# Workshop Resources

# Inquiry into SEL

arch terms and programs related to the "social and emotional learning" domain.	
tes des	
<ul> <li>What organizational structures did you find? (categories and competencies)?</li> <li>What frameworks could inform future growth in SEL skills in your school?</li> </ul>	
• What frameworks could inform future growth in SEL skills in your school?	

# Mind-Heart-Body Check-in

Mind	
Heart	
Body	

Images: Microsoft Clip Art

#### The Social Brain video transcript

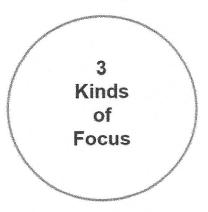
Humans are social beings that thrive when working in groups. Throughout history, we have enhanced our chances of survival by collectively sharing things such as resources, knowledge and workloads. Alternatively, isolation or rejection from a group could have decreased our survival chances.

As a result, our brain is highly aware of our ongoing social status and possible threats or rewards to this. Today, the workplace is one of the biggest social environments the brain experiences. Our brain is constantly providing us with feedback on our social interactions with others. We need to know when things are working in our favor or when our social situation may be under threat.

Our brain interprets our social interactions through the use of neural pathways and chemical messages commonly used for pleasure and pain. For example, when our brain recognizes potential rewards from a social interaction, it releases chemicals along the same neural pathways associated with pleasure, making us feel physically good. When we feel threatened, rejected, or taken advantage of, the same pathways that tell us we are in physical pain are activated.

Our brains don't always operate in isolation from one another. We often trigger a threat or reward response to the people around us. We may not even realize we are doing this. So the next time you interact with someone at work, consider what social messages you may be sending, and the impact you may be having on their brain.

# Three Kinds of Focus mindmap



## What is mindfulness?

Instructions: Jot down words, phrases or images that come to mind when you consider, "What is mindfulness?				

Notes:

#### What Mindfulness is and Isn't

#### - Daniel Goleman http://linkd.in/1pi4efi

Now that meditation has hit the cover of Time, the Wisdom 2.0 has brought meditating executives to the headlines, and figures from Arianna Huffington to 50 Cent do the practice, a bit of backlash was inevitable.

But I was surprised to see my friend Tony Schwartz dissenting (at least a bit) in a *New York Times* blog "More Mindfulness, Less Meditation." Tony's sense of the working world ranks first class, but this time I think he got the facts wrong, in two ways. To be sure, he nods to the well-established benefits of meditation: it lowers levels of the stress hormone cortisol, enhances the immune response, lifts mood, helps us recover more quickly from stress and sharpens focus. But where he gets it wrong, in my reading of the data, is in expecting that practicing meditation should mean we experience fewer distractions. In fact the mind is wired to wander about 50% of the time, a Harvard study found (and FYI, it wanders most on your commute, while working, and when you're looking at a digital screen).

The scientific data suggests it's not that we have fewer distractions, but that we can handle them better. In fact, meditation takes advantage of the mind's wiring to wander to create an opportunity for mental training.

Wendy Hasenkamp and Laurence Barsalou at Emory University used brain imaging while people meditated and found four basic moves: you focus on one thing (say, your breath), your mind wanders off, you notice it wandered, and you shift attention back to that one thing again. And you do this over and over again.

It turns out that this simple movement of mind strengthens connections among the brain's circuits for concentrating. The more you practice, the stronger the connections.

This is the basic rep in our mental gym, quite akin to lifting free weights. The idea is not to stop our mind from wandering. The point is to be mindful of its wandering and shift to where you want it to be

Some clarification here: "Mindfulness" refers to that move where you notice your mind wandered. With mindfulness you monitor whatever goes on within the mind. "Meditation" means the whole class of ways to train attention, mindfulness among them.

Some meditation methods just have you be mindful of whatever goes on within your mind — thoughts, feelings, fantasies, etc — without judging or reacting; this self-awareness in itself tends to quiet the mind. But in contrast many meditation methods are concentrative — you continually bring your mind back to one point of focus like your breath or counting or a simple sound you repeat mentally. Concentrative methods use mindfulness to notice when your mind wanders so you can bring it back to that one focus.

The other place Tony gets it wrong is in the expectation that meditation will resolve our inner conflicts or fix dysfunctional relationship patterns. It was never designed for that – psychotherapy was. Mindfulness and psychotherapy are like hammers and saws – different tools for different jobs.

Except that it turns out the two in combination are particularly powerful – witness the rise of mindfulness integrated with cognitive therapy, which studies find to be one of the most powerful treatments for everything from depression to, just perhaps, dysfunctional relationship patterns. The first big discovery: John Teasdale at the University of Oxford found that mindfulness plus cognitive therapy reduced episodes of depression by 50% in chronically depressed patients who were not helped by any other means, from drugs to electroconvulsive therapy.

### Mindfulness Tools

Intentionally bringing one's awareness to the present moment without judgement

Any mindful practice involves 4 repeated steps:

- 1. Place your attention on a singular present-moment experience.
- 2. Your mind will wander off, start chatting, thinking of other things.
- 3. You will notice that it has wandered.
- 4. Shift your attention back to the singular present-moment experience.

Our brains have billions of neurons and trillions of neural connections. Much of the activity in the brain is spontaneous (out of our conscious control) and keeps us alive. "Wandering" or stream of consciousness type thinking is normal, as neurons fire (send chemical and electrical messages) and touch off other neurons across different neural networks.

Becoming an "observer" to this wandering and consciously shifting our attention back to an intended focus, takes practice. The more we practice, the better we become at attentional control. The object of focus is not the important factor; the process of maintaining intentional focus as long as possible, unintentional wandering, noticing the wandering and shifting our attention back to the intended focus is what strengthens our ability to be self-aware and to self-regulate.

#### **Examples:**

#### **Breathing**

- Let your mind rest on the inflow and outflow of the breath. Your focus can be on the air flowing in and out of your nose, up and down from your lungs, as an expansion and contraction of your lungs, your belly rising and falling, whatever feels comfortable. It should not feel forced.
- Oval breathing: In your mind's eye picture an oval shape. On the in-breath, picture your breath traveling slowly
  up the curve of the left side of the oval and then over the top. On the out-breath, picture your breath traveling
  slowly down the curve of the right side of the oval and then around the bottom. Repeat. (This also works well with
  a square shape.)
- 7-11 breathing: On the in-breath, silently count to 7. On the out-breath, silently count to 11. The breath should be natural, not forced, so count faster at the end of the out breath if need be. Repeat.
- Color breathing: Choose a color that represents a state of mind you would like to strengthen in this moment. On
  the in-breath, picture that color filling your lungs and spreading throughout your body. On the out-breath, picture
  clear air exhaling. Repeat.
- Breathing + focus words: If you need additional level of focus while following your breath, you can silently say a
  word on the in-breath and a word on the out-breath. Any words are fine; something simple like "in out" or or "rest
   relax", or a set of words that represent a state of mind or an intention, like "calm strong", "clear focused".

#### **Body Scan**

- Take a deep breath and focus attention on your feet, breathing relaxation into that part of your body. Move up
  through the ankles, calves, knees, thighs and so on, breathing relaxation into each part of the body, finally
  focusing on and breathing relaxation into your mouth, eyes, ears and scalp.
- Alternative: Tense and then relax each part of the body in the same order as above.

#### Senses: Sight, Sound, Smell, Taste, Touch

- Sight: Choose a focus object, take a deep breath and spend time noticing all the details of the object. Imagine
  what it feels like to be that object.
  - Suggestions: natural objects like flowers, tree branches in the wind, a cloud, a mountain, an ant crawling,
     etc. Or indoors objects such as a candle flame, your hand, etc.
- Sound: Close your eyes, take a deep breath and tune your attention to the sounds in your space. A recorded bell
  or music could also be used as focus objects.
- Smell: Choose an object with a scent. Inhale slowly, fully noticing the subtleties of the smell.
  - Suggestions: containers with pieces of different fruit or other pleasant scents (cotton balls that have drops of essential oils on them, baby powder, candies,

## Thought reframing

Observing, challenging and intentionally choosing one's own thoughts

Think of a situation involving you and one other person that was irritating to you and still bothers you when you think about it. For this exercise, do not choose a highly emotional, personal situation.

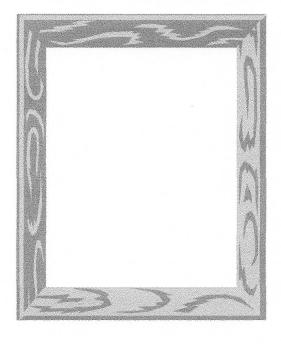
- Take 5 deep, calming breaths.
- Visualize the situation vividly in your mind.
- Keeping that situation in mind, complete the following exercise.

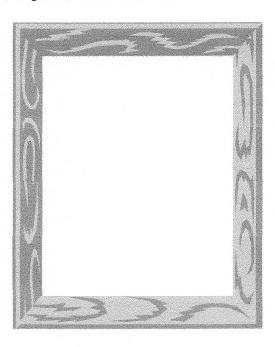
1.	I feel		vith	b	ecause	
	name th	e emotion	name of pe	erson	ecausedescribe what s/he is doing	
2.	I think that		is			
	nai	ne of person	list the negat	ive chara	acteristics you are perceiving	
3.	What do I nee	d? What is	my outcome į	goal?		
llengin	g my mindfrar	ne/perspec	ctive:			
4.	What are the	penefits of	these thought	s? Hov	v has this mindframe helpe	d me?
	What are the loptions?	imitations (	of these thou	ghts? H	low is this mindframe limiti	ing my
	options:					
iderin	g the other pe	rson's poss	ible mindfram	ne/pers	spective:	
6.		might be t	hinking that	-	ght be perceiving the situation	
7.					be	ecause
	name of person		name the	emotio	n	

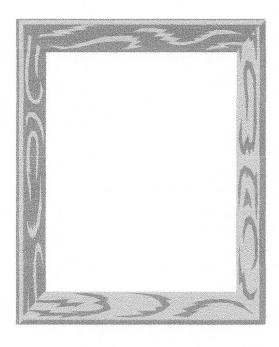
8	might be thinking that I am					
	name of person					
	list the negative characteristics the other person might be perceiving in you					
9	might need					
	name of person					
	describe what the other person might be needing in this situation					
_	that "other people with their differences can also be right," complete the					
	s sentences.					
1	0.Can I be absolutely sure that my perspective/mindframe is the ONLY					
	interpretation of the situation? [ ] Yes [ ] No					
1	1.What are some other ways I could view this situation?					
1	2.How might my feelings change if I could see the situation differently?					
1	3.How might my actions change if I could see the situation differently?					

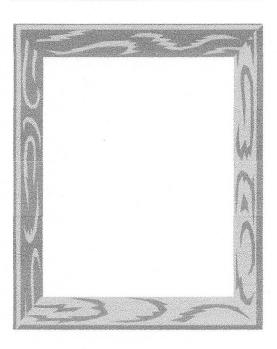
In pairs, share your processes and any insights the process provided you.

Photo reframing
Instructions: Describe the photo on the line under the frame. Inside the frame, list how the photo could be interpreted through 3 perspectives: Positive, Negative, and Multicultural









# Hot Button reframing

Next to each hot button below, write a phrase that describes a student's or parent's behavior that eally irritates you.
See 1

Write each of those phrases as a sentence in the chart below.

Then examine those interpretations and reframe them to help you think about the behavior in a different way.

Hot button statement	Reframed statement
I have to watch John constantly or he'll run down the hall or go out the gate.	John is a very active child who needs movement. He may not clearly understand the expectations about staying with the group.
Kiva always criticizes the other student's projects or destroys their art work.	Kiva may be frustrated because she was not asked to be in a certain project group. She may wish her artwork was better but doesn't know how to ask for help.
This parent is so manipulating. She constantly calls me to question her child's grades.	This parent may be worried about how her child is doing. She may feel pressure from someone else to make sure her child succeeds. She may not understand the criteria by which her child's work is being assessed.

### Change facilitation: Bringing in or strengthening support for SEL

#### Instructions:

Each group will consider one of the below elements which need to be considered in order to effectively facilitate and support any change effort.

- For change to happen effectively, the people involved need to see a reason for change.
- For change to happen effectively, the people involved need to understand the details of the change.
- For change to happen effectively, the people involved need to be included in the change process.
- For change to happen effectively, there must be both support and accountability systems.

Brainstorm a minimum of three actions that could be planned in order to help teachers understand, plan for, explicitly teach, and actively support social and emotional skill development.

Notes:		
For change to	happen effectively, the people involved need to see a reason for change.	
		-
For change to I	happen effectively, the people involved need to understand the details of the	
change.		

IB learner profile attribute	Responsibilities	Indicators
Balanced	Development of the whole child emphasized Support Diploma Programme core	Looks for evidence of growth and development in all areas of school life
Reflective	Constructively self-critical Striving to improve	Encourages and facilitates evaluative feedback from the whole school community (students, teachers, as well as board)

Figure 3 Example of a learner profile for school leaders

Note: While directed at the administrative leadership (school director, board principal, Diploma Programme coordinator), leadership should also be considered as devolved and situational, to include students, teachers and parents where appropriate.

ill learner profile attribute	Responsibilities	indicators		
Inquirers	Demonstrate lifelong learning Encourage student-led inquiry Seek professional development opportunities	Passionate about research into teaching and learning, and subject development  Willingness to take on opportunities beyond classroom teaching (for example, examining)		
Knowledgeable	Understand Diploma Programme principles and practices Understand cultural and local contexts	Excellent subject knowledge and knowledge of Diploma Programme curriculum and assessment practices		
Thinkers	Model excellent thinking practice	Thinks creatively Explains to students how they reached answers and conclusions		
Communicators	Listen and encourage students to speak up Share practice with colleagues	Allows students a role in decision-making  Communicates in several languages		

IB learner profile attribute	Responsibilities	Indicators		
Principled	Fair and consistent dealings with students  Accept responsibility for actions	Ethically-based discipline is applied Honest with students and others Encourages an open, critical debate of issues Reacts positively to constructive criticism from others, including students		
Open-minded	Value the perspectives of others that might be different from their own			
Caring	Sensitive to school climate  Demonstrate compassionate behaviour  Supportive of colleagues	Good of the school comes before self-interest Models ethical behaviour Interested in student welfare		
Risk-takers	Visionary leadership Prepared to delegate leadership to others Courageous	Open to new and different ideas to improve the quality of the programme and the learning environment		
Balanced	Considers role to be a teacher of the whole child not just the subject	Supportive of CAS, TOK and other holistic school programmes		
Reflective	Constructively self-critical  Always striving to improve	Encourages and facilitates evaluative feedback from students as well as other teachers and administrators		

Figure 4 Example of a learner profile for teachers



2. Horizontal charts
This works best in a digital spreadsheet format. A new sheet could be created for each skill category.
This example is organized by IB ATL categories and MYP-DP-CP skill clusters.

	K	1	2	3	4	Etc
Self-managen	nent skills	•			•	
Organization ski	Organization skills- Managing time and tasks effectively					
Set goals and develop action plans	List age- appropriate strategies					
Create and use a planner for short and long- term assignments						
List additional skill indicators						
Affective skills-	Managing state o	of mind				
Practice mindfulness						
Emotional management						
Understand how the brain works						
Self-motivation						
Perseverance						
Practice self- confidence						
Resilience						
List additional skill indicators						
Reflection skills						
Recognize strengths and limitations						
Identify personal learning strategies						
List additional skill indicators						

#### School values > Skills

The mission and values of a school provide a vision for the school's purpose and desired student outcomes. Taking action in alignment with that vision requires practical skills. In IB schools, the learner profile represents the IB Mission in action and the ATL skills provide the skill base for living the learner profile. When adopting social and emotional learning skill sets, IB schools could align SEL skills with the approaches to learning skills framework already in place to support the learner profile. In non-IB schools, SEL skills could be aligned to support each expected student learning result.

**Directions:** Read the descriptor for each learner profile attribute. In table groups, select approaches to learning and SEL skill categories that would support people in being able to demonstrate each attribute. Non-IB participants could work with table group or might choose to align SEL skills with their school's expected student learning results.

Learner Profile attribute	Descriptor	IB Approaches to learning skill categories	SEL skills that support demonstrating the descriptor. This example uses the CASEL SEL competencies.	
We understand the importance of balancing different aspects of our lives - intellectual, physical, (spiritual) and emotional - to achieve well-being for ourselves and others.  We recognize our interdependence with other people and with the world in which we live.		[ ] Self-management skills [ ] Social skills [ ] Communication skills [ ] Thinking skills [ ] Research skills	[ ] Self-awareness [ ] Self-management [ ] Social awareness [ ] Relationship skills [ ] Responsible decision makin	
Caring	We show empathy, compassion and respect.  We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.	[ ] Self-management skills [ ] Social skills [ ] Communication skills [ ] Thinking skills [ ] Research skills	[ ] Self-awareness [ ] Self-management [ ] Social awareness [ ] Relationship skills [ ] Responsible decision making	
Communicator	<ul> <li>We express ourselves confidently and creatively in more than one language and in many ways.</li> <li>We collaborate effectively, listening carefully to the perspectives of other individuals and groups.</li> </ul>	[ ] Self-management skills [ ] Social skills [ ] Communication skills [ ] Thinking skills [ ] Research skills	[ ] Self-awareness [ ] Self-management [ ] Social awareness [ ] Relationship skills [ ] Responsible decision making	
Inquirer	<ul> <li>We nurture our curiosity, developing skills for inquiry and research.</li> <li>We know how to learn independently and with others.</li> <li>We learn with enthusiasm and sustain our love of learning throughout life.</li> </ul>	[ ] Self-management skills [ ] Social skills [ ] Communication skills [ ] Thinking skills [ ] Research skills	[ ] Self-awareness [ ] Self-management [ ] Social awareness [ ] Relationship skills [ ] Responsible decision making	

## SEL Relationship skills - MYP Collaboration skills

#### Instructions:

Star  $\not\propto$  the SEL relationship skills and MYP collaboration skill indicators that you can demonstrate consistently and competently when interacting with others, *using identifiable strategies*.

SEL Relationship skills (CASEL)	MYP Collaboration skill indicators
The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups.  The ability to communicate clearly, listen well, cooperate with others, resist inappropriate social pressure, negotiate conflict constructively, and seek and offer help when needed.  Communication  Social engagement  Relationship-building  Teamwork	<ul> <li>Use social media networks appropriately to build and develop relationships</li> <li>Practise empathy</li> <li>Delegate and share responsibility for decision-making</li> <li>Help others to succeed</li> <li>Take responsibility for one's own actions</li> <li>Manage and resolve conflict, and work collaboratively in teams</li> <li>Build consensus</li> <li>Make fair and equitable decisions</li> <li>Listen actively to other perspectives and ideas</li> <li>Negotiate effectively</li> <li>Encourage others to contribute</li> <li>Exercise leadership and take on a variety of roles within groups</li> <li>Give and receive meaningful feedback</li> <li>Advocate for one's own rights and needs</li> </ul>

What do you notice about your chart? Many stars? A few stars?

### **CASEL - MYP ATL Self-management skill indicators**

#### Instructions:

Underline the competencies and skill indicators that students could demonstrate by using the strategies listed on the Graffiti Wall.

CASEL Competencies	MYP Self-management skill indicators		
Self-awareness  Identifying emotions  Accurate self-perception  Recognizing strengths and limitations  Self-confidence  Self-efficacy, "growth mindset"	Organization  Plan short- and long-term assignments; Meet deadlines  Create plans to prepare for summative assessments  Keep and use a weekly planner for assignments  Set goals that are challenging and realistic  Plan strategies and take action to achieve personal and academic goals  Bring necessary equipment and supplies to class  Keep an organized and logical systems of information files/notebooks  Use appropriate strategies for organizing complex information  Understand and use sensory learning preferences  Select and use technology effectively and productively		
Self-management  Regulate emotions, thoughts and behaviors  Impulse control Stress management	Mindfulness  Practise focus and concentration  Practise strategies to develop mental focus  Practise strategies to overcome distraction  Practise being aware of body-mind connections		
<ul> <li>Self-discipline</li> <li>Self-motivation</li> <li>Goal-setting</li> <li>Organizational skills</li> </ul>	Practise strategies to overcome impulsiveness and anger     Practise strategies to prevent and eliminate bullying     Practise strategies to reduce stress and anxiety		
	Practise analysing and attributing causes of failure     Practise managing self-talk     Practise positive thinking		
	Perseverance		
	Practise "bouncing back" after adversity, mistakes and failures     Practise "failing well"     Practise dealing with disappointment and unmet expectations     Practise dealing with change		
	Reflection     Develop new skills, techniques and strategies for effective learning     Identify strengths and weaknesses of personal learning strategies     Try new ATL skills and evaluate their effectiveness     Reflect to consider content, ATL skills development and personal learning strategies     Focus on the process of creating by imitating the work of others     Consider ethical, cultural and environmental implications     Keep a journal to record reflections		

#### T. Commission of the control of How can students Exchanging thoughts, messages and information effectively through communicate through Interaction interaction? Give and receive meaningful feedback Use intercultural understanding to interpret communication Use a variety of speaking techniques to communicate with a variety of audiences Use appropriate forms of writing for different purposes and audiences Use a variety of media to communicate with a range of audiences interpret and use effectively modes of non-verbal communication Negotiate ideas and knowledge with peers and teachers Participate in, and contribute to, digital social media networks Collaborate with peers and experts using a variety of digital environments and media Share ideas with multiple audiences using a variety of digital environments and media How can students Reading, writing and using language to gather and communicate demonstrate information communication through Read critically and for comprehension language? Read a variety of sources for information and for pleasure Make inferences and draw conclusions Use and interpret a range of discipline-specific terms and symbols Write for different purposes Understand and use mathematical notation Paraphrase accurately and concisely Preview and skim texts to build understanding Take effective notes in class Make effective summary notes for studying Use a variety of organizers for academic writing tasks Find information for disciplinary and interdisciplinary inquiries, using a variety of media Organize and depict information logically Structure information in summaries, essays and reports

2000 E	
How can students collaborate?	Working effectively with others  Use social media networks appropriately to build and develop relationships  Practise empathy  Delegate and share responsibility for decision-making  Help others to succeed  Take responsibility for one's own actions  Manage and resolve conflict, and work collaboratively in teams  Build consensus  Make fair and equitable decisions  Listen actively to other perspectives and ideas  Negotiate effectively  Encourage others to contribute  Exercise leadership and take on a variety of roles within groups  Give and receive meaningful feedback  Advocate for one's own rights and needs
Salt-marananan	
III. Organization skills	
How can students	Managing time and tasks effectively
demonstrate organization skills?	<ul> <li>Plan short- and long-term assignments; meet deadlines</li> <li>Create plans to prepare for summative assessments (examinations and performances)</li> <li>Keep and use a weekly planner for assignments</li> </ul>

#### 

# How can students manage their own state of mind?

#### Managing state of mind

- Mindfulness
  - Practise focus and concentration
  - Practise strategies to develop mental focus
  - Practise strategies to overcome distractions
  - Practise being aware of body-mind connections
- Perseverance
  - Demonstrate persistence and perseverance
  - Practise delaying gratification
- Emotional management
  - Practise strategies to overcome impulsiveness and anger
  - Practise strategies to prevent and eliminate bullying
  - Practise strategies to reduce stress and anxiety
- Self-motivation
  - Practise analysing and attributing causes for failure
  - Practise managing self-talk
  - Practise positive thinking
- Resilience
  - Practise "bouncing back" after adversity, mistakes and failures
  - Fractise "failing well"
  - Practise dealing with disappointment and unmet expectations
  - Practise dealing with change

V. Reflection skills	
How can students be reflective?	(Re)considering the process of learning; choosing and using ATL skills
	<ul> <li>Develop new skills, techniques and strategies for effective learning</li> </ul>
	<ul> <li>Identify strengths and weaknesses of personal learning strategies (self-assessment)</li> </ul>
	Demonstrate flexibility in the selection and use of learning strategies
	Try new ATL skills and evaluate their effectiveness
	Consider content
	<ul> <li>What did I learn about today?</li> </ul>
	<ul> <li>What don't I yet understand?</li> </ul>
	- What questions do I have now?
	Consider ATL skills development
	- What can I already do?
	How can I share my skills to help peers who need more practice?
	- What will I work on next?
	Consider personal learning strategies
	<ul> <li>What can I do to become a more efficient and effective learner?</li> </ul>
	<ul> <li>How can I become more flexible in my choice of learning strategies?</li> </ul>
	- What factors are important for helping me learn well?
	<ul> <li>Focus on the process of creating by imitating the work of others</li> </ul>

Keep a journal to record reflections

Consider ethical, cultural and environmental implications

33. m			
	0.130%		
255.58		52.3	

#### VI, information literacy skills

# How can students demonstrate information literacy?

#### Finding, interpreting, judging and creating information

- Collect, record and verify data
- Access information to be informed and inform others
- Make connections between various sources of information
- Understand the benefits and limitations of personal sensory learning preferences when accessing, processing and recalling information.
- Use memory techniques to develop long-term memory
- Present information in a variety of formats and platforms
- Collect and analyse data to identify solutions and make informed decisions
- Process data and report results
- Evaluate and select information sources and digital tools based on their appropriateness to specific tasks
- Understand and use technology systems
- Use critical-literacy skills to analyse and interpret media communications
- Understand and implement intellectual property rights
- Create references and citations, use footnotes/endnotes and construct a bibliography according to recognized conventions
- Identify primary and secondary sources

#### VII. Media literacy skills

# How can students demonstrate media literacy?

#### Interacting with media to use and create ideas and information

- Locate, organize, analyse, evaluate, synthesize and ethically use information from a variety of sources and media (including digital social media and online networks)
- Demonstrate awareness of media interpretations of events and ideas (including digital social media)
- Make informed choices about personal viewing experiences
- Understand the impact of media representations and modes of presentation
- Seek a range of perspectives from multiple and varied sources
- Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- Compare, contrast and draw connections among (multi)media resources

#### 

#### VIII. Critical-thinking skills

# How can students think critically?

#### Analysing and evaluating issues and ideas

- Practise observing carefully in order to recognize problems
- · Gather and organize relevant information to formulate an argument
- Recognize unstated assumptions and bias
- Interpret data
- Evaluate evidence and arguments
- Recognize and evaluate propositions
- Draw reasonable conclusions and generalizations
- Test generalizations and conclusions
- Revise understanding based on new information and evidence
- Evaluate and manage risk
- Formulate factual, topical, conceptual and debatable questions
- Consider ideas from multiple perspectives
- Develop contrary or opposing arguments
- Analyse complex concepts and projects into their constituent parts and synthesize them to create new understanding
- Propose and evaluate a variety of solutions
- Identify obstacles and challenges
- Use models and simulations to explore complex systems and issues
- Identify trends and forecast possibilities
- Troubleshoot systems and applications

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# How can students be creative?

#### Generating novel ideas and considering new perspectives

- Use brainstorming and visual diagrams to generate new ideas and inquiries
- Consider multiple alternatives, including those that might be unlikely or impossible
- Create novel solutions to authentic problems
- Make unexpected or unusual connections between objects and/or ideas
- Design improvements to existing machines, media and technologies
- Design new machines, media and technologies
- Make guesses, ask "what if" questions and generate testable hypotheses
- Apply existing knowledge to generate new ideas, products or processes
- Create original works and ideas; use existing works and ideas in new ways
- Practise flexible thinking—develop multiple opposing, contradictory and complementary arguments
- Practise visible thinking strategies and techniques
- · Generate metaphors and analogies

#### 

#### How can students transfer skills and knowledge across disciplines and subject groups?

#### Using skills and knowledge in multiple contexts

- Use effective learning strategies in subject groups and disciplines
- Apply skills and knowledge in unfamiliar situations
- Inquire in different contexts to gain a different perspective
- Compare conceptual understanding across multiple subject groups and disciplines
- Make connections between subject groups and disciplines
- Combine knowledge, understanding and skills to create products or solutions
- Transfer current knowledge to learning of new technologies
- Change the context of an inquiry to gain different perspectives