Shelley-MOORE PH.D.





@tweetsomemoore



@fivemooreminutes



@fivemooreminutes



www.fivemooreminutes.com www.blogsomemoore.com

WHAT DOES

inclusion

MEAN?



Who are you?

- Where is home for you?
- What is the traditional territory where you live?
- What are some of your roles?
- What are some of your identities?
- What are your interests and hobbies?
- What is important to you?
- What is a life event that shaped who you are?
- What is something that you want others to know about you?





WHAT DOES

inclusion

MEAN?



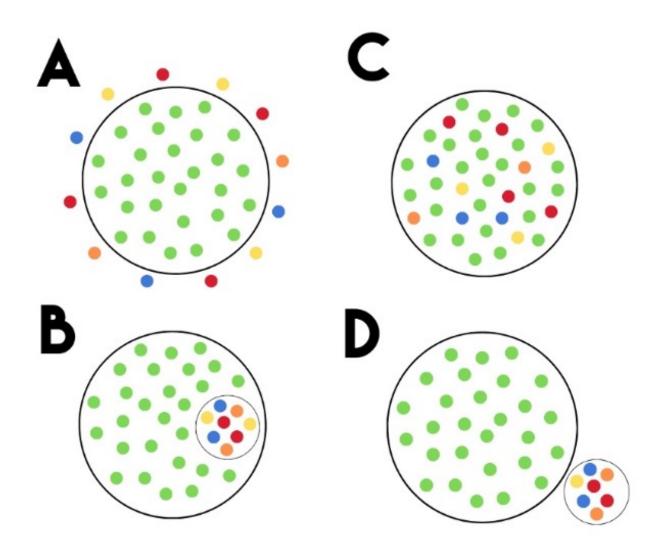
WHAT DOES

inclusion

LOOK LIKE?



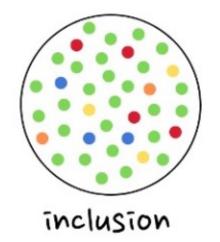
WHAT IS Inclusion?

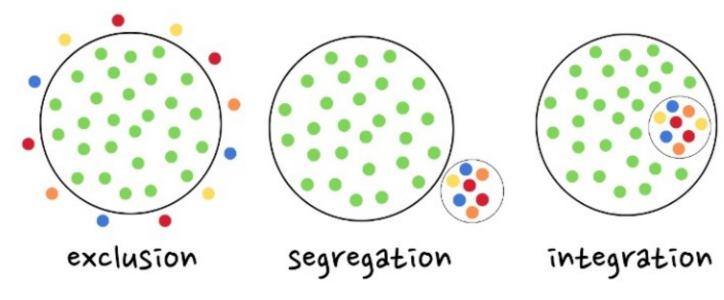


exclusion integration inclusion congregation segregation



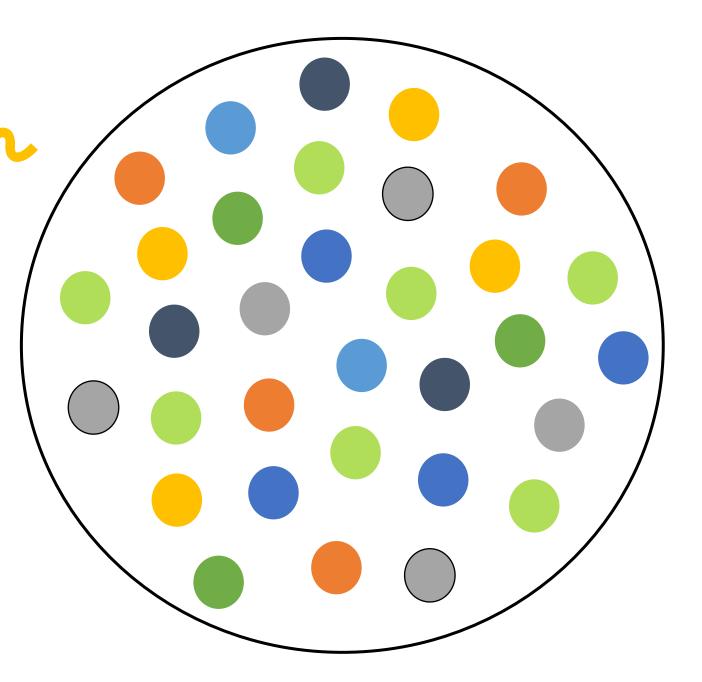
WHAT IS inclusion?



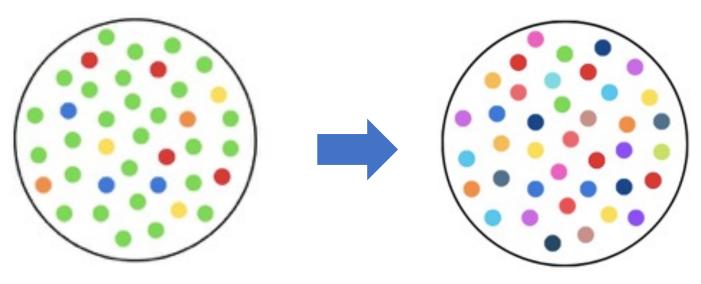




WHAT IS inclusion



WHAT IS inclusion?



special needs into general education classrooms?

Teaching to the diversity of ALL students, including Disability

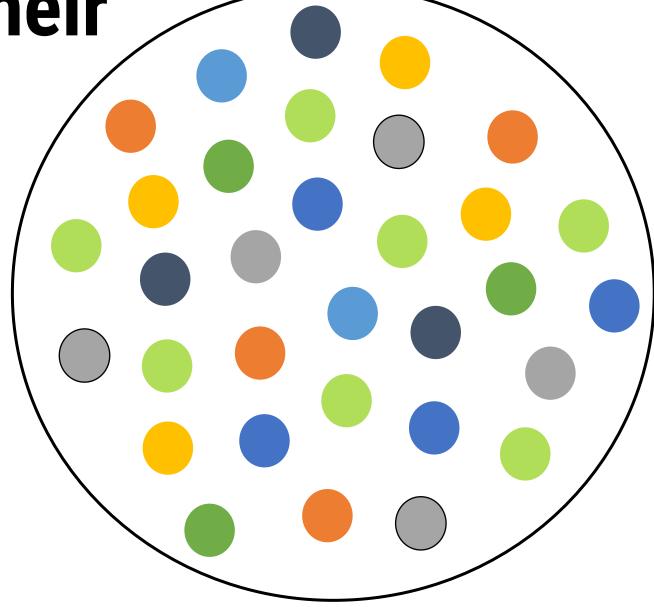
How do we do

Inclusion?



What are their

colours?



WHAT IS A strength-based PERSPECTIVE?



WHAT IS A strength-based PERSPECTIVE?



A strength-based PERSPECTIVE IS...

- Believing that ANY and ALL students can learn in ANY and ALL contexts because accessing learning does not rely on prerequisites
- Focusing on what students CAN do and where they COULD be, instead of what they CAN'T do and where they SHOULD be
- Build on the strengths of students to contribute to their communities, teach others and facilitate a sense of belonging
- Harness the strengths of students to build on their stretches, or get better at things that are hard

WHY A strength-based PERSPECTIVE?

Looking at students through a strength-based lens

leads to
presuming
student
competence

leads to decisions based on high expectations

leads to
greater access
to grade level
curriculum and
peers

Results in increases in student learning, achievement and quality of life after school

"Even if we are wrong about a students' capabilities to access and learn grade level curriculum with their peers, the consequences of that presumption being wrong are not as dangerous as not holding high expectations."

-Cheryl Jorgenson

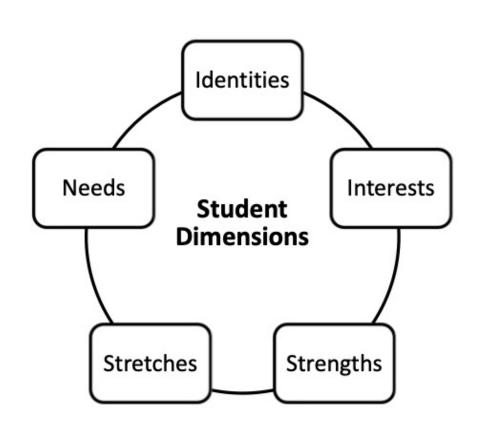
HOW CAN WE shift our practice TOWARDS A

strength-based PERSPECTIVE?



Getting to know who the students are

What dimensions can we capture so that we reduce and eliminate barriers AND design better for student variability?



Who are you? What are your dimensions?

Who am I? (Identities)

.....

How do you identify?

What are some words that describe you?

Complete the statement: I am

What communities are you and your family a part of?

What are your pro nouns?

What place do you call home?

What languages do you speak?

What cultures, races or nations do you identify with?

Are there any disabilities that you identify with?

What do I love? (Interests)

What brings you joy?

What are some of your favourite things/ activities?

What are some things that you do with your family and friends?

What do you wish you could spend more time doing?

What do you want to learn more about?

What do you want to learn how to do?

What would you do if you had a full day off?

What do you like to learn/ read about?

What kinds of shows/ movies/ books do you like?

What am I good at? (Strengths)

What feels easy to you?

What do you know a lot about?

What perspective do you bring to conversations?

What are you really good at?

How can I help others? (Strengths)

What could you teach to someone else?

Why is your family/ class/group so lucky to have you?

How do you help out at home? In other activities?

What do you do that brings other people joy?

How do I want to grow? (Stretches)

What is a goal that you have for yourself?

What do you want to get better at?

What is something you want to learn more about?

What do you wish you could do more of?

What is an area that you need some practice in?

What could you work on now, that will help you in the future?

What do you need support for at school?

What do you wish you could do more of without help?

What makes it hard for me to grow? (Needs)

What makes it hard for you to learn?

What helps you learn best?

What makes it hard for you to pay attention/ focus?

Do you prefer to work alone or in a group?

What makes it hard to get to school/ go to class?

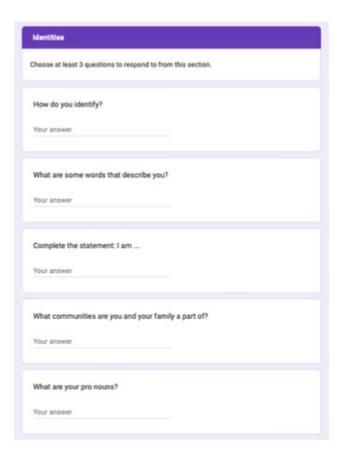
What do you wish was different about school?

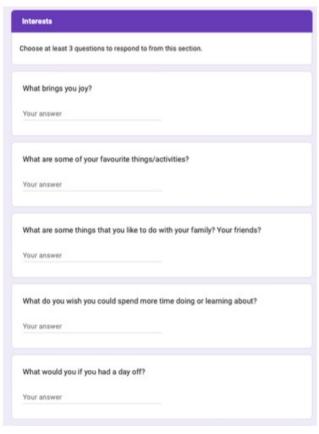
What materials/tools do you need in a classroom?

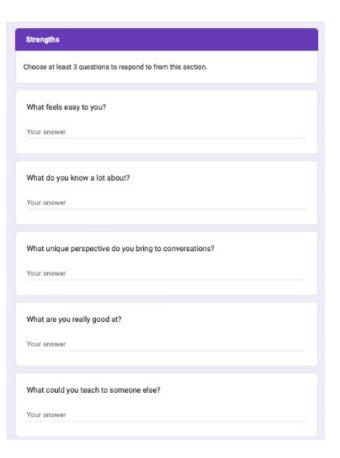
What is important for your teacher to know about you?

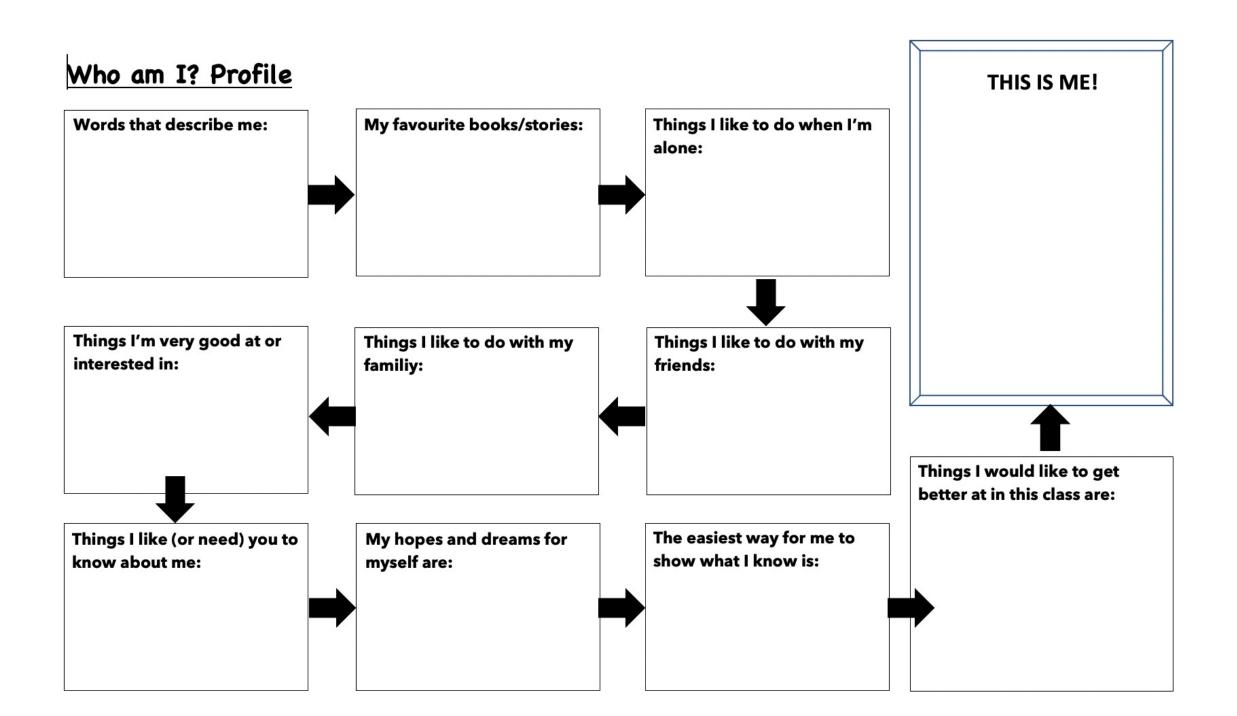
Google Form:

https://forms.gle/6CaTcpW3sSQnQnCp7









		•	•	
Child:	Child:	Child:	Child:	Child:
What are the identities of your child and your family?	What are the identities of your child and your family?	What are the identities of your child and your family?	What are the identities of your child and your family?	What are the identities of your child and your family?
What are the interests of your child and your family?	What are the interests of your child and your family?	What are the interests of your child and your family?	What are the interests of your child and your family?	What are the interests of your child and your family?
What are the strengths of your child?				
What is hard for your child in this community? What do they need support with?	What is hard for your child in this community? What do they need support with?	What is hard for your child in this community? What do they need support with?	What is hard for your child in this community? What do they need support with?	What is hard for your child in this community? What do they need support with?
What is getting in the way for your child to feel a sense of belonging and success in this community? What is getting in the way for the family?	What is getting in the way for your child to feel a sense of belonging and success in this community? What is getting in the way for the family?	What is getting in the way for your child to feel a sense of belonging and success in this community? What is getting in the way for the family?	What is getting in the way for your child to feel a sense of belonging and success in this community? What is getting in the way for the family?	What is getting in the way for your child to feel a sense of belonging and success in this community? What is getting in the way for the family?

acting to know children a ranning billiensions - ranning interview

What is one

useful

idea so far?



WHAT IS A strength-based PERSPECTIVE?



A strength-based PERSPECTIVE IS...

- Believing that ANY and ALL students can learn in ANY and ALL contexts because accessing learning does not rely on prerequisites
- Focusing on what students CAN do and where they COULD be, instead of what they CAN'T do and where they SHOULD be
- Build on the strengths of students to contribute to their communities, teach others and facilitate a sense of belonging
- Harness the strengths of students to build on their stretches, or get better at things that are hard

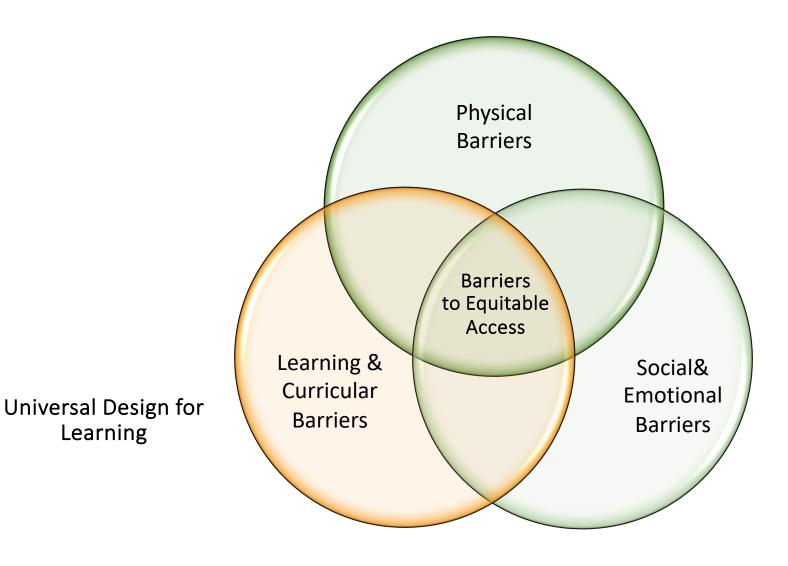
Reducing Barriers







Adding Ramps to Learning



Learning

Universal Design for Learning: The Ramps for Learning



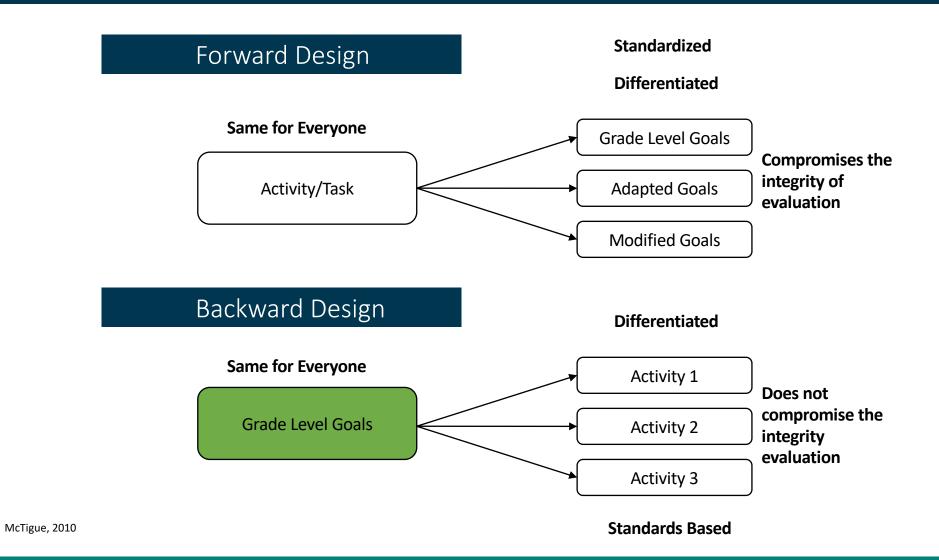






How I came to understand BACKWARDS DESIGN

UBD: Determining the Learning Standard



Subject Area Learning Standards



Backwards Design

What types of goal are in the curriculum?

- Content
 - What do we need to know?

- Process
 - What do we need to do?

Backwards Design

What do we need to UNDERSTAND?

I understand ...

What do we need to KNOW?

I know...

What do we need to DO?

I can...

Who do we need to BE?

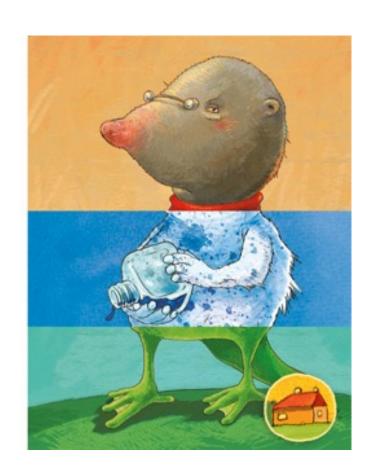
I am...

Curriculum as a flip book





Lizard

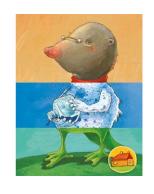


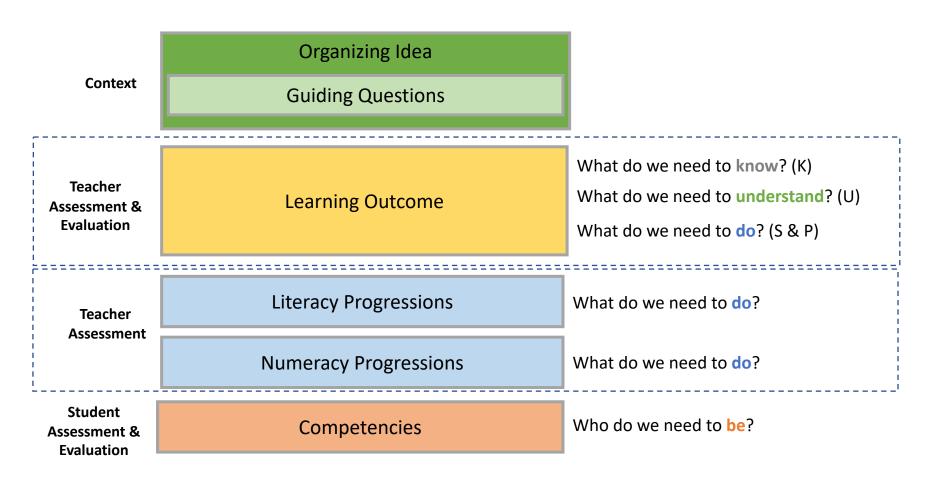
The Backwards Design FLIPBOOK-Unit Planning Alberta's Renewed/Renewed Curriculum











Grade:	Subject(s):		Planning Team:				
Organizing Idea:							
Vocabulary to know and use:							
		Curricular Languag	ge	Student- Friendly			
Our Guiding Unit/ Question(s):	Essential						
Learning Outcome	:	Understandings:					
		Knowledge:					
		Processes & Skills:					
Literacy and/or Nu Progressions	ımeracy						
Competencies							

Grade: 4	Subject(s): Math	Planning Team:		
Organizing Idea: Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.				
Vocabulary to know and use:	add, subtract, whole numbers, decimals, place val	lue, estimate		
	Curricular Language		Student- Friendly	
Our Guiding Unit/Essential Question(s):	How can understanding of addition and subtraction decimal numbers?	ion be extended to	How can we use what we know about adding and subtracting whole numbers and apply it to decimal numbers?	
Learning Outcome: Students add and subtract within 10 000, including decimal numbers to hundredths.	be used for any decimal numbers. be used for any decimal numbers. Knowledge: Standard algorithms for addition and subtraction of decimal numbers are conventional procedures based on place value.		I understand that how I add and subtract whole numbers can also be used to add and subtract decimals I know how place value can help me add and subtract decimals I know how estimation can help check to see if my adding and subtracting of decimals makes sense	
	Processes & Skills: Add and subtract numbers, including decimal nural algorithms. Assess the reasonableness of a sum or difference Solve problems using addition and subtraction, in involving money.	e using estimation.	I can add and subtract numbers that include decimals I can tell if my answer to adding or subtracting makes sense I can solve problems where I need to add and subtract numbers that have decimals, including money	
Literacy Progressions	Vocabulary: Students acquire and use precise and vocabulary, general academic vocabulary (e.g., idefinition), and subject/discipline-specific vocabulary (e.g., idecosystem) related to learning experiences	dentification,	I can learn and use math vocabulary when I am learning and sharing my learning	
Numeracy Progressions	Qualitative Information: Students calculate using decimals in real-life situations.	, whole numbers and	I can solve real world math problems	
Competencies	Problem Solving: I acquire and select informatio	on to identify problems.	I can problem solve by knowing what information I need	

Backwards Design Plan: Science 9

How have **humans** attained a <u>presence</u> in **space**? What technologies have been developed and on what scientific ideas are they based? How has the development of these **technologies** contributed to the **exploration**, **use and understanding** of space and to **benefits** on **Earth**?

How do humans go to and interact with space? How has technology been used to understand and explore space?

How does understand space help to understand the Earth?

Vo	Vocabulary to know and use:			
Un	it Goals: Curricular Language	Stu	dent Friendly Language	
STS	Investigate and describe ways that human understanding of Earth and space has depended on technological development by:	STS	I can explore and describe how humans use and need technology to understand the Earth the space	
	Identify problems in developing technologies for space exploration, describe technologies developed for life in space, and explain the scientific principles involved		I can understand and describe technologies that have been developed for exploring space and for life in space I can find problems in the technologies that have been and are being developed	
	Describe and interpret the science of optical and radio telescopes, space probes and remote sensing technologies		I can explain the science of some specific technologies	
	4. Identify issues and opportunities arising from the application of space technology, identify alternatives involved, and analyze implications		I can find problems and see potential in studying space and space technology	
Skills Outcomes	Initiating and Planning Students will: Ask questions about the relationships between and among observable variables, and plan investigations to address those questions	Skills Outcomes	I can initiate and plan by asking questions investigating and researching to find answers to those questions	
	Communication and Teamwork Students will: Work collaboratively on problems; and use appropriate language and formats to		I can communicate and work as a team by Solve problems and communicate ideas	
	communicate ideas, procedures and results			

Αŧ	Scientific Inquiry		I can be a scientific researcher by finding
Attitudes	Students will be encouraged to:		evidence to answer questions and solve problems
Š	Seek and apply evidence when evaluating		
	alternative approaches to investigations,		
	problems and issues (e.g., seek accurate data		
	that is based on appropriate methods of		
	investigation; consider observations and ideas		
	from a number of sources before drawing		
	conclusions)		
	Stewardship	Þ	I can show stewardship by
	-	ttit	Finding out about and understanding ideas
	Students will be encouraged to:	Attitudes	from different perspectives, including
	D	Se	stakeholders, that is connected to a problem
	Demonstrate sensitivity and responsibility in pursuing a balance between the needs of		or event
	humans and a sustainable environment (e.g.,		
	consider immediate and long-term		
	consequences of personal and group actions;		
	objectively identify potential conflicts between		
	responding to human wants and needs and		
	protecting the environment)		
	Collaboration		I can collaborate by
	G. 1		Work together to build ideas and solve
	Students will be encouraged to: Work collaboratively in carrying out		problems
	investigations and in generating and evaluating		
	ideas (e.g., work with others to identify		
	problems and explore possible solutions; share		
	observations and ideas with other members of		
	the group, and consider alternative ideas		
	suggested by other group members; share the		
	responsibility for carrying out decisions)		Land have selected about the box
CO	Critical Thinking	Co	I can be a critical thinker by:
Competencies	- questioning and analyzing	Competencies	Questioning what I know by understanding
ete	evidence, assertions or	ete	evidence from multiple perspectives
nc 3nc	assumptions	'nc	Being open minded to learn new things and to
ies	- demonstrating intellectual	ies	change my thinking and my ideas based on
	integrity, fairness and open-		what I am learning (growth mindset)
	mindedness		

Grade: 20-2	Subject Area: Math	Planning Team: Kim and team
Big Idea(s): What do I need to ur understand algebraic and graphi through the study of relations		Unit Guiding Question(s): What is algebra and why is it useful? How can we see and understand the relationships between given algebraic scenarios? How are algebraic equations and graphs connected? How can I use graphing to show algebraic equations? How can I understand an algebraic scenario by looking at information in a graph?

Key Vocabulary: algebra, relationships, algebraic scenarios, algebraic equations, graph, quadratic function, vertex, intercepts, axis of symmetry, domain, range, factors, factoring, ordered pairs, coordinates, x, y, polynomials, roots, quadratic equation, substitution, verify

	Curricular Language	Student Friendly Language
What do students need to know? Specific Outcome 1.	Demonstrate an understanding of the characteristics of quadratic functions, including: • vertex • intercepts domain and range axis of symmetry.	I know what quadratic functions are I know that quadratic functions have a vertex, intercepts, and an axis of symmetry I know that quadratic functions are defined by their domain and range
What do students need to do? Specific Outcome 2.	Solve problems that involve quadratic equations.	I can solve problems that use quadratic equations
Who do student need to be? Mathematical Processes	CN, PS, T, V, C, R	I can make connections to help me understand I can problem solve in math I can use technology as a tool I can visualize as a strategy to help me understand I can communicate my thinking I can reason by justifying my thinking

Universal Design for Learning: The Ramps for Learning







Learning Maps/ Learner Progressions

- Adjustable curriculum
- A predicted journey of complexity
- Designed with concepts in mind
- Standards based instead of standardized
- Multiple exit points instead of multiple entry points
- Start from access, add on challenge
- Different from a rubric

Rubrics vs. Learning Maps

	deficit	deficit	Standard
goal			

THE SCRUMPTIOUS RUBRIC REFERENCE

BARELY HANGING ON



The customer wants a refund. Bread alone is not a sandwich. It's like you gave the bread and pop out just to show you were listening.

Translation: You only did the small stuff to suffice turning it in. The artwork is missing all important details and signs of understanding or perseverance.

NEEDS SOME UMPH



Your sandwich disappoints the customer. There's no flavor and not enough meat, if any at all. About the only thing great is the Citrus Drop.

Translation: You are missing important details within your artwork. Expectations are not met. Improvement is needed and lack of understanding is present.

GETS THE POINT



Your sandwich met expectations. It has flavor but nothing too exciting. You included the meat but gee, a side of chips would be nice.

Translation: Your artwork meets expectations, you went as far as the requirements expected and you used what knowledge you had to do so.

RIGHT ON!



Your sandwich went beyond expectations. You threw in some extra flavor and tomatoes and surprised the customer with a side of chips.

Translation: Your artwork exceeds all expectations; you used creativity, went beyond the basic requirements and showed obvious understanding.

WWW.FIVEMOOREMINUTES.COM
Inclusive Education: It's not more work, it's different work!

Rubric: Science K

Content Goal: properties of familiar materials				
Student friendly:	I know how to interact	with objects and mate	rials by using my senses l	oy:
Approaching	Approaching Emerging Developing Confident Extending			
 I know properties of familiar objects with support 	I am beginning to know properties of familiar objects	I am sometimes know properties of familiar objects	I consistently know properties of familiar objects	I always know properties of familiar objects

Rubric: Science K

Content Goal: properties of familiar materials					
Student friendly:	Student friendly: I know how to interact with objects and materials by using my senses by:				
Approaching	Approaching Emerging Developing Confident Extending				
 I know properties of familiar objects with support 	 I am beginning to know properties of familiar objects 	• I sometimes know properties of familiar objects	 I consistently know properties of familiar objects 	• I <mark>always know</mark> properties of familiar objects	

The problem is frequency is not complexity & it is deficit based It doesn't matter is a student uses "support" or not if the tool or action increases independence (support is not a person)

- If they need a person to meet a goal, the goal is not accessible enough

One point rubric

	Standard
goal	



One Point Rubric: Science K

Our Unit Questions

- How do I **interact** with different **materials** and **objects**?
- How can I **describe** different materials and objects?

I need support	My goals for this unit	I need challenge
	I know how to interact with objects and materials by using my senses	
	I know different ways that objects move	
	I know different ways that First Peoples use objects and materials	
	I can share what happened by using my senses	

Hard for summative assessment - does not communicate the various complexities of how to meet each goal

Reductive vs vs. Additive

	Essential	More complex	More complex
Learning Outcome			

Additing Complexity: Science

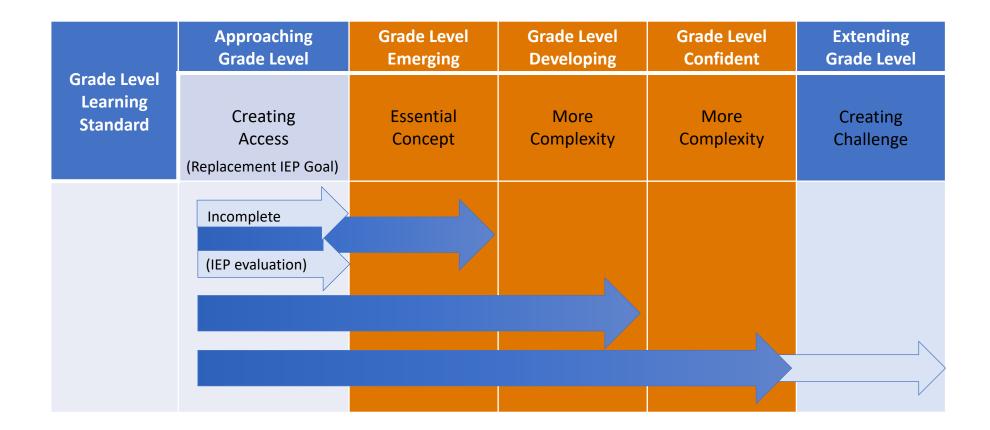
Content Goal: properties of familiar materials Student friendly: I know how to interact with objects and materials by using my senses by: 3 4 • I have an emerging I have a developing • I have a proficient • I have a sophisticated understanding of the understanding of the understanding of the understanding of the learning outcome learning outcome learning outcome learning outcome

Increasing Complexity: Science

Content Goal: properties of familiar materials Student friendly: I know how to interact with objects and materials by using my senses by: 3 4 I have an emerging I have a developing • I have a proficient • I have a sophisticated understanding of the understanding of the understanding of the understanding of the learning outcome learning outcome learning outcome learning outcome

Subjective and lacks clarity

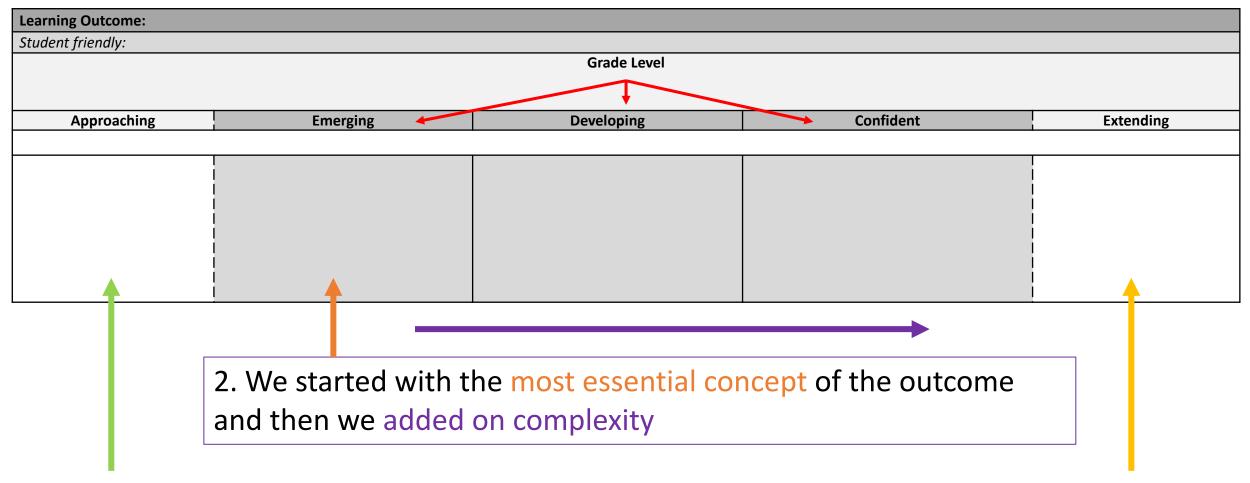
An Additive Continuum of Proficiency



www.fivemooreminutes.com Shelley Moore, 2023

Our Co-Planning Journey: Learning Continuums

1. Using the elaborations for each learning outcome, we constructed a grade-level scaffold in student friendly language



3. We extended the grade level scaffold to include an access point and challenge point

Additive Learning Continuum: Science

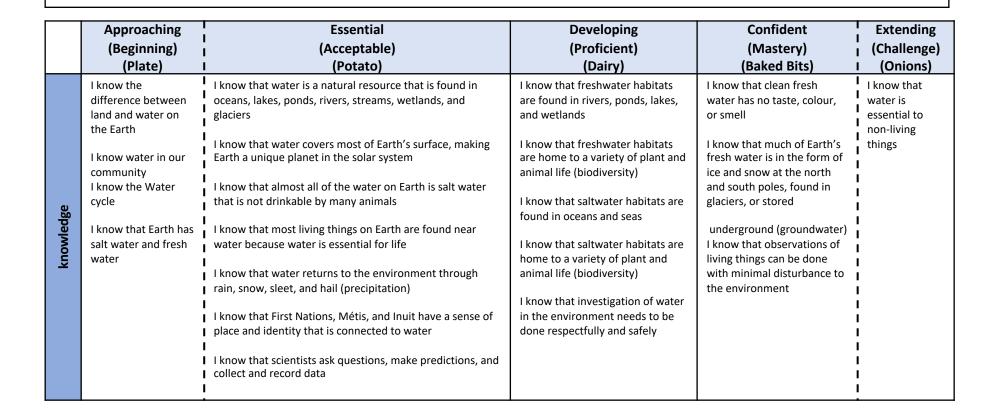
Content Goal: properties of familiar materials Student friendly: I know how to interact with objects and materials by using my senses by: **Approaching Emerging Developing** Confident **Extending** • Showing (or Using colour & texture to Using hardness and Using absorbency to Using lustre to describe objects and flexibility to describe matching) that I describe objects and describe objects objects and materials and materials know what rocks, materials materials fabric, soil, wood, Describing wood, sand, Describing roots, bark, Describing paper, sponges Describing metals trunk and needs of a • Describing berries (frozen), • Describing bones, sand, plastic, plastic cedar) Describing rocks dyed fabric fur paper, sponges, metal are Describing fabric and soil

Grade: 2	Subject(s): Science	Planning Team: Kin Kendra (DI)	n (CT2), Shelley, Jessica (PA), Raime (P),	
Our Guiding Unit Question:	Our Guiding Unit Question:			
How does water impact livir	ng things in the environment?	What is water? Wh	What is water? Why is water important to living things?	
Learning Outcome:		Student friendly:		
Students investigate characterimportance of water to living		I can investigate water		
		I know that water is important to living things and the environment		
Numeracy: We can collect data Numeracy: We can communicate our learning Literacy: We can use strategies to help us understand text Competency: We can be cultural and global citizens				
Important vocabulary to know and use:				
Water Environment Living things	Citizens Strategies communicate		Investigate Collect data Text	

Grade 2	Subject(s): Science	Planning Team: Kim (CT2), Shelley, Jessica (PA), Raime (P), Kendra (DI)
Guiding Unit Question:	What is water	? Why is water important to living things?
Key vocabulary:	Water, enviror text	nment, living things, citizen, strategies, communicate, investigate, collect data,

Learner Progression

Learning Outcome: I can investigate water; I know that water is important to living things and the environment



Grade 2	Subject(s): Science	Planning Team: Kim (CT2), Shelley, Jessica (PA), Raime (P), Kendra (DI)
Guiding Unit Question(s):	What is water	? Why is water important to living things?
Key vocabulary:	Water, enviror text	nment, living things, citizen, strategies, communicate, investigate, collect data,

Learner Progression

Learning Outcome: I can investigate water; I know that water is important to living things and the environment

	Approaching	Essential	Developing	Confident	Extending
	(Beginning)	(Acceptable)	(Proficient)	(Mastery)	(Challenge)
	(Plate)	ı (Potato)	(Dairy)	(Baked Bits)	ı (Onions)
	I know my 5	I can use the five senses to describe the	I can predict results of an	I can investigate	l can
	senses	characteristics of water	investigation	different life	evaluate
		!		forms found in	personal
	I can notice	I can explain the importance of water to	I can identify patterns in	freshwater and	use of
		living things	recorded observations	saltwater habitats	I water
	I can wonder				!
		I can describe the significance of water to	I can propose questions	l can compare	;
-	I know how I use water	ı the environment	that could be investigated	sources of the	ı
	use water	1		Earth's water	!
	- 8	I can use appropriate science vocabulary in			;
		ı oral, written, or graphic communications			!
2	5	1			! !
		I can explore the environment safely with			i
		! respect and care			!
		1 1			<u> </u>
		I can represent how water gives a sense of			- I
		place and identity to First Nations, Métis,			!
		and Inuit communities			!

Grade: 3	Subject(s): LA	Planning Team:
Guiding Unit Question: How can text organization enhance meaning?	What is text? How is it orga	anized? How does the organization of text help me understand it?
Key Vocabulary:	Text, organization, form, st	ructure, ideas, information, enjoyment, fiction, non-fiction, interests, imagination, facts, stories, beginning, problem, events, solutions, ending, digital,

Learner Progressions

Learning Outcome: Students relate the form and structure of texts to the communication of ideas and information. I know texts. I know how texts are organized. I can use the organization of text to help me understand it.

_		Approaching (Plate)	Essential (Potato)	Developing (Dairy)	Confident (Baked Bits)	Extending (Onions)
ture of texts can help organize the expression and information.	Knowledge	new information from I know texts in my life that are fun and enjoyable	A text is anything, digital or non-digital, that has meaning for the individual or group who creates or engages with it. I know that text can be digital or not digital I know some example of text The purpose of a text can be to inform provide enjoyment I know that a purpose of a text can be to give information I know that a purpose of a text can be for enjoyment Texts can be categorized according to their content and include fiction and non-fiction. I know that there are fiction texts I know that there are non fiction text	Literary forms of fiction and non-fiction texts include	Stories can be fiction or non- fiction and can follow a structure, including • beginning • events • ending I know that text can have a structure that can include a beginning and ending, and events	I know how structures change depending of the text
The purpose, form, or structure understanding of ideas and info	Skills & Procedures	I can choose a text depending on what I need I can share some of my favourite texts	Examine the purpose of a variety of texts. I can figure out the purpose of different texts Explain personal preferences for texts that provide enjoyment. I can share why I enjoy texts Differentiate between fiction and non-fiction texts according to content. I can look at a text and tell if it is fiction or non fiction	Examine the form of a variety of fiction and non-fiction texts. I can figure out what kind of text it is Examine the structure of a variety of fiction and non-fiction texts. I can figure out how different texts are organized	Determine how the structure of texts can help organize the expression or understanding of ideas or information. I can figure out how a text is structured and explain how the structure helps my understanding	I can figure out how the structure changes in a text and ho it helps me understand the ideas in the text

Backwards Design Plan: Grade 9 Cross Curricular Planning Team: Alanna, Spencer, Michelle, Leslie

Our Guiding Unit Questions:

How can human society live on Mars?

- How can humans live sustainably?
- How is quality of life established through political and economic structures?

Uni	it Goals: Curricular Language	Stu	dent Friendly Language
(SS) Val	9.1.2 appreciate the various effects of government policies on citizenship and on Canadian society (C, I, PADM)		I can understand how government policies effect citizenship and society
Value & Attitudes	9.1.3 appreciate how emerging issues impact quality of life, citizenship and identity in Canada (C, I, PADM) - (perspectives)		I can understand how issues impact quality of life and identities of citizens
les	9.2.3 appreciate the impact of government decision making on quality of life (C, CC, PADM)		I can
(SS) Know	9.1.4 examine the structure of Canada's federal political system by exploring and reflecting upon the following questions and issues:		I can research political systems by:
Knowledge & Understandi	9.1.6 assess, critically, the impact of the Canadian Charter of Rights and Freedoms on the legislative process in Canada by exploring and reflecting upon the following questions and issues:		I can recognize how the Charter of Rights and Freedoms impacts the legislative process by:
standings	9.2.4 compare and contrast the principles and practices of market and mixed economies by exploring and reflecting upon the following questions and issues:		I can
(SS) DI	critical thinking and creative thinking		I can be a critical and creative thinker
mension	decision making and problem solving		I can make decisions and solve problems
(SS) Dimensions of Thinking	research and information		I can research and understand new information
ing	oral, written and visual literacy		I can show my learning in different ways

(Science) - STS	Outcome 2: Identify problems in developing technologies for space exploration, describe technologies developed for life in space, and explain the scientific principles involved		I can show what problems may exist when making technology for exploring space I can explain what technology helps life survive in space I can explain how scientific principles are used in exploring and surviving in space
	Outcome 4: Identify issues and opportunities arising from the application		I can identify problems and opportunities of space technology
	of space technology, identify alternatives		I can identify alternative technologies
	involved, (and analyze implications)		
S	Initiating and Planning		I can initiate and plan by asking questions and
(Scien			making a plan to investigate those questions
Co	Managing information	Cor	I can manage information by collecting,
0		a d	organizing and using information for a purpose

Grade & Subject: Science 9 Planning Team: CASH

Unit Guiding Questions: How do humans go to and interact with space? How has technology been used to understand and explore space? How does understand space help to understand the Earth?

Key Vocabulary:

<u>STS Goal 1 (Curricular Language): 1.</u> Investigate and describe ways that human understanding of Earth and space has depended on technological development

Student Friendly	Approaching	Emerging	Developing	Confident	Extending
Language					
I can explore and describe how humans use and need technology to understand the Earth the space	I know what is in our solar system I know some examples of technology to explore space I can find similarities and differences of bodies in the solar system	o I know how culture has shaped our understanding of space o I know how we know what is in our solar system o I can compare and contrast different bodies in the solar system (relationships and evidence)	I know how technology has helped us understand space I can describe the distribution of matter in space	o I can describe how objects in space move	predict alignment and collision of objects in space

<u>STS Goal 2 (Curricular Language):2.</u> Identify problems in developing technologies for space exploration, describe technologies developed for life in space, and explain the scientific principles involved

Student Friendly	Approaching	Emerging	Developing	Confident	Extending
Language					
I can understand and describe technologies that have been developed for exploring space and for life in space I can find problems in the technologies that have been and are being developed	I know that when you travel to space, we need support and technology. I know that you must leave earth to get to space.	I can identify and link technologies to the human support needed to be in space. I can describe the technology needed for space transport	o I can apply my knowledge and understanding of life in space to identify and solve problems that may arise because of space exploration.	o I can investigate the scientific principles related to space living and exploration	o I know where technology is still needed. I can explain o I can explain how space living and exploration helps with life on earth (GPS, weather).

<u>STS Goal 3 (Curricular Language): 3.</u> Describe and interpret the science of optical and radio telescopes, space probes and remote sensing technologies

Student Friendly	Approaching	Emerging	Developing	Confident	Extending
Language					
I can explain the science of some specific technologies	o I can explain what a telescope is and why it is useful	o I can explain what optical and radio telescopes are and how they are different o I know what kind of information radio	o I can explain what kind of telescope to use in different situations	o I can explain the limitations of each telescope based on their location	o I can use geometry to calculate distances between objects that we see in a telescope
		and optical telescopes provide			- -

Biology 20-1: Energy and Matter Exchange in the Biosphere

Our Unit Questions

- How are carbon, oxygen, <u>nitrogen</u> and phosphorus cycled in the biosphere?
 How is the flow of energy balanced in the biosphere?
- How have human activities and technological advances affected the balance of energy and matter in the biosphere?

66333	neral Learning Outcome: Students will understand the systems.	e con	stant flow of energy through the biosphere and
Uni	it Goals: Curricular Language	Stu	dent Friendly Language
Knowledge	20–A1.1k Students will: explain, in general terms, the one-way flow of energy through the biosphere and how stored energy in the biosphere, as a system, is eventually "lost" as heat	Knowledge	I know how energy is used in a biosphere (stored, transferred, lost)
	20–A1.2k Students will: explain how energy in the biosphere can be perceived as a balance between both photosynthetic and chemosynthetic activities and cellular respiratory activities		I know that energy in different biospheres is balanced and cycles I know how biospheres are interconnected
	20–A1.3k Students will explain the structure of ecosystem trophic levels, using models such as food chains and food webs		I know what an ecosystem is and how it is organized
	20–A1.4k Students will explain, quantitatively, the flow of energy and the exchange of matter in aquatic and terrestrial ecosystems, using models such as pyramids of numbers, biomass and energy		I know how energy moves in an ecosystem I know how to represent the movement of energy in ecosystems using a model
STS	20–A1.1sts Students will: explain that the process of scientific investigation includes analyzing evidence and providing explanations based upon scientific theories and concepts	STS	I can connect what I am learning about biospheres to real life examples and events
Specific Ou	Initiating and Planning 20–A1.1s Students will: formulate questions about observed relationships and plan investigations of questions, ideas, problems, and issues	Specific Ou	I can initiate and plan by: by asking questions about what I observe in my environment by making predicting based on what I observe
Specific Outcomes for Skills	Performing and Recording 20–A1.2s Students will: conduct investigations into relationships among observable variables and use a broad range of tools and techniques to gather and record data and information perform an experiment	Specific Outcomes for Skills	I can investigate and record my observations by: using different tools and techniques to gather data complete an experiment
	Analyzing and Interpreting 20–A1.3s Students will: analyze data and apply mathematical and conceptual models to develop and assess possible solutions		I can analyze and interpret by: Iooking for patterns in my data to help me understand what is happening connecting my data to other scenarios and contexts coming up with some possible solutions or explanations for what is happening organizing and displaying my data in ways that make sense to me
	Communication 20–A1.4s Students will: work collaboratively in addressing problems and apply the skills and conventions of science in communicating information and ideas and in assessing results		I can communicate my findings by: using SI units and Sig Digs presenting my findings so it makes sense to others (modes representation)

Backwards Design & Learning Progressions Shelley Moore, 2022

Learning Outcome Progressions: Bio 20-1

What do I need to know?

Approaching	Emerging	Developing	Confident	Extending
The sun and plants work together to form energy	I know what photosynthesis and chemosynthesis and cellular respiration is and examples of each	I know how photosynthesis, chemosynthesis and cellular respiration are connected	I know how energy is transferred by conduction, radiation, and convection, and examples	I know limitations ar problems of how energy is used in existing and/or potential biospheres

20-A1.2k I know that energy in different biospheres is balanced and cycles; I know how biospheres are interconnected						
Approaching	Emerging	Developing	Confident	Extending		
know why I need the sun and plants know why plants need		I know that there can be balance or imbalance between	I know the impact of imbalance in photosynthesis and	I know the pros/cons to possible solutions in imbalances of		
me	cellular respiration	photosynthesis, chemo synthesis and cellular respiration	chemosynthesis and cellular respiration (global warming)	photosynthesis and chemosynthesis and cellular respiration		

Approaching	Emerging	Developing	Confident	Extending
know what a food hain is	I know trophic levels and examples in the world	I know how to show trophic levels on different models	I know how trophic levels are connected to each other	I know the impact of deleting a tropic leve

Grade:	Subject(s):	Planning Team:
Curricular Language		Student Friendly Language
Organizing Idea		
Our Guiding Unit/Esso	ential Question(s):	
Learning Outcome:		
Learning Outcome:		
Literacy & Numeracy Progressions		We can
Competencies		We can
Important vocabulary	to know and use:	

Grade:		Subject(s):	Planning Team:			
Organizing	g Idea					
Guiding U	nit Question:					
Key Vocab	oulary:					
			Learner	Progressions		
Learning C	Outcome:					
	Approaching		Essential	Developing	Confident	Extending

		Approaching (Plate)	Essential I (Potato)	Developing (Dairy)	Confident (Baked Bits)	Extending (Onions)
	Knowledge					
Understanding	Skills & Procedures					

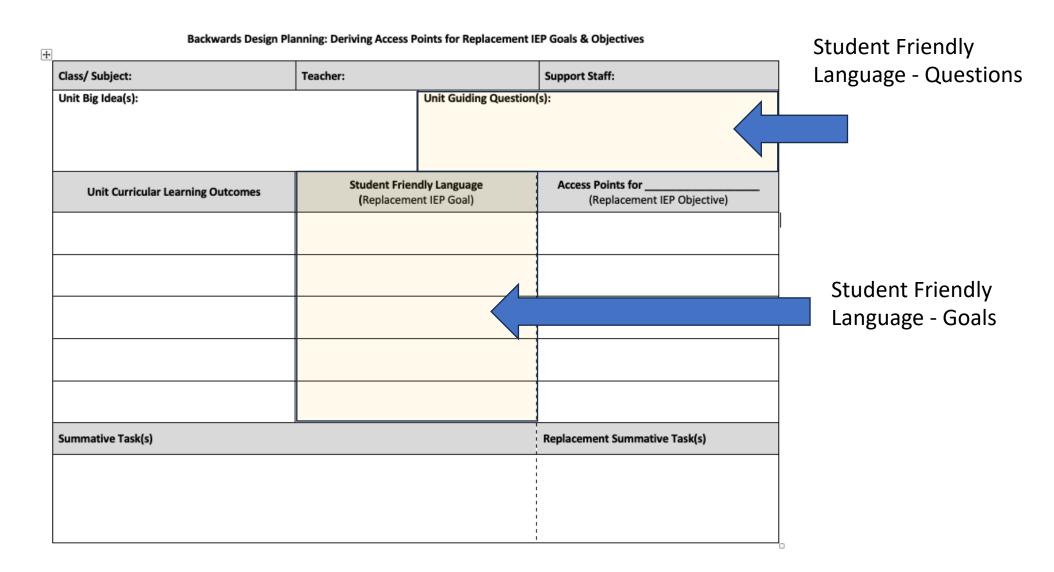
Backwards Design Planning: Deriving Access Points for Replacement IEP Goals & Objectives

Class/ Subject:	Teacher:		Support Staff:
Unit Big Idea(s):		Unit Guiding Ques	tion(s):
Unit Curricular Learning Outcomes		ndly Language ent IEP Goal)	Access Points for
Summative Task(s)			Replacement Summative Task(s)
			!

Constructing Inclusive Replacement Goals

Grade Level		anning: Deriving Access P	oints for Replacemer	nt IEP Goals & Objectives
Learning	Class/ Subject: Teacher:			Support Staff:
Expectation/ Standard	Unit Big Idea(s):		Unit Guiding Questi	ion(s):
	Unit Curricular Learning Outcomes		dly Language nt IEP Goal)	Access Points for(Replacement IEP Objective)
Grade Level Specific Expectations				
Grade Level	Summative Task(s)			Replacement Summative Task(s)
Summative Task(s)				

Constructing Inclusive Replacement Goals



Constructing Inclusive Replacement Goals

Backwards Design Planning: Deriving Access Points for Replacement IEP Goals & Objectives Class/ Subject: Teacher: Support Staff: Accessible Version of Unit Big Idea(s): Unit Guiding Question(s): Grade Level goal designed for student who has an **Student Friendly Language** Access Points for **Unit Curricular Learning Outcomes** (Replacement IEP Goal) (Replacement IEP Objective) intellectual disability (they get graded on THIS goal) Replacement Summative Task(s) Summative Task(s) **Parallel Summative Task** that creates evidence of

replacement goal

Grade Level Learning Standards – Grade 8 Math

Specific Expectations

By the end of Grade 8, students will:

By the end of Grade 8, students will:

B1. Number Sense

demonstrate an understanding of numbers and make connections to numbers are used in everyday life

Specific Expectations

Compare grades >

Transferable skills: Critical thinking

Critical thinking and problem solving Communication

Rational and Irrational Numbers

B1.1 represent and compare very large and very small numbers, including through the use of scientific notation, and describe various ways they are used in everyday life

Teacher supports v

B1.2 describe, compare, and order numbers in the real number system (rational and irrational numbers), separately and in combination, in various contexts

Teacher supports v

B1.3 estimate and calculate square roots, in various contexts

Teacher supports v

Fractions, Decimals, and Percents

B1.4 use fractions, decimal numbers, and percents, including percents of more than 100% or less than 1%, interchangeably and flexibly to solve a variety of problems

Teacher supports v

Backwards Design Planning: Deriving Access Points for Replacement IEP Goals & Objectives

Class/ Subject: Math 8 – Rational and Irrational Numbers	Teacher:		Support Staff:
Unit Big Idea(s): Students will understand how numbers are used in everyday life How are really big an everyday life?		(s): really small numbers represented and used in	
Unit Curricular Learning Outcomes		endly Language ent IEP Goal)	Access Points (Replacement IEP Objective)
B1.1 Student can represent and compare very large and very small numbers, including using scientific notation, and describe various ways they are used in everyday life	I know how really big and really small numbers are represented and used in everyday life I can show how really big and really small numbers are represented		I know numbers up to 100 (or 1000, 10 000) I know how I use numbers in my everyday life I know the place values of numbers up to
B1.2 Students can describe, compare, and order number in the real number system (rational and irrational numbers), separately and in combination, in various contexts	I know what rational and irrational numbers are I can describe and compare numbers and put numbers in order		I can show numbers, compare numbers (more/less/bigger/smaller) up to I can put numbers in order up to
B1.3 Students can estimate and calculate square roots in various context	I know what a square root I know how to use square roots to solve problems		I can use a calculator to find square root
Summative Task(s)			Replacement Summative Task(s)
 Exploring Celestial Distances Project Research and select three celestial of your choice. find the average distance of each kilometers Convert the distances to scientification Calculate the square root of each Compare the distances between the scientific notation and square root 	celestial object from notation with two distance the celestial objects	m Earth in significant figures	Exploring Celestial Distances Project - Choose 3-5 celestial objects - Put the objects in order based on their distance from the Earth - Label objects using their distances from Earth (distances provided)

	3		

Class/ Subject: Math 8 – Rational and Irrational Numbers	Teacher:		Support Staff:
Unit Big Idea(s): Students will understand how numbers are used in everyday life How are really big and everyday life? Unit Guiding Question((s): really small numbers represented and used in	
Unit Curricular Learning Outcomes		ndly Language ent IEP Goal)	Access Points (Replacement IEP Objective)
B1.1 Student can represent and compare very large and very small numbers, including using scientific notation, and describe various ways they are used in everyday life	I know how really big and really small numbers are represented and used in everyday life I can show how really big and really small numbers are represented		I know numbers up to I know how I use numbers in my everyday life I know the place values of numbers up to
B1.2 Students can describe, compare, and order number in the real number system (rational and irrational numbers), separately and in combination, in various contexts	I know what rational and irrational numbers are I can describe and compare numbers and put numbers in order		I can describe, compare and order positive whole numbers up to
B1.3 Students can estimate and calculate square roots in various context	I know what a square root I know how to use square roots to solve problems		I can use a calculator to find square root
Summative Task(s)			Replacement Summative Task(s)
 Exploring Celestial Distances Project Research and select three celestial of your choice. find the average distance of each kilometers Convert the distances to scientific Calculate the square root of each Compare the distances between the scientific notation and square root 	celestial object from notation with two s distance he celestial objects t	Earth in	 Exploring Celestial Distances Project Choose 3-5 celestial objects Put the objects in order based on their distance from the Earth Label objects using their distances from Earth (distances provided)

Subject/Course: Math 8	Teacher:

Grade Level Learning Standard: B1.1 Student can represent and compare very large and very small numbers, including using scientific notation, and describe various ways they are used in everyday life

Replacement Goal: I know how really big and really small numbers are represented and used in everyday life & I can show how really big and really small numbers are represented

Objective:	I know numbers up to 1000 I know the place values of numbers up to 1000
Objective:	I know how I use numbers up to 1000 in my everyday life
Strategies:	visuals, objects, hands on, real life examples, partner with peers, access points to lessons, pull in interests

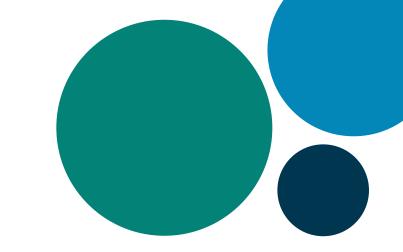
- Determined by grade level learning standards
- Chosen by classroom teacher
- Shared goal with peers
- Co-developed by classroom and support teacher
- Access point for all students
- Co-developed by classroom and support teacher
- Individualized to student

 Co-developed by support teacher, classroom teacher with input from school team

What's next for you?

- What is one useful idea?
- What is one thing you want to try?
- What is one thing you want to think about?
- What is one thing you want to learn more about?
- What is one thing you want to share with someone who is not here today?

Its not about changing everything, its about changing something.





Shelley-MOORE PH.D.





@tweetsomemoore



@fivemooreminutes



@fivemooreminutes



www.fivemooreminutes.com www.blogsomemoore.com