Bringing the Cambridge Learner Attributes to Life: The Key to Creating Positive Learning Environments

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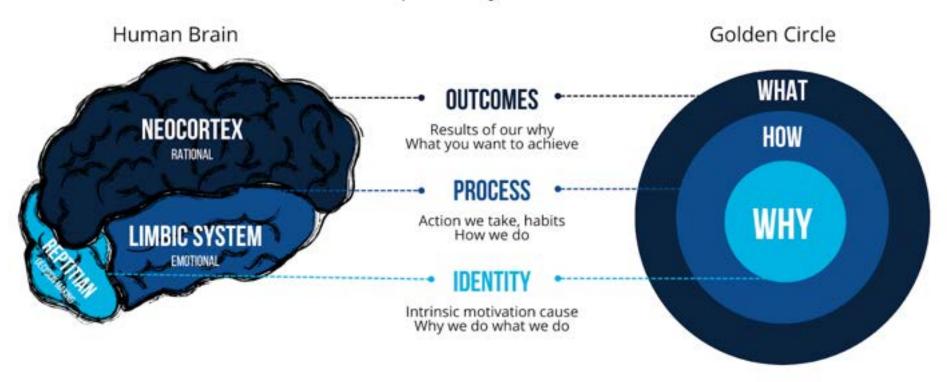






THE GOLDEN CIRCLE AND THE BRAIN

As explained by Simon Sinek



Neocortex Why.....

 65% of children entering grade school today will end up working in jobs that do not exist yet.





 By 2025, there will be increasing demand for data analysts, scientists, software and applications developers, e-commerce experts and social media specialists.

 There will also be accelerating demand for new roles like AI and machine learning specialists, big data specialists, process automation experts, robotics engineers and blockchain specialists.

For Example.....

- Imagine a world where parents can genetically design and modify their own children.
- Do we want our kids to have blue eyes? Do we want our kids to be taller? Do we want to try and help our kids be stronger or faster or smarter? Do we want to try and eliminate certain risks of birth defects?
- Think it's far-fetched? The cost of sequencing our personal genome is dropping, and genome editing technologies are growing more accessible. It could become a reality within the next decade.



Careers that are hard to fathom....

- Consider the genetic counselor. It's a career you won't see named in college admissions essays just yet, but it's one we're going to need — and sooner than you might think.
- It will be the job of those in this career field to help families navigate the ethical and psychological minefield this technology will bring.
- These professionals will need a deep knowledge of biology and genetics as well as ethics, sociology and psychology.
- This is a prime example of a cross-disciplinary job.
- It's just one example of the many future jobs that will pop up at the intersections between often wildly divergent disciplines and subject areas.



• The new labor market is more automated, digital, and dynamic.

 Students need a set of foundational skills that help them fulfill the following three criteria, no matter the sector in which they work or their occupation:

- add value beyond what can be done by automated systems and intelligent machines;
- operate in a digital environment;
- continually adapt to new ways of working and new occupations.



Across 19 Countries 4 Categories Across; 13 Skill Groups; 56 Distinct Elements of Talent





Do our Cambridge attributes align?

Defining 21st century skills		
Categories	21st century skills	
Ways of thinking	Creativity and innovation Critical thinking, problem-solving, decision-making Learning to learn, metacognition	
Ways of working	Communication Collaboration	
Tools for working	Information literacy ICT literacy	
Living in the world	Citizenship – local and global Life and career Personal and social responsibility – including cultural awareness and competence	

- Learning to learn is concerned with developing the capacity to accurately reflect on one's learning and deliberately apply this understanding to learning in the future.
- The learner attributes can be defined as: combinations of knowledge, skills and attitudes, which facilitate the application of knowledge to real world contexts.

The How: Conditions for Learning

 Think about your best and worst experiences from elementary, middle or high school....what "conditions" made the experience positive or negative?

 What factors are critical to students in order to deeply engage with rigorous academics?



 Imagine that you sense a serious threat to your physical well-being lurking in the shadows. Then you are asked to solve a complex problem.

How will you perform?

• In this "fight or flight" state, you would struggle to think clearly or imaginatively, and it would be difficult to collaborate effectively.



Positive Climate is Intentional

School climate refers to the quality and character of school life. School climate is based on patterns of students', parents' and school personnel's experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.

Culture creates the environment in which learning takes place and includes hidden and unintentional messages that may contradict the development of the attributes.

Schools must attempt to put their values into action by clearly saying what they mean and meaning what they say.

When students feel a sense of belonging and community, their ability to exude confidence, be responsible, reflective, innovative and engaged in the face of challenging content and contexts improves.

It Starts with the Adults!



While developing a culture of learning that emphasizes the attributes, nothing is more important than teachers being good role models, exemplifying the attributes by being confident, responsible, reflective, innovative and engaged themselves.

Cambridge learners		Cambridge teachers	
Confident	Confident in working with information and ideas – their own and those of others.	Confident in teaching their subject and engaging each student in learning.	
	Cambridge learners are confident, secure in their knowledge, unwilling to take things for granted and ready to take intellectual risks. They are keen to explore and evaluate ideas and arguments in a structured, critical and analytical way. They are able to communicate and defend views and opinions as well as respect those of others.	Cambridge teachers know their subject well and know how to teach it. They seek to understand their students and their educational needs. They strive to communicate a love of learning and to encourage students to engage actively in their own learning.	
Responsible	Responsible for themselves, responsive to and respectful of others.	Responsible for themselves, responsive to and respectful of others.	
	Cambridge learners take ownership of their learning, set targets and insist on intellectual integrity. They are collaborative and supportive. They understand that their actions have impacts on others and on the environment. They appreciate the importance of culture, context and community.	Cambridge teachers are highly professional in their approach to teaching and they are collaborative and supportive. They understand their actions will help shape future generations and they are concerned about the holistic development of every individual they teach.	
Reflective	Reflective as learners, developing their ability to learn.	Reflective as learners themselves, developing their practice.	
	Cambridge learners understand themselves as learners. They are concerned with the processes as well as the products of their learning and develop the awareness and strategies to be life-long learners.	Cambridge teachers are themselves learners, seeking to build on and develop their knowledge and skills through a virtuous circle of reflection on practice – involving research, evaluation and adaptation. They support students to become independent and reflective learners.	
Innovative	Innovative and equipped for new and future challenges.	Innovative and equipped for new and future challenges.	
	Cambridge learners welcome new challenges and meet them resourcefully, creatively and imaginatively. They are capable of applying their knowledge and understanding to solve new and unfamiliar problems. They can adapt flexibly to new situations requiring new ways of thinking.	Cambridge teachers are creative, experimenting with new ideas and pursuing an enquiring approach in their teaching. They are open to new challenges, being resourceful, imaginative and flexible. They are always ready to learn and apply new skills and techniques.	
Engaged	Engaged intellectually and socially, ready to make a difference. Cambridge learners are alive with curiosity, embody a spirit of enquiry and want to	Engaged intellectually, professionally and socially, ready to make a difference.	
	dig more deeply. They are keen to learn new skills and are receptive to new ideas. They work well independently but also with others. They are equipped to participate constructively in society and the economy – locally, nationally and globally.	Cambridge teachers are passionate about learning within and beyond the classroom, sharing their knowledge and skills with teachers in the wider educational community.	

Turn & Talk



Which attribute are you most passionate about and why?

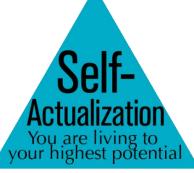


How do you cultivate each of these as an educator and a professional learner?

- Confident
- Responsible
- Reflective
- Innovative
- Engaged

Maslow's Hierarchy of Needs

 Every step an educator makes toward contributing to those fundamental needs will enhance their students' capacity for learning and achievement in the classroom and success in the world.



Esteem You've acquired the skills hat lead to honor and recognition

Love & Belonging Achieving deeper, more meaningful relationships

SAFETY

Home, sweet home

Physiological Needs

Food, water, sleep

Maslow Applied in the Classroom

Sense of safety can come from routines and predictability in the classroom.

Have clear cut rules and processes in your classroom.

Foster an environment that allows for healthy levels of risk-taking, question asking and answering, open thought sharing, and healthy discussion.

Students want to feel needed--make an effort to show students that their hard work and dedication are genuinely appreciated.

Provide powerful and meaningful feedback regularly.

What Science Says

 The brain is a prediction machine that loves order: It is calm when things are orderly and gets anxious when things are chaotic or threatening.

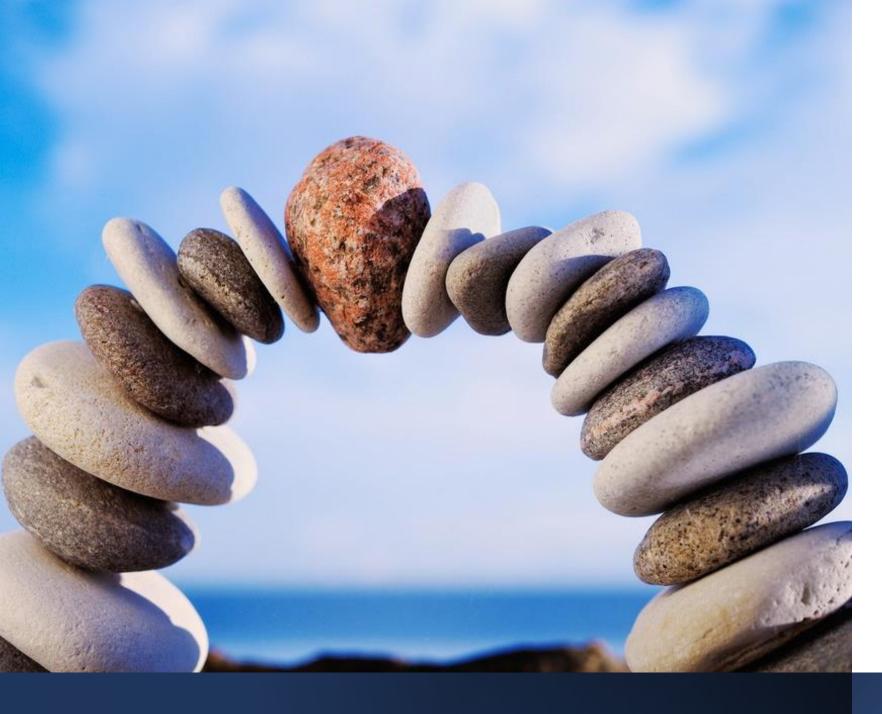
 We are constantly making predictions, unconsciously and at every moment of the day; positive, consistent routines allow our brains to predict what is coming next, which reduces the cognitive load needed to process new information.

Learning & Attributes: 3 Interconnected Domains

Cognitive skills including executive functions such as working memory, attention control and flexibility, inhibition and planning, as well as the beliefs and attitudes that guide one's sense of self.

Affective competencies that enable one to cope with frustration, recognize and manage emotions, and understand others' emotions/perspectives.

Social and interpersonal skills that enable one to read social cues, navigate social situations, resolve interpersonal conflicts, cooperate with others and work effectively in a team, demonstrate compassion and empathy towards others.



- The attributes are interdependent and should be viewed as a whole.
- Confidence, for example, needs to be grounded in reflection and responsibility so that the learner demonstrates skill and humility in judging how confident they can be that they are right.
- Learners need to be confident to be innovative, ready to take intellectual risks and not be frightened of making mistakes because they view these as a learning opportunity.

Back to the Brain



The brain develops differently based on opportunities to engage actively and safely with rich and meaningful environments, social relationships and ideas.

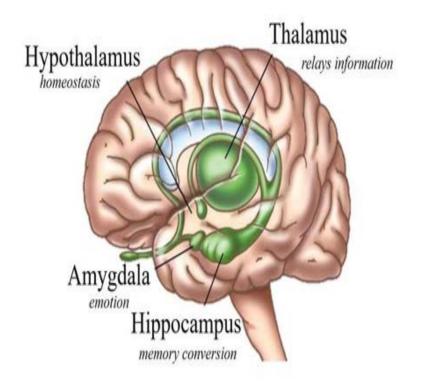


Human brain development requires social relationships, emotional experiences and cognitive opportunities—and the **quality** of these relationships, experiences and opportunities influences how the brain develops, and hence how a person thinks and feels.

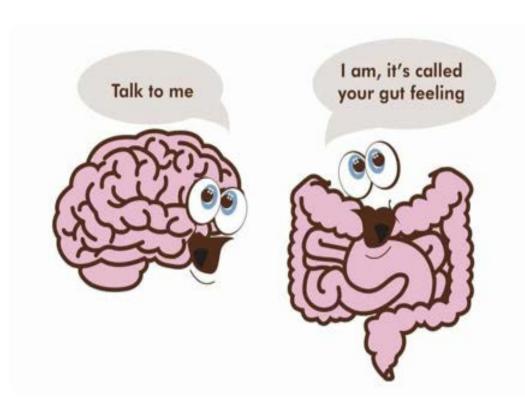


 In order to learn, humans must mobilize several different mental processes and resources that are both cognitive (such as reasoning and memory) and noncognitive (sometimes called affective, social, or soft skills).

The Limbic System



- Research suggests a very high level of interdependence between effective emotional and cognitive functioning.
- It is literally neurobiologically impossible to build memories, engage complex thoughts, or make meaningful decisions without emotion.
- Emotional and cognitive processes interact to produce thought processes that affect learning and reasoning and underpin decisionmaking.
- Having an effective 'emotional rudder' is critical, particularly for students to be able to use knowledge effectively.



- This emotional response—think of a student having a "gut feeling" that a particular answer was right—was the first sign of a student learning from experience with the task.
- In fact, separate studies found that people with a particular type of brain damage—to a part of the brain that connects areas associated with feeling emotions with those associated with developing cognitive strategies—do not learn from failure and continue to choose inappropriate strategies for solving a problem even if they consciously "know" the rules.
- What happens when thinking is devoid of emotion is you don't remember it or think deeply about it.
- In a classroom context that means students who feel no meaningful emotional connection to the material they learn will have a harder time both remembering and applying it.

- While educators have long discussed the role of music or art in engaging students emotionally with learning, research has found that even abstract academic concepts can inspire an emotional connection if people understand their context.
- For example, mathematicians show the same pleasure response in the brain when they see an efficient equation as others have shown when viewing a beautiful piece of art.



How do we teach students how to become passionate about our content and the attributes?

The ability to feel passionate about something is a skill.

Teach students that feeling passionate about something doesn't just fall into your lap.

Students can learn how to take interest in subjects that aren't immediately entertaining.

Our Process: Embedded and Explicit Instruction

Embedding the attributes into instruction is a powerful way to help students connect and engage in learning.

Explicit attribute instruction refers to consistent opportunities for students to cultivate, practice, and reflect on these competencies in ways that are developmentally appropriate and culturally responsive.

Critical to that approach is sharing with our students the why behind the attributes, just as we do with academic content.

Explaining why we check in, why we ask students to pair up, or why we work through different problem-solving strategies is core to integration.

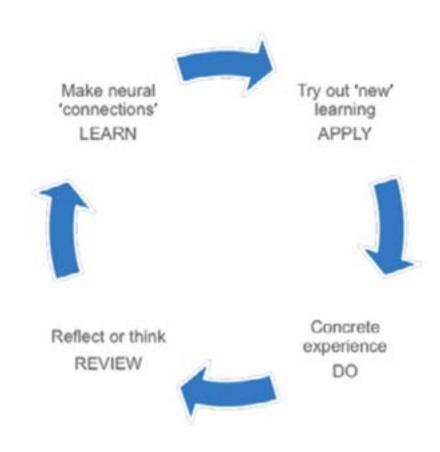
Effective attribute instruction has four elements represented by the acronym SAFE:

Sequenced—connected and coordinated activities to foster skills development associated with the attribute;

Active—active forms of learning to help students master new skills and attributes;

Focused—containing activities that clearly emphasize developing personal and social skills;

Explicit—targeting and teaching specific attribute skills.



Experiential learning

- Experiential learning engages learners through direct experience of authentic problems and challenges
- Take students outside their comfort zone, require them to experience learning in the real world of their communities, the workplace, maybe even the wilderness.
- Being challenged can develop confidence, resilience, practical problem-solving abilities, teamwork and wisdom which aren't easily developed in classrooms.

What does this look like in a classroom?



Give students open-ended problems that force them to dig into the definition of the task itself.



Encourage students to recognize and use their own academic "intuitions" while learning—for example, to notice when they feel uneasy about an answer and look back later to see if it was incorrect.



When trying to improve students' emotions in the classroom, focus on adding meaning to content the students are working with, rather than positive distractions, like telling a joke or giving prizes.

Compare your answers with a partner. Write your ideas in the left circle. Write your partner's ideas in the right circle. Then write things you agree on in the middle.

What we both think

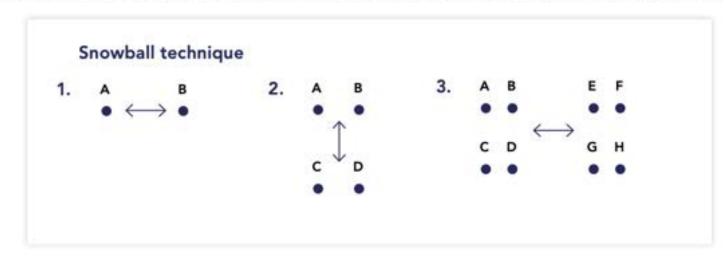
What my partner thinks

Snowball Technique

The snowball technique

This is an effective way to take feedback from a whole class and get learners listening to each other. This is usually done after an individual task in which learners have come up with their own answers. Then, after getting into pairs, learners follow these steps:

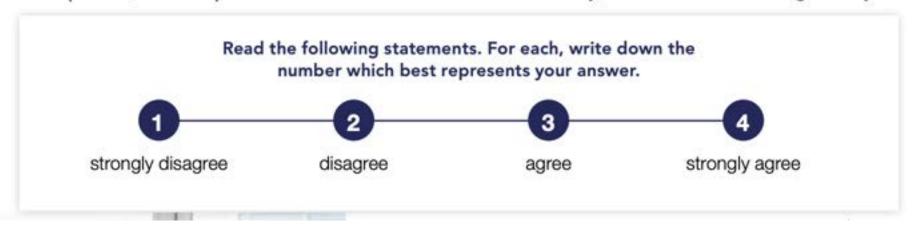
- 1. Students A and B compare their answers, and agree on one they are both happy with.
- 2. Students A and B share their answers with C and D (and vice versa), and repeat step 1.
- 3. Step 1 repeats with the group size doubling each time, until it gets to the whole class level.



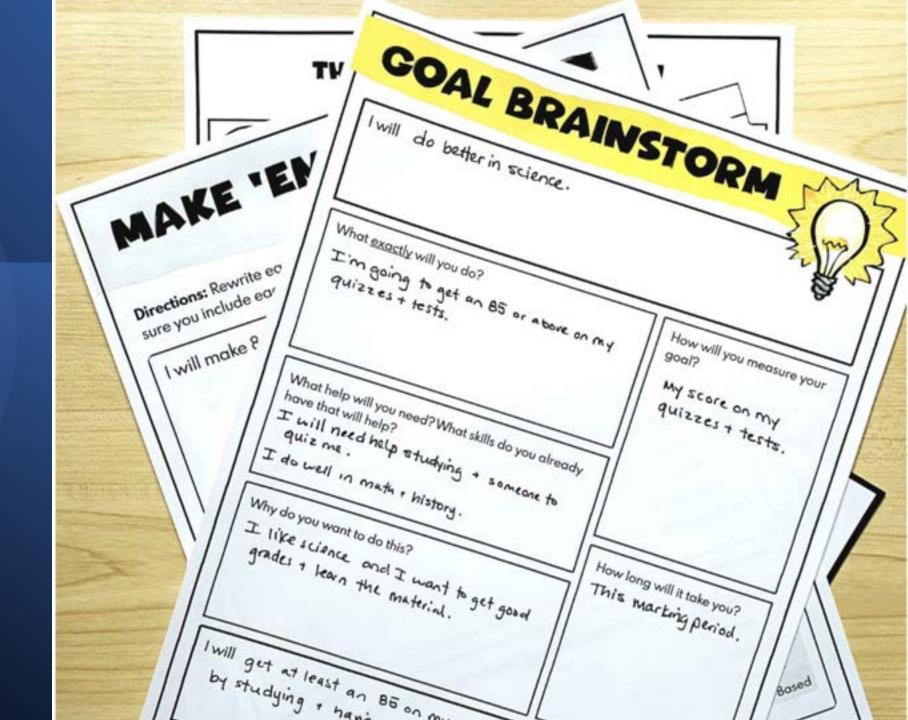
Ranking and Scaling

Ranking and scales

Scales, such as a Likert Scale, can be used to get learners to think more deeply about their attitudes and opinions, and compare their answers with others in a visual way, such as in the following activity:



Goal Brainstorming



Information Gap Activities

- When teaching listening, teachers could do more 'information gap' activities, where the information which learners receive is restricted.
- For example, an activity that uses video might work in the following way:
 - 1. The class is split into two groups. Group 1 watches the first half of a video, while Group 2 watches the second half.

Alternatively, Group 1 could watch a video with the sound off, while Group 2 listens only.

2. Learners from Group 1 then pair up with learners from Group 2.

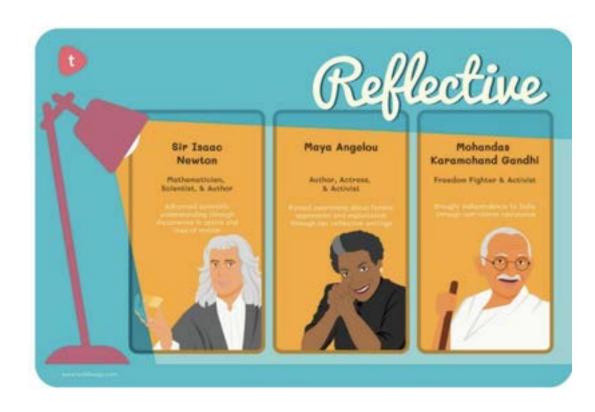
In their pairs, they must work to reconstruct and retell the whole scenario from the video.

- These kinds of tasks place more responsibility on learners to become active listeners and engage in collaborative work with their classmates.
- They require learners to gain a deeper understanding of the information presented to them by asking appropriate questions and seeing the relationships between the different information they and their partner have.

Classroom Shout-Out Board

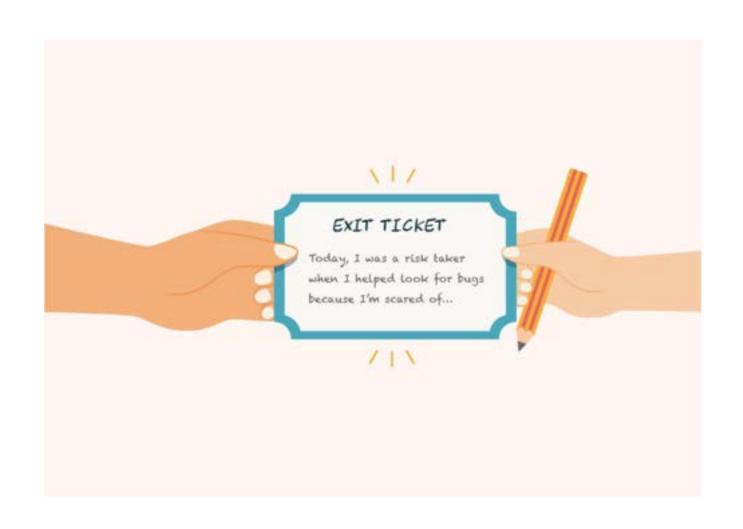


Reflective Trailblazers

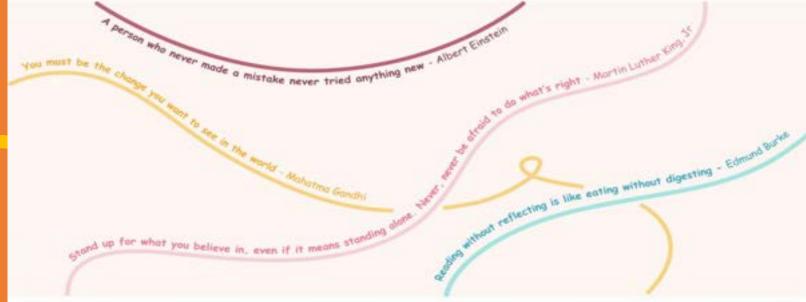


- These trailblazers....
 - use their **head**, to come up with new ideas
 - their **heart**, to show empathy for others
 - and hands, to take action.
- Ghandi, Angelou and Newton are all reflective.
- Who interests you the most to inquire into further? Or, who else is reflective in your opinion?
- Select a trailblazer (one from the poster or one of your own choosing).
- Use the, I like... I wish... What if... template.
- Research your chosen trailblazer.
- Respond to the questions:
 - What do you like about your trailblazer?
 - What do you wish you could ask or talk to your trailblazer about?
 - What ideas does it spark you to want to explore? What are you inspired to create because of your trailblazer?

Exit Tickets Aligned to the Attributes



Quotation Station

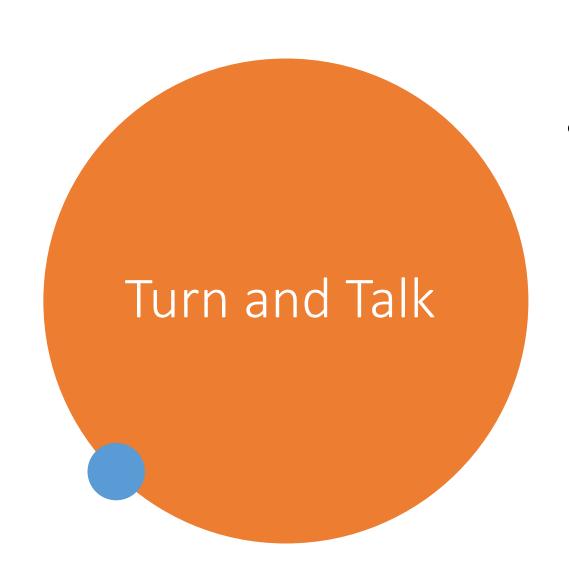


- Quotes provide opportunities for deep reflection and metacognition.
- Starting your Monday mornings by diving into 1 famous quote.
- Encourage students to make personal connections with the attributes.
- Ask questions to provoke their thinking "how can you bring this to life? What action can you take?"
- Dedicate a part of your display wall or a corner of the classroom as the "Quotation Station".
- On Fridays, regroup and have students reflect on what they did to live the quote.

Kindness Attribute Ninjas

- Attributes are the foundation for developing strong internationally minded citizens.
- Create opportunities for students to have real experiences with the world by implementing a "Kindness Attribute Ninjas" program.
- Assign a core attribute for each week.
- Students identify and recognize this attribute all across the school.
- Like ninjas, they leave notes of appreciation for teachers and students everywhere!
- To take this a step further, teachers may identify pen-pals for students in other Cambridge schools.





 How are you embedding and/or explicitly teaching the attributes in your school and/or classroom?

What Does An Engaged Learner Look Like?

Engaged intellectually and socially, ready to make a difference.

Alive with curiosity, embody a spirit of inquiry and desire to dig more deeply.

Receptive to new ideas.

Work well independently and in groups.

Equipped to participate constructively in society and the economy – locally, nationally and globally.

What Does A Confident Learner Look Like?

Confident in working with information and ideas – their own and those of others.

Secure in their knowledge and ready to take intellectual risks.

Willing to explore and evaluate ideas and arguments in a structured, critical and analytical way.

Able to communicate and defend views and opinions as well as respect those of others.

What Does A Responsible Learner Look Like?

Responsible for themselves, responsive to and respectful of others.

Take ownership of their learning, set targets and insist on intellectual integrity.

Collaborative and supportive.

Understand that their actions have impacts on others and on the environment.

Appreciate the importance of culture, context and community.

What Does
An
Innovative
Learner
Look Like?

Welcome new challenges and meet them resourcefully, creatively and imaginatively.

Capable of applying their knowledge and understanding to solve new and unfamiliar problems.

Adapt flexibly to new situations requiring new ways of thinking.

What Does A Reflective Learner Look Like?

Understand themselves as learners.

Concerned with the processes as well as the products of their learning.

Develop the awareness and strategies to be lifelong learners.

Ways to Assess the Learner Attributes

Students complete a self-evaluation as part of the end-of-term report sent home to parents.

Students complete self-evaluations of their performance in particular tasks or activities, including individual and group work.

Students running parent—student meetings. They lead the conversation with their own reflections on how they are doing and what they need to do to improve.

Process journals, e-portfolios or blogs where students can write about their learning journey and reflect on it.

Involving students, where appropriate, in designing assessment rubrics that include learner attribute criteria.

Displays of student work and school activities that exemplify the learner attributes.

Student Self-Assessment

- 1. I know how to stop arguments with other people from getting out of hand.
- 2. I am very good at understanding what other people are feeling.
- 3. I am really good at being aware of my emotions.
- 4. I have a lot to contribute to my class.
- 5. I stay focused in class even when I have a lot to worry about.
- 6. I am good at learning new things.
- 7. I think about the consequences before deciding to do something.
- 8. It bothers me very much when one of my friends is upset.
- 9. It bothers me when other people do things that are wrong or unethical.
- 10. I can calm myself down if I feel stressed at school.
- 11. I get along well with other people.
- 12. I avoid doing things that are dangerous.
- 13. I am a good listener.
- 14. My teachers would say that I make good decisions.
- 15. When I have a problem at school, I am good at figuring out what to do.
- 16. My teachers would describe me as someone who is very helpful.
- 17. I can understand how another person sees a situation even if I see it differently.
- 18. I am excited about my future.
- 19. My way of studying for tests is very effective.
- 20. I work very well with other students.
- 21. I stay calm when I come across a problem that is hard to solve.
- 22. I am careful about how I act when I am angry or upset.
- 23. I like who I am as a person.
- 24. I have a very clear sense of what I need to do to succeed in all of my classes.
- 25. When I work in a group or team I get along well with everyone.
- 26. My classmates would say that I am good at making good decisions.
- 27. I can concentrate in class for long periods of time.

Sample Rubrics



Social & Emotional Learning - Scoring Rubric



	Not Assessed	Demonstrates Rarely	Demonstrates Occasionally	Demonstrates Frequently	Demonstrates Consistently
Relationship Skills: 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. Examples may include: *Communication *Social engagement *Relationship-building *Teamwork	Student is unavailable for staff to assess this skill due to late enrollment, chronic absences, etc. Prior to using this cotegory, consult with support staff (mental health professional, IC, principal).	Student is able to demonstrate relationship skills with direct staff modeling, prompting and support.	Student occasionally demonstrates relationship skills with minimal staff prompting and support. Student may not yet generalize this skill to multiple settings without direct support from staff.	Recognizes and demonstrates relationship skills frequently in multiple settings. Student benefits from occasional reminders from staff.	Demonstrates and recognizes relationship skills consistently in multiple settings, in self, peers and family. Student self-monitors and initiates skil without limited staff prompting.

SEL Report Card 9-12 Grade Level Expectations

Ratings: 1 = Below Grade Expectations, 2 = At Expectations, 3 = Above Expectations

	Skill	Grade 9	Grade 10	Grade 11	Grade 12	
Self-Awareness & Self-Management	Skill 1: Shows Emotional Awareness	Can recognize feelings of self in almost all situations, including difficult peer pressure situations (cheating, HiB, substance use, gang pressure, illegality); can differentiate between safe, risky, and harmful situations and identify feelings in each; has and can identify at least two constructive areas of strength, competence and pride and how they connect to the class, and shows appropriate emotions about them; can identify at least two areas of emotional challenge and speak about them appropriately when asked	Same as grade 9	Same as grade 9	Same as grade 9	
	Skill 2: Shows Emotion Regulation and Focus	Can articulate and reliably use a self-calming strategy when asked; can state feelings and perspectives using I-messages most of the time withou prompting; can find ways to avoid risky/harmful situations almost all of the time; can articulate the connection between class goals and college and career goals; with some structuring, can follow through on multiple responsibilities and articulate their rationale and importance for oneself and others, community and society; actively seeks out sources of support when overwhelmed with strong emotions; can keep focused on multiple academic projects with some external structuring	Can articulate and reliably use a self-calming strategy when asked; can state feelings and perspectives using I-messages most of the time without prompting; can find ways to avoid risky/harmful situations almost all of the time; can articulate realistic, specific college and career goals; can see the connection between class goals and college and career goals; can follow through on multiple responsibilities and articulate their rational and importance for oneself and others, community and society; actively seeks out sources of support when overwhelmed with strong emotions; can keep focused on multiple academic projects with minimal structuring			
Social Awareness & Relationship Skills	Skill 3: Recognizes and Respects the Feelings and Perspectives of Others	Can consistently recognize and respond to the emotional state or perspective of others; demonstrates awareness and consideration of others when acting (e.g. provides support to peers in need); usually shows appropriate respect for peers, those different from him/herself, and both familiar and unfamiliar adults	Can consistently recognize and respond to the emotional state or perspective of others; demonstrates awareness and consideration of others when acting (e.g. provides support to peers in need); almost always shows appropriate respect for peers, those different from him/herself, and both familiar and unfamiliar adults; usually knows how to respectfully disagree with others			
	Skill 4: Establishes and Maintains Cooperative Relationships	Has an appropriate, non-negative relationship with at least one adult in the classroom; works well in most group situations; usually works well with diverse others; has multiple, positive relationships with at least several other students in the class	Has an appropriate, non-negative relationship with at least one adult in the classroom; works well in most group situations; usually works well with diverse others; has multiple positive relationships with at least several other students in the class; when the situation arises, is usually welcoming of new students, visitors, guests, etc. in the class			
	Skill 5: Constructively Resolves Interpersonal Conflict	Uses I-messages and does not use violent strategies to resolve conflicts; almost always avoids repeatedly being in situations that lead to interpersonal conflict; usually can remove him/herself from conflict situations; usually is appropriately assertive when confronted by others. Sometimes advises peers to avoid violence in conflict situations; sometimes helps peers to resolve interpersonal conflict.	Has an appropriate, non-negative relationship with at least one adult in the classroom; works well in most group situations; usually works well with diverse others; has multiple positive relationships with at least several other students in the class; when the situation arises, is usually welcoming of new students, visitors, guests, etc. in the class			

Turn and Talk

 What is the evidence in your school/classroom that students are mastering the knowledge, skills, and behaviors of the attributes?

Exit Ticket

- What strategies have worked well for me?
- What attribute is challenging for me to embed and/or teach?
- What will I keep, improve, start, or stop doing?

