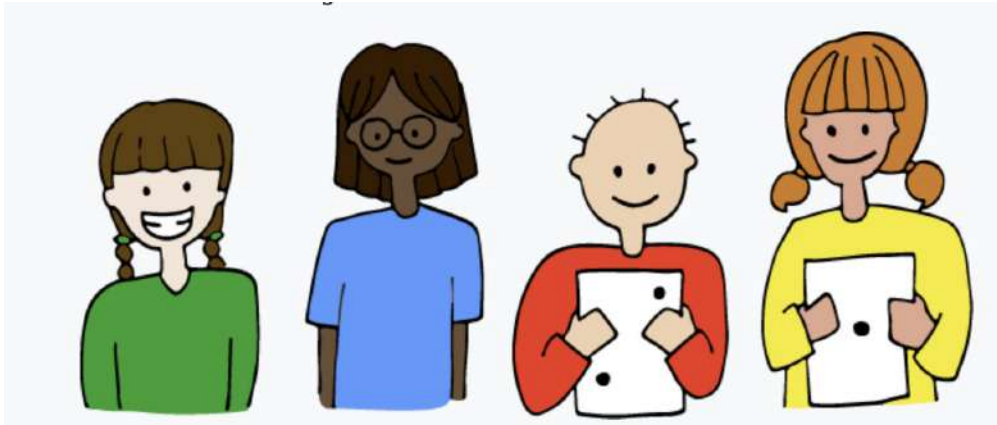
On a birthday cake we often use one candle for each year of age.

But since each candle can be either lit or not lit, we could use them to show a binary representation of your age. For example, 14 years old is 1110 in binary, so you could represent it with four candles.

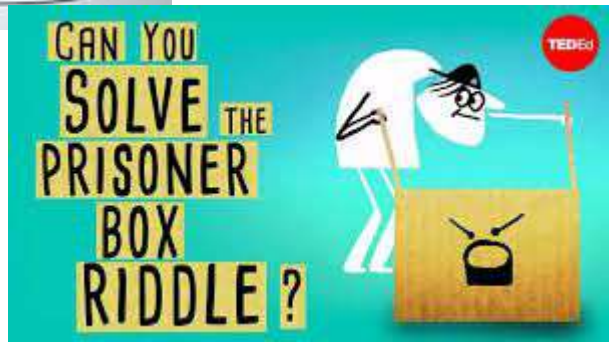
Persuade people to start using binary candles on their birthday cake.

- What are the advantages of using binary candles?
- Why do binary candles get better when you get older?
- Are there any disadvantages of using binary candles and how would you overcome them?

(By the way, the traditional system is called unary, or base one. Each candle is worth one times as much as the previous one!)



Some Credible Sources



Ted-Ed Riddles

Link: https://www.youtube.com/@TEDEd

- Contains: Animated lateral-thinking puzzles
- Grades covered: 6 to 12
- **Digital/** Unplugged **(available on YouTube)**
- **Free/** Paid

Some More Resources

Name of resource	Link	Grades	Digital/Unplugged	Free/Paid
Hello Ruby	helloruby.com/play	1–4	Unplugged	Free
AI4K12	ai4k12.org	K–12	Both	Free
Digital Promise CT Toolkit	computationalthinking.digitalpromise.org	K–8	Both	Free
Google CS First	csfirst.withgoogle.com	4–8	Both	Free
Machine Learning for Kids	machinelearningforkids.co.uk	4–10	Digital	Free
MIT App Inventor	appinventor.mit.edu	5–12	Digital	Free
Teachable Machine	teachablemachine.withgoogle.com	Any	Digital	Free
Project Zero Thinking Routines	pz.harvard.edu/thinking-routines	K–12	Unplugged	Free
Day of AI (MIT RAISE)	dayofai.org	K–12	Both	Free
Experience AI (RPi + DeepMind)	experience-ai.org	6–9	Both	Free
Elements of AI	elementsofai.com	9–12 + adults	Digital	Free

Resource: Teacher Handbook – CT & AI

Click the link below to access the handbooks

CT&AI_CBSE_curriculum

CT&AI_CBSE_Teacher_handbook_G3

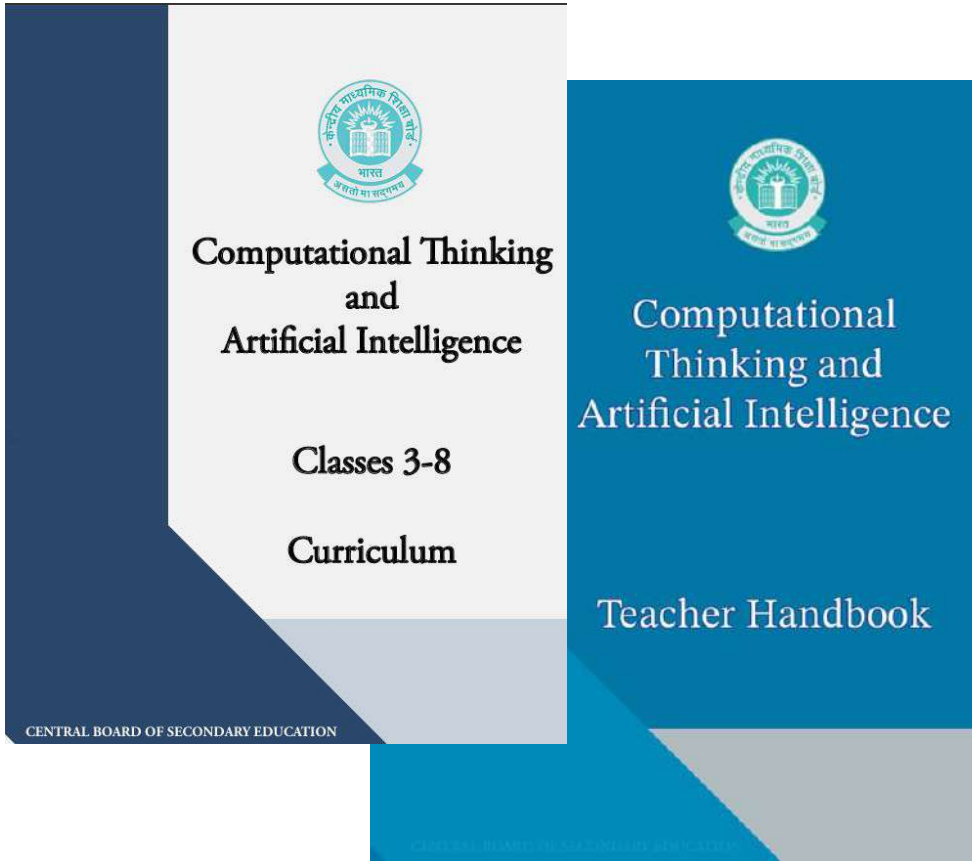
CT&AI_CBSE_Teacher_handbook_G4

CT&AI_CBSE_Teacher_handbook_G5

CT&AI_CBSE_Teacher_handbook_G6

CT&AI_CBSE_Teacher_handbook_G7

CT&AI_CBSE_Teacher_handbook_G8



Resource: Student Handbook – CT & AI

Click the link below to access the handbooks

CT&AI_CBSE_Student_handbook_G3

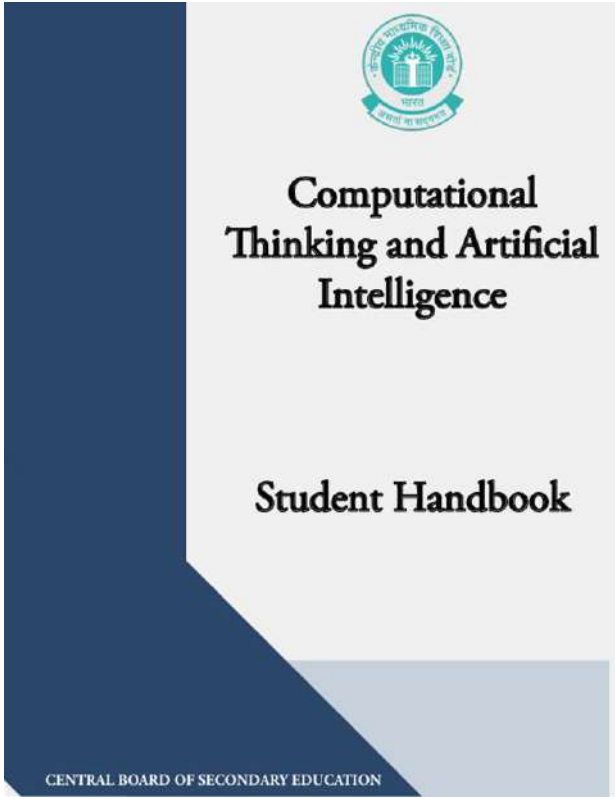
CT&AI_CBSE_Student_handbook_G4

CT&AI_CBSE_Student_handbook_G5

CT&AI_CBSE_Student_handbook_G6

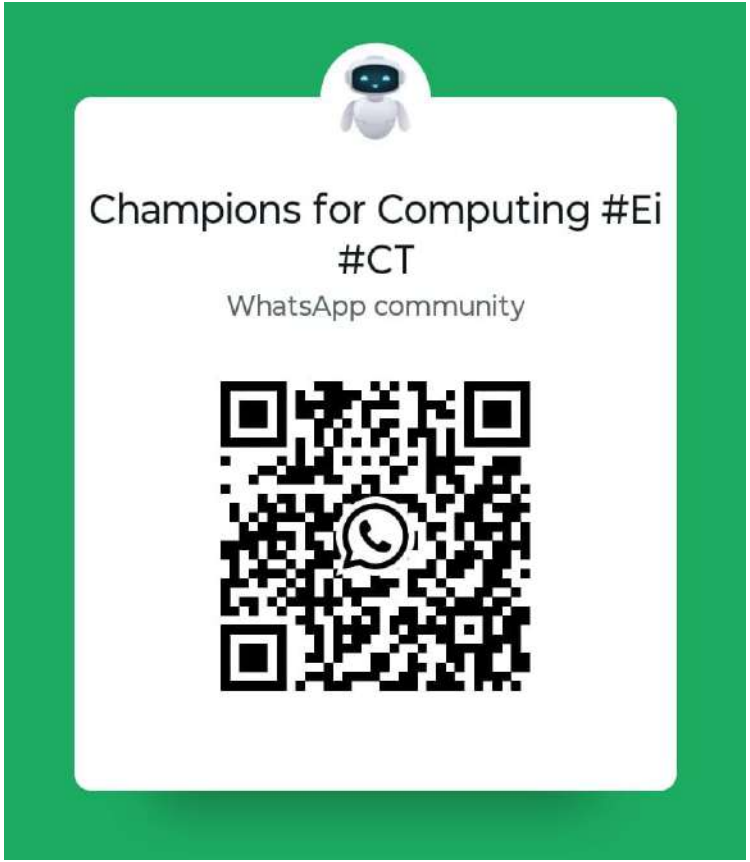
CT&AI_CBSE_Student_handbook_G7

CT&AI_CBSE_Student_handbook_G8



Join our whatsapp community - Champions for Computing (C4C)

- A 300+ member community
- Participate in a bi-monthly poll, answering interesting questions on Computational Thinking (CT), Artificial Intelligence (AI) and Digital Literacy (DT)
- Request for specific webinars and post any question that you may have regarding the CT, AI and DT.



Experience Ei's ASSET AI & Digital Thinking Questions

- Your students can experience the Ei ASSET AI & Digital Thinking questions this summer!
  - Grades 3 to 10
  - 90 minutes to complete a pilot session
  - All digital
  - Schools get
    - A class report of the pilot
    - A webinar session for teachers on AI use in classrooms
  - Why are we doing this?
    - Collect feedback on each question
    - Assess cognitive load of questions

Fill in the form and we will get back to you: Click here to fill the form

Feedback form

Provide us your valuable feedback by scanning this QR code

https://zfrmz.in/CZ13HRcB1pd8yCuiwiHk

Thank you!

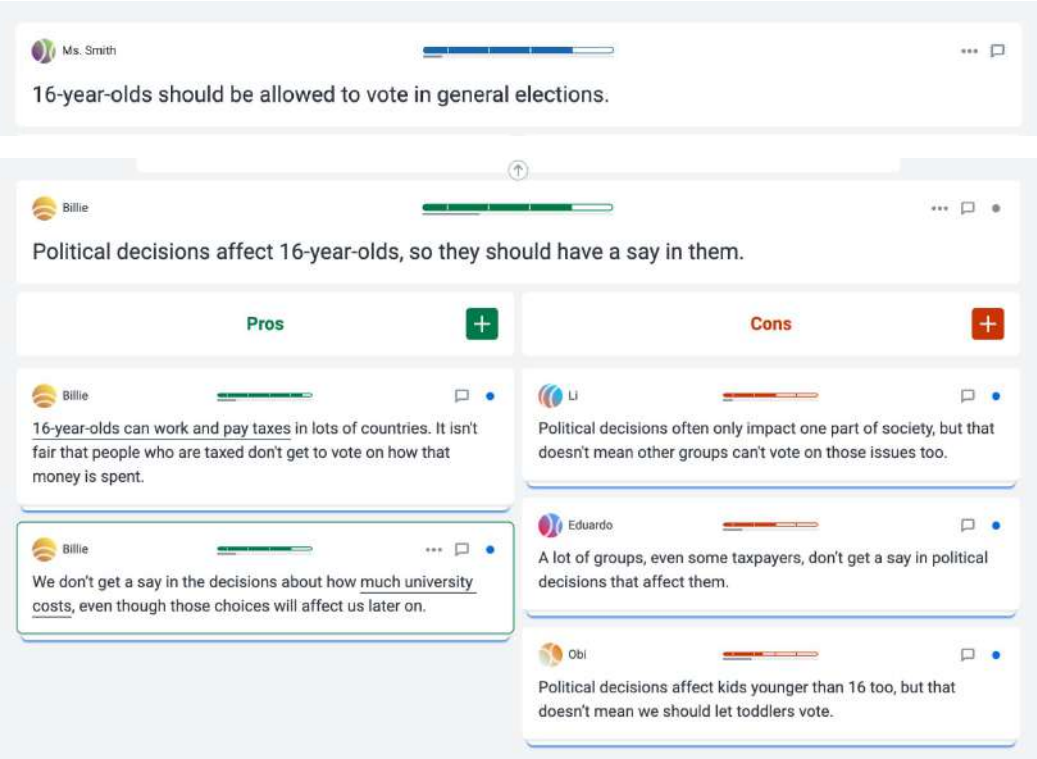
Qs to ask in between:

1. Do you teach Computational Thinking in your school?
    a. slider: not at all, 5 hours, 10 hours, 20+ hours
2. Which subject do you teach it as a part of?
    a. multiple choice: Math, Computer Lab, Science, Other subjects
3. What do you teach in it?
    a. open ended

Qs to ask in between:

1. Do you teach AI in your school?
2. Which subject do you teach it as a part of?
3. What do you teach in it?

Some Credible Sources



Kialo

Link: https://www.bebraschallenge.org/

- Contains: Critical Thinking and Decision Making
- Grades covered: 1 to 12
- Digital/**Unplugged**
  (some countries take it digitally)
- **Free/** Paid