

CIS Ontario 

Conference of Independent Schools of Ontario

Connects Unconference

**Fostering STEAM & Design Thinking
among students and staff.**

Nice to Meet you!



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TECHNOLOGY
TEACHING &
LEARNING
COORDINATOR,
THE YORK SCHOOL

Session Format (120 min)

Welcome	5 min	Facilitator Introductions & overview
Learn	25 min	Session facilitators to share their experience / learning
Reflect & Share	25 min	Facilitated table sharing of expertise and prior knowledge
Deep Dive	30 min	Facilitated deep dive into a session sub questions.
Record & Consolidate	30 min	Participants consolidate with the infographic exit ticket
Gallery Walk	5 min	Conversations and connections during the coffee break.

Core Agreements

- **Respect your own air-time**, and that of your fellow participants
- **We are all experts:**
 - Experts in how to collaborate
 - Experts in how to support one another
 - Experts in how to be generative in our dialogue
 - Experts in generous listening
- **We don't know it all:**
 - We all have room to grow, we benefit most when we listen with an open mind
 - We all come from different schools and different cultural contexts,
- **Network & Connect**
 - Continue the conversation during the breaks and over lunch

Fostering STEAM & Design Thinking among students and staff.

*“How might we effectively integrate STEAM &
Design Thinking across the curriculum?”*

Your Conference Placemat

This is the key to effective learning from today's session:

- Follows the flow of the session
- Provides you with prompts and space to ask questions, write ideas, and document your learning.

It is the artifact of the session. Use it, write on it, doodle, sketch note, whatever helps you learn the most from the the day.

The placemat form is titled 'cis Ontario' in the top left corner. It has two main sections: 'Prepare' on the left and 'Learn' on the right. At the top, there are fields for 'Name: _____' and 'Session Strand: _____'. Below these is a section for 'Who is at my table? (Record Names & Schools)' with the handwritten text 'names... names... names...'. The 'Prepare' section contains a 'Guiding question:' followed by the handwritten text 'How might we effectively integrate STEAM & Design Thinking across the curriculum?'. Below this is a prompt: 'What insights and experience do I have to contribute to this guiding question?'. At the bottom of the 'Prepare' section is another prompt: 'What questions do I have about this guiding question and this topic in general?'. The 'Learn' section contains a prompt: 'Use this section to take notes during your session facilitator presentation. What questions do you have? What areas might you like to explore next?'. There is a small share icon in the top right corner.

Another Copy of the Placemat:
bit.ly/anotherplacemat2019



Prepare & Learn

Prepare

- 5 min solo reflection and expertise inventory.
- What do you know already and what are you curious about?

Learn

- 20 min presentation from your facilitators.
- Take notes
- Write down questions and ideas

 Name: _____		Session Strand: _____		
Who is at my table? (Record Names & Schools)				
Prepare		Learn		
<i>Guiding question:</i>		<i>Use this section to take notes during your session facilitator presentation. What questions do you have? What areas might you like to explore next?</i>		
<i>What insights and experience do I have to contribute to this guiding question?</i>				
<i>What questions do I have about this guiding question and this topic in general?</i>				

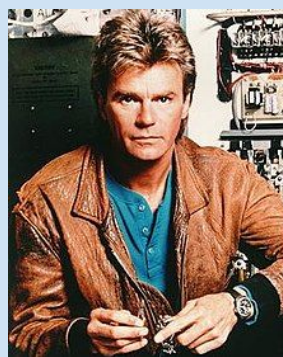
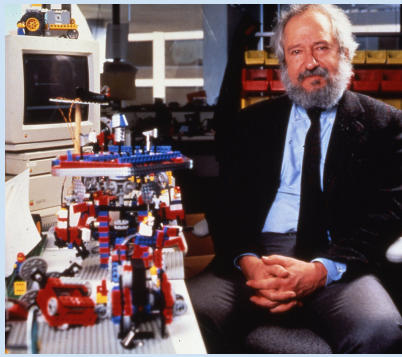




Jennifer Rexford, Princeton: In an AI future, what are the HUMAN skills?

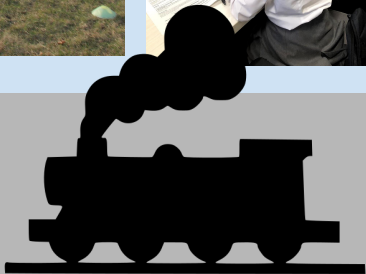
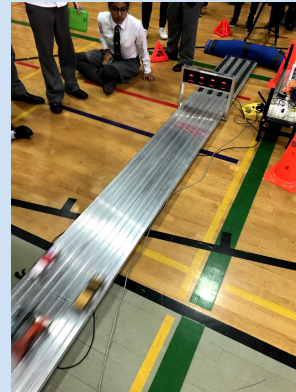
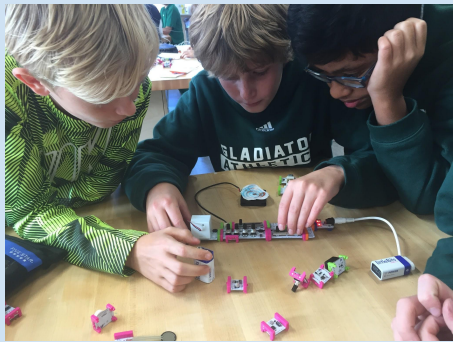
Exploring Game Design With Students





STEAM HEROS





STEAM HEROS



STEAM

RELEVANCE

connections

UNDERSTANDING

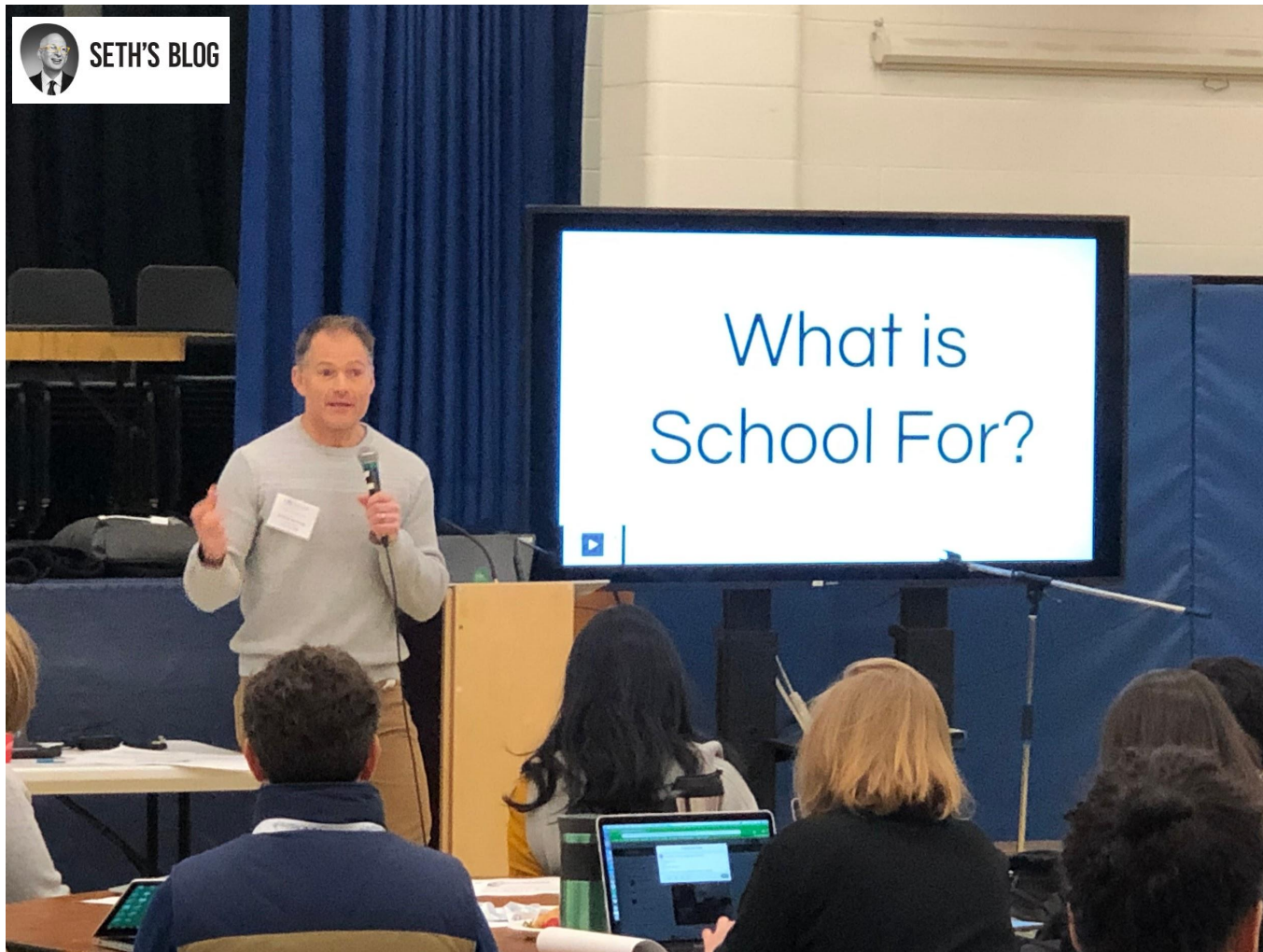
MEANING

MAKING

CONVERSATION

RELATIONSHIPS

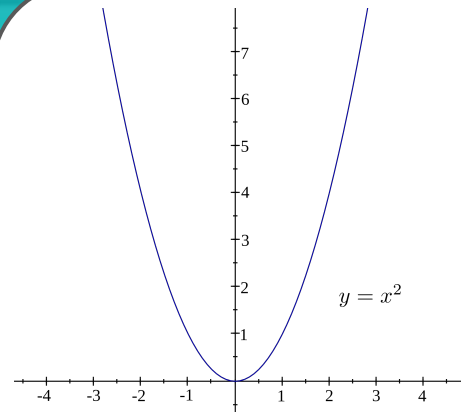
BEAUTY



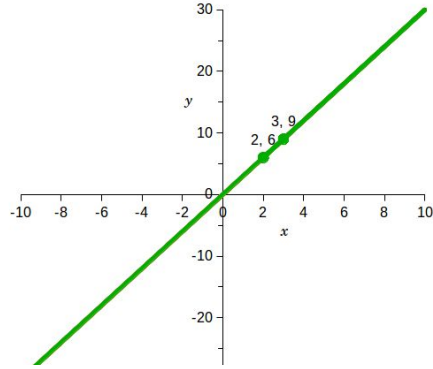
What is School For?

The purpose of school is to:

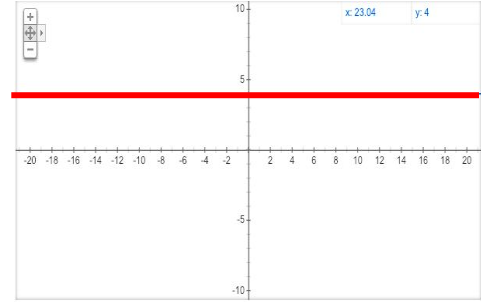
1. Become an informed citizen
2. Be able to read for pleasure
3. Be trained in the rudimentary skills necessary for employment
4. Do well on standardized tests
5. Homogenize society, at least a bit
6. Pasteurize out the dangerous ideas
7. Give kids something to do while parents work
8. Teach future citizens how to conform
9. Teach future consumers how to desire
10. Build a social fabric
11. Create leaders who help us compete on a world stage
12. Generate future scientists who will advance medicine and technology
13. Learn for the sake of learning
14. Help people become interesting and productive
15. Defang the proletariat
16. Establish a floor below which a typical person is unlikely to fall
17. Find and celebrate prodigies, geniuses and the gifted
18. Make sure kids learn to exercise, eat right and avoid common health problems
19. Teach future citizens to obey authority
20. Teach future employees to do the same
21. Increase appreciation for art and culture
22. Teach creativity and problem solving
23. Minimize public spelling mistakes
24. Increase emotional intelligence
25. Decrease crime by teaching civics and ethics
26. Increase understanding of a life well lived
27. Make sure the sports teams have enough players



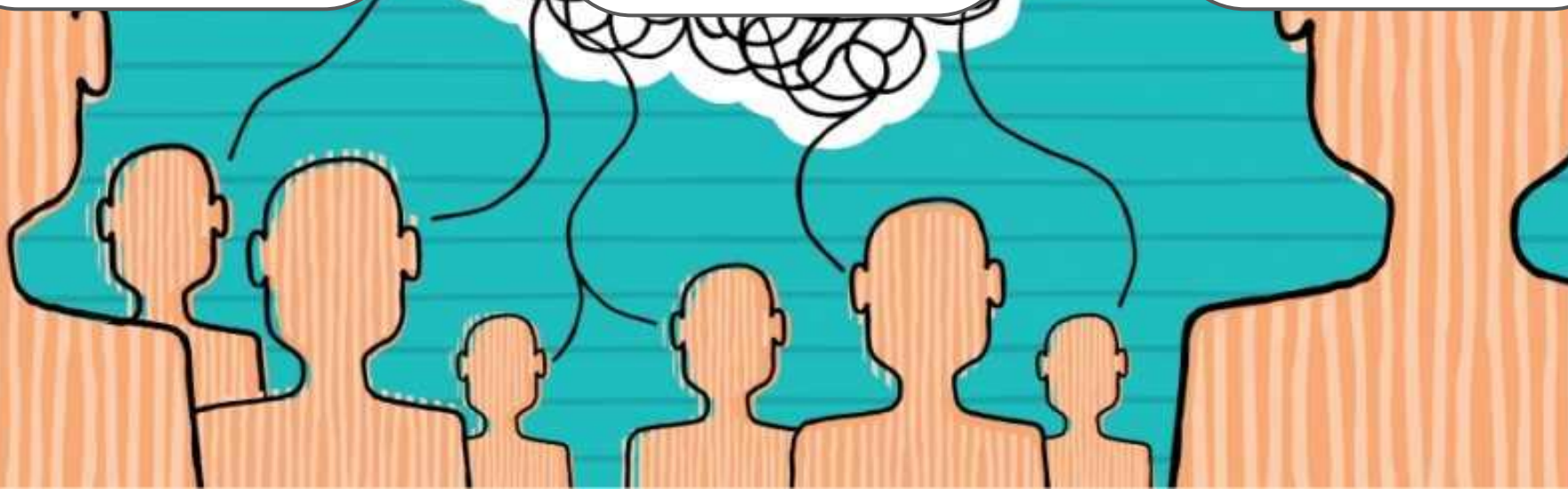
Knowledge



Skills



Mindsets



SUCCESS



WHAT PEOPLE THINK
IT LOOKS LIKE

SUCCESS



WHAT IT REALLY
LOOKS LIKE

YOUR PLAN



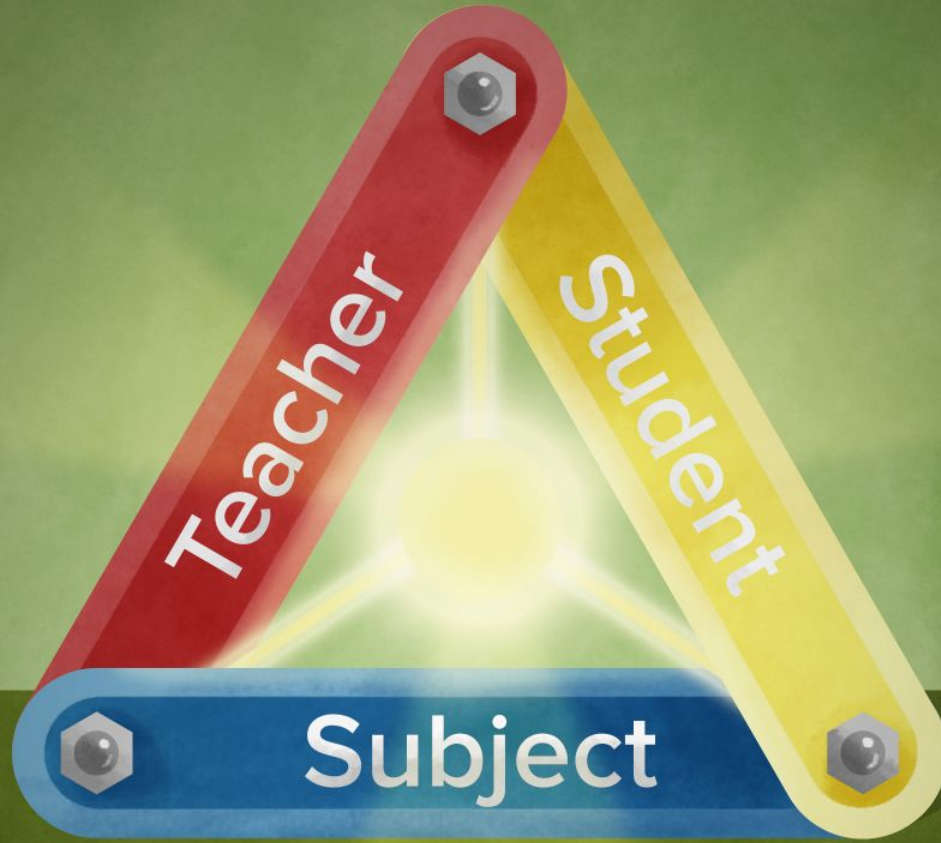
REALITY



*In school, as with parenting,
we aren't there to smooth the road for them;
our job is to prepare them for the bumps.*

Amy Morin, Why the lawnmower parent is worse than the helicopter parent

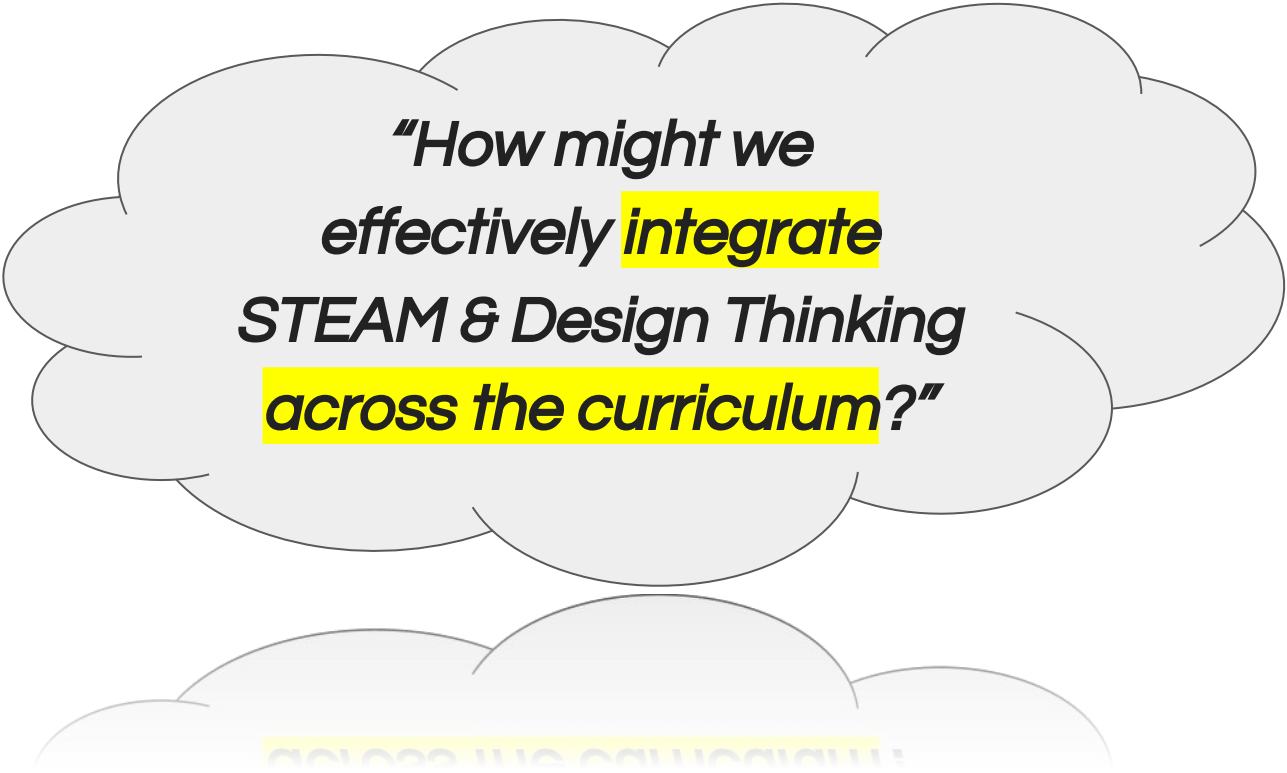




Teacher

Student

Subject



*“How might we
effectively **integrate**
STEAM & Design Thinking
across the curriculum?”*

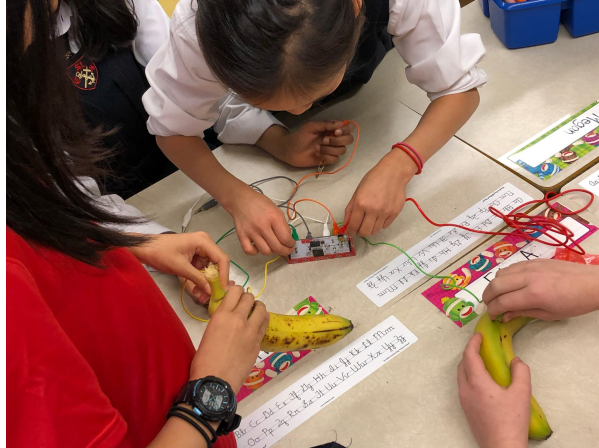
Integrate + Across the Curriculum = Transdisciplinary Learning



Technology Integration



Transdisciplinary



Science Technology Engineering Arts Mathematics

Integration

Mr. Caplan 2018-2019 ~

	Wed A	Wed B	Wed C	Wed D
Faculty PD 8:25-9:25 (60)	Faculty PD Meeting			
Period 1 9:30 - 10:15 (45)	Tech 5			
Period 2 10:20-11:05 (45)		Tech 7A	Tech 6A	Tech 7A
Flex Time 11:10-12:20 (70)	Flex Time / Junior PBL			
Lunch 12:20-12:55 (35)	Lunch			
Period 3 12:55-1:40 (45)		Tech 6B	Tech 2	Tech 3
Period 4 1:45-2:30 (45)	Tech 7B	Tech 4	Tech 7B	Tech 1
Cocurriculars 2:30-3:30 (60)	Cocurriculars			



Learning Skills and Work Habits		E-Excellent	G-Good	S-Satisfactory	N-Needs Improvement
Responsibility	<ul style="list-style-type: none"> • Follows directions and assignments when learning. • Arrives on time and ready to learn. • Completes and submits class work, homework, and assignments according to agreed-upon timelines. • Takes responsibility for and manages own behaviour. 				
Independent Work	<ul style="list-style-type: none"> • Independently research, assesses, and makes plans to complete tasks and meet goals. • Uses class time appropriately to complete tasks. • Completes individual work with minimal supervision. 				
Initiative	<ul style="list-style-type: none"> • Takes initiative with on-time ideas and responsibilities for learning. • Contributes to capacity for innovation and a willingness to take risks. • Demonstrates curiosity and interest in learning. • Proactively identifies and solves on-time problems. • Proactively and advocates appropriately for the rights of self and others. 				
Organization	<ul style="list-style-type: none"> • Develops and follows a plan and process for completing work and tasks. • Establishes priorities and manages time to complete tasks and achieve goals. • Identifies, gathers, evaluates, and uses information, technology, and resources to complete tasks. 				
Collaboration	<ul style="list-style-type: none"> • Works with others and in a group to complete tasks and achieve goals. • Participates proactively in the class, projects, events, and traditions of school. • Builds healthy peer relationships through personal and professional interactions. • Works with others to resolve conflicts and build consensus to achieve group goals. • Shares information, resources, and expertise, and promotes critical thinking to solve problems and make decisions. 				
Self-Regulation	<ul style="list-style-type: none"> • Sets and achieves personal goals and monitors progress towards achieving them. • Seeks help or assistance when needed. • Assesses and reflects critically on own strengths, needs, and interests. • Identifies learning goals, interests, and strategies to meet personal needs and achieve goals. • Responds and relates in a self-aware manner to challenges. 				

Curious Kids

How can we, as environmentalists, spread awareness of the overuse of paper in art, to help protect the environment?

What does Curious Kids look like?

Step 1 - Start with a **question** related to a **chosen topic**.

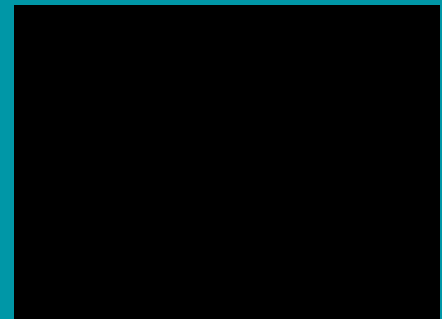
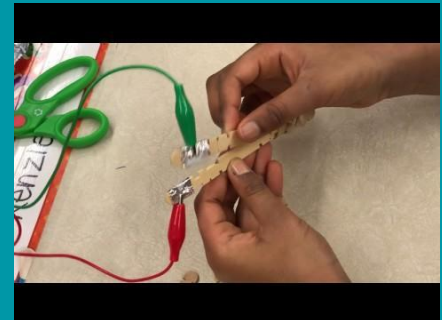
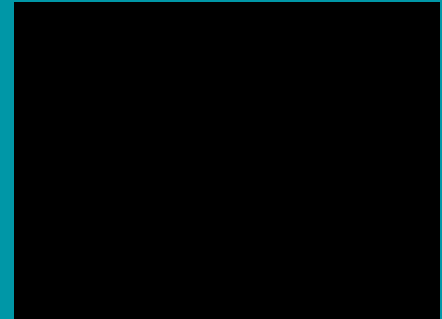
Step 2 - **Research** and **learn** more about it.

Step 3 - **Choose** and **present** a pitch of the project

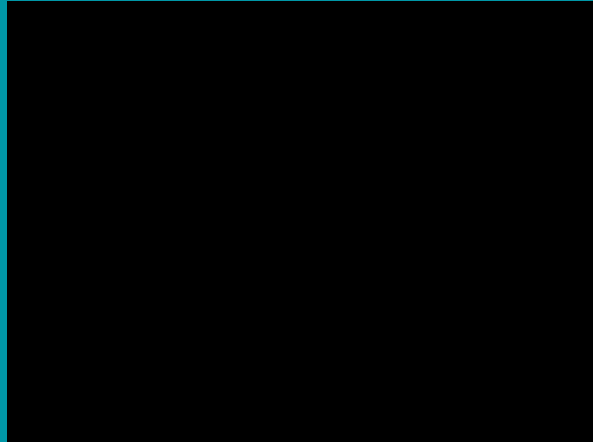
Step 4 - Continue to **research** and **learn** more about the topic and begin to **create** the product.

Step 5 - Revise project using **self-reflection**, as well as **peer** and **teacher feedback**.

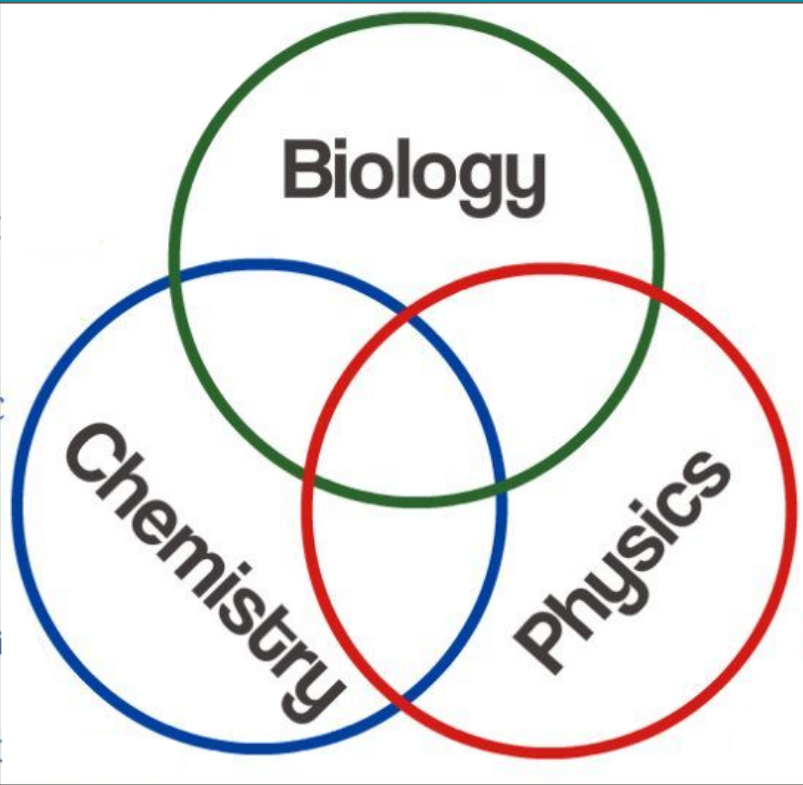
Step 6 - **Share public product** to an audience.



Junior • Middle • Senior



Junior • Middle • Senior



Developing Innovators + Deep Learners

Junior • Middle • Senior

Design TO Festival

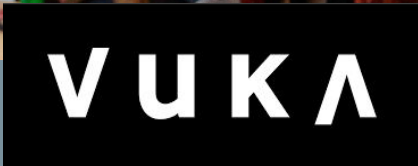
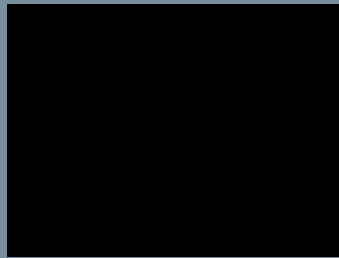


Deep Learning Competencies – 6 C's

- | | | | |
|---|--|--|---|
| <p>CREATIVITY
Having an 'entrepreneurial eye' for economic and social opportunities, asking the right inquiry questions to generate novel ideas, and leadership to pursue those ideas and turn them into action.</p> | | | <p>CRITICAL THINKING
Critically evaluating information and arguments, seeing patterns and connections, constructing meaningful knowledge, and applying it in the real world.</p> |
| <p>COMMUNICATION
Communicating effectively with a variety of styles, modes, and tools (including digital tools), tailored for a range of audiences.</p> | | | <p>CHARACTER
Learning to deep learn, armed with the essential character traits of grit, tenacity, perseverance, and resilience; and the ability to make learning an integral part of living.</p> |
| <p>CITIZENSHIP
Thinking like global citizens, considering global issues based on a deep understanding of diverse values and worldviews, and with a genuine interest and ability to solve ambiguous and complex real-world problems that impact human and environmental sustainability.</p> | | | <p>COLLABORATION
Work interdependently and synergistically in teams with strong interpersonal and team-related skills including effective management of team dynamics and challenges, making substantive decisions together, and learning from and contributing to the learning of others.</p> |

“How might we effectively integrate STEAM & Design Thinking across the curriculum?”

...among students and staff...



COHORT21

RETHINKING LEARNING FOR THE 21ST CENTURY

Cohort 21 is a year-long professional development opportunity for CIS Ontario educators. Its mission is to build a community of passionate teachers interested in refining and redesigning their practice through the exploration of new pedagogies, ideas and tools.

YOUR FIRST STEP

Wondering if Cohort 21 is for you?
Candidates do not need technology skills, just a passion for learning and a commitment to lifelong practice. Registration for Cohort 21 opens in August. CIS Ontario Schools may submit nominations from any grade, department or role. The Cohort 21 experience runs from October to April. It is made up of four face-to-face sessions plus connections to rich online discussion and supported by our team of facilitators and coaches.

BUILDING COMMUNITY

The first face-to-face session is dedicated to building relationships and community within the cohort. It is here that we set up the frameworks and networks and the tools that enable them. Participants walk away with a new toolkit and community with whom to connect, collaborate and learn.

DESIGN THINKING

In the second face-to-face session we look to deepen our exploration of 21st century education through the use of Design Thinking. It is in this session that the “Action Plan” is launched and implemented. Through the use of engaging practical scenarios we invited participants to identify opportunities to improve learning. The day ends with each member publishing the process to their Cohort 21 blog, opening up each Action Plan for personalized feedback and support.

INNOVATION

Each year the first face-to-face session is held in the Maple Discovery Centre. Community building and innovation continue to be a focus as cohort members are asked to design their Action Plans. To help facilitate this process, Cohort 21 has formed unique partnerships with the MARS education incubator. Throughout the day members will hear from educational start-ups and thought leaders giving further inspiration.

THE END OF THE BEGINNING

The final face-to-face session is a celebration of learning. Cohort members connect in small groups to share and reflect on their action plan journey with an eye to the future. They make plans to continue growing together and roadmap how they will bring their experiences back to their own schools. The day ends just as the Cohort 21 experience began with a commitment to refining practice and exploring new pedagogies and tools.

Education → Learning

WHEN WE LEARN TOGETHER, WE PUSH
OURSELVES, DISCOVER REAL INSIGHTS AND
MOST OF ALL, DANCE WITH THE DISCOMFORT
THAT'S ESSENTIAL TO TURN EDUCATION INTO
LEARNING.



Reflect & Share

Reflect on your answer to Question #1

- 1 min (solo)

Share Your answer to Question #1

- 7 min (group share)

Repeat with Question #2 and #3

** This should take 25 min total**

** Record all you hear and learn on your placemat

Insights: What does *STEAM/ Design Thinking* look like and feel like when it is implemented and functioning at its best?

Resources: Where can I look for answers, ideas and best practices to inform my own?

Tips & Tricks: What are some important steps to consider when planning & implementing?

Deep Dive

Reflect on your answer to Question #1

- 1 min (solo)



Share Your answer to Question #1

- 4 min (table share)

Repeat with Question #2 , #3, # 4

Share with the Room

- 10 min (room discussion)

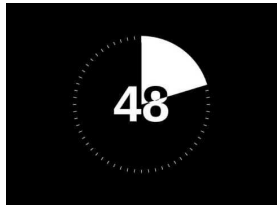
 **Deep Dive** 

1) *What would change if...?*

2) *If we only could we would...*

3) *I used to think now I think....*

4) *It might seem like a good idea, but trust me, don't even think about... (share a failure or story that resulted in learning from something that did not go as planned)*



Deep Dive

Reflect on your answer to Question #1

- 1 min (solo)



Share Your answer to Question #1

- 4 min (table share)

Share your answer with the Room

- 4 min room share

Repeat with Question #2 , #3, # 4

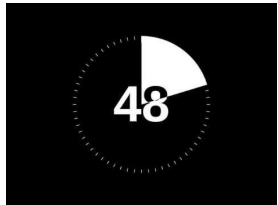
 **Deep Dive** 

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EXIT TICKET: Inform the Infographic

Inform yourself:

- 5 min solo reflection
- Consolidate your learning on your placemat

Inform the Infographic:

- 20 mins group synthesis to create the table infographic

 **EXIT TICKET: Inform the Infographic** 

What is your draft answer to your session guiding question?

What resources were shared by your table group that you will read and follow up with (blogs, books, etc...)?

What tips and advice are applicable to your role and school?

What schools and programs will you research, connect with and/or follow up with?

 **GUIDING QUESTION**

Answers and Insights

Tips, Tricks & Advice

Resources to Follow Up with

Schools to Follow Up with

Gallery Walk

