SHELLEY MOORE

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NEXWLéLEXM (BOWEN ISLAND)

- The Islands Trust council acknowledges that the lands and waters that encompass the Islands Trust Area have been home to Indigenous peoples since time immemorial and honours the rich history, stewardship, and cultural heritage that embody this place we all call home.

- The Islands Trust council is committed to establishing and maintaining mutually respectful relationships between Indigenous and non-Indigenous peoples. Islands Trust states a commitment to Reconciliation with the understanding that this commitment is a long-term relationship-building and healing process.

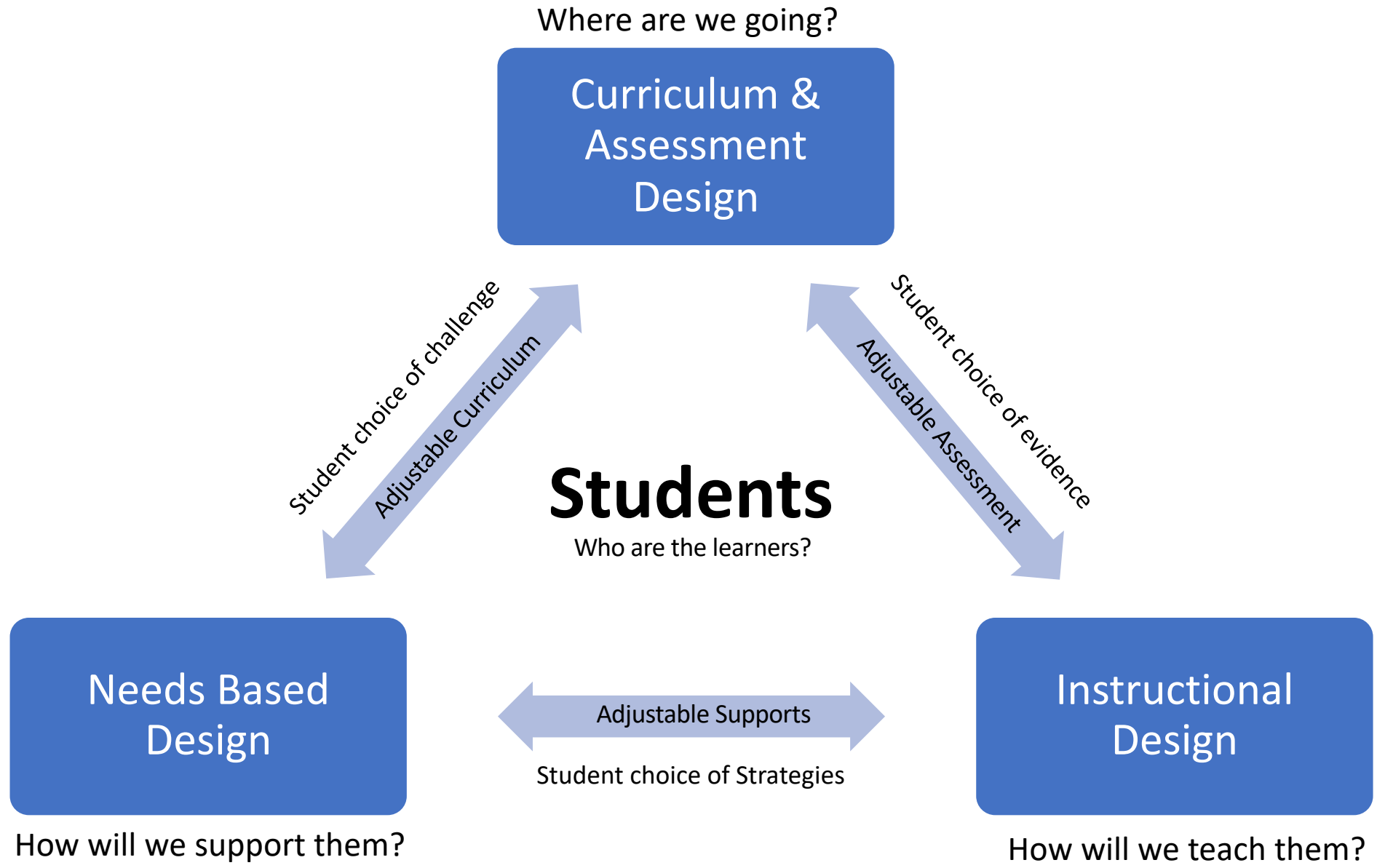
- The Islands Trust council will strive to create opportunities for knowledge-sharing and understanding as people come together to preserve and protect the special nature of the islands within the Salish Sea.

Break out

- What stands out from last session?
- What have you tried or what to try?
- What are you noticing about your thinking and practice?

How do we change the system?
Design with Equity in Mind

Shelley Moore, 2019



How do we change the system?
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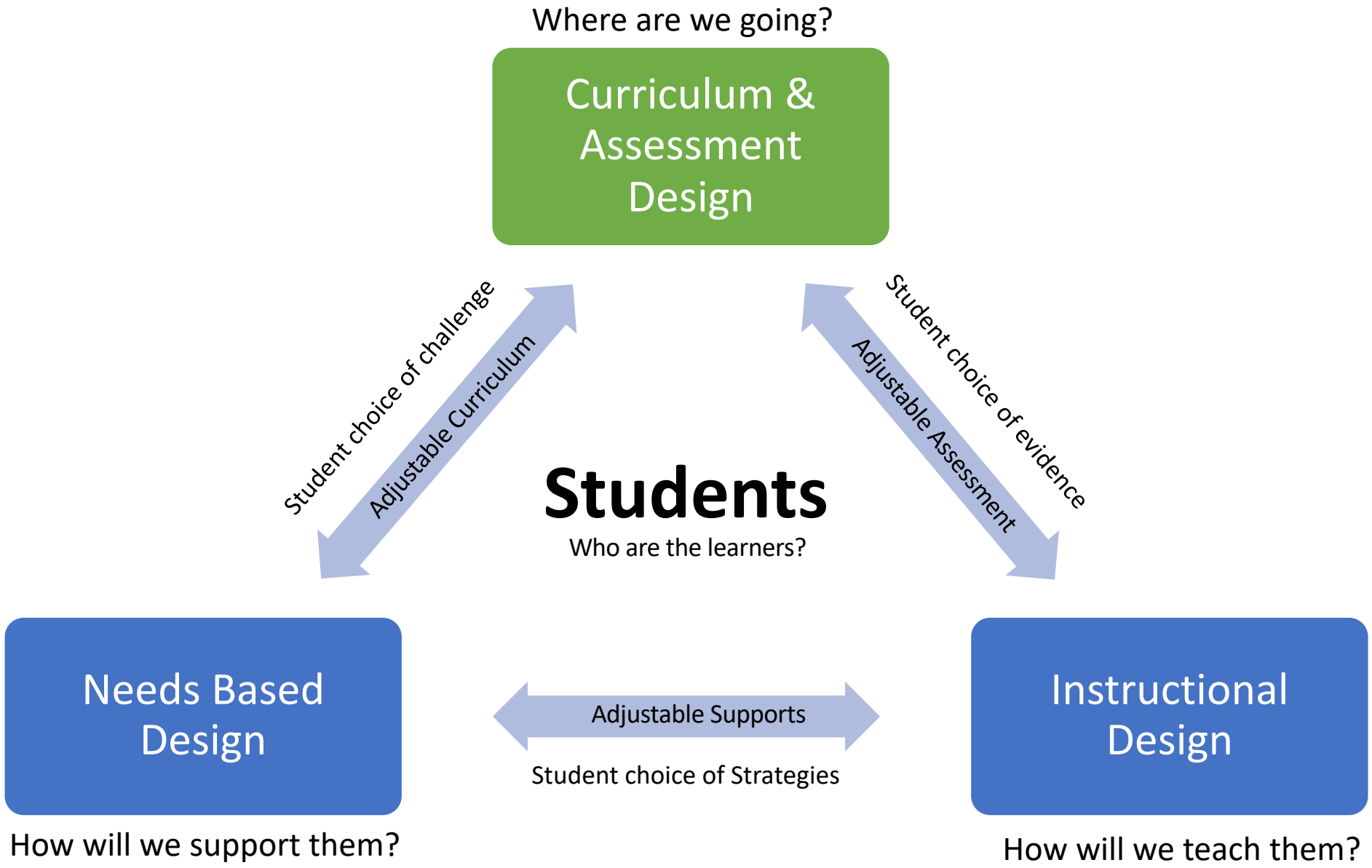
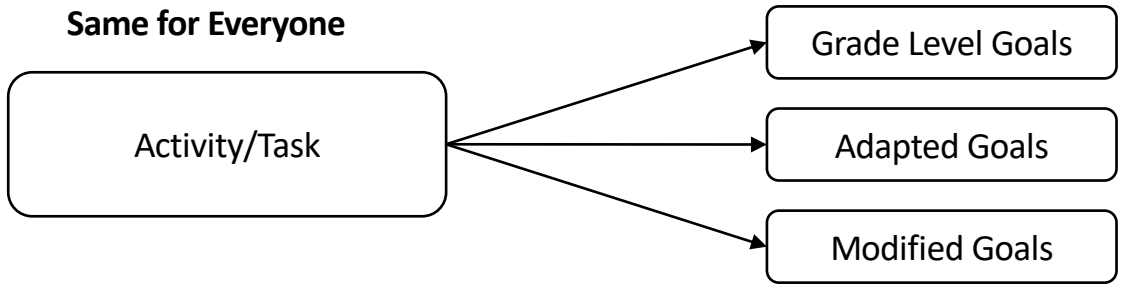


Forward Design

Standardized Evaluation

Differentiated

Same for Everyone

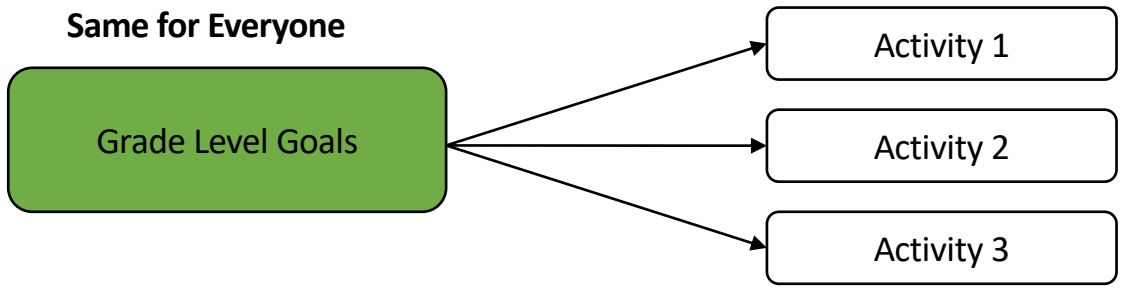


Compromises the integrity of evaluation

Backward Design

Differentiated

Same for Everyone



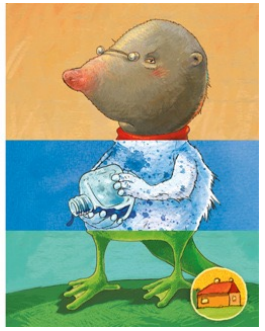
Does not compromise the integrity evaluation

Standards Based Evaluation

McTigue, 2010

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

Miserable
Two-toed
Lizard



Context

- Organizing Idea
- Guiding Questions

Teacher Assessment & Evaluation

- Learning Outcome
  - What do we need to **know**? (K)
  - What do we need to **understand**? (U)
  - What do we need to **do**? (S & P)

Teacher Assessment

- Literacy Progressions — What do we need to **do**?
- Numeracy Progressions — What do we need to **do**?

Student Assessment & Evaluation

- Competencies — Who do we need to **become**?

Grade: 4	Subject(s): Science	Planning Team:

Organizing Idea: Matter: Understandings of the physical world are deepened through investigating matter and energy.

Vocabulary: physical world, matter, energy, **force, effect objects, understand, reading, reading**

	Curricular Language	Student- Friendly
Our Guiding Unit/Essential Question(s):	How can forces affect objects from a distance?	What is **force**? How does **force affect objects**?
Learning Outcomes:	Students investigate how forces can act on objects without contact.	I can **understand** how **forces** can **affect objects** around them without touching them
Literacy & Numeracy Progressions	We can construct meaning	We can **understand** what we are **reading**
Competencies	We can be critical thinkers	We can be **critical thinkers**

Grade: 3	Subject(s): Math	Planning Team:

Organizing Idea: Geometry: **Shapes** are defined and related by geometric attributes.

Vocabulary: shape, relation, transform

	Curricular Language	Student- Friendly
Our Guiding Unit/Essential Question(s):	In what ways might geometric properties refine interpretation of **shape**?	What makes a shape a shape? How are shapes the same and different from each other? How can I describe shapes in relation to each other?
Learning Outcome:	Students relate geometric properties to shape.	I know different kinds of shapes I can describe what is important about different shapes I can show how different shapes can transform
Literacy & Numeracy Progressions	Construct Meaning: **Background Knowledge** **Spatial Visualization**	We can understand information by thinking about what we already know We can make visuals in our mind
Competencies	**Communication**	We can communicate what we are thinking and learning

Grade: 2	Subject(s): Science	Planning Team: Kim (CT2), Shelley, Jessica (PA), Raime (P), Kendra (DI)
Our Guiding Unit Question: How does water impact living things in the environment?		**Student Friendly:** What is water? Why is water important to living things?
Learning Outcome: Students investigate characteristics of water and the importance of water to living things in the environment.		**Student friendly:** 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

Backwards Design Alberta Goals Cheat Sheet (SUPPORTS)

Backward Design Element	In Science it is called:	In Social Studies it is called:	In Math it is called:	In Language Arts/English it is called:
Topic: What is the theme/topic/context?	Unit of Study	Title	Strand	Theme of choice
Big Idea: What do we need to understand? Why are we learning this?	Overview	General Learning Outcome (GLO)	General Learning Outcome (GLO)	General Learning outcome (GLO)
Guiding Question: Turning the BIG IDEA into a questions for the students	Focus Questions	Make it out of the GLO	Make it out of the GLO	Make a question out of the theme
Content Goals: What do we need to know? (evaluate)	STS & Knowledge	Knowledge & Understandings	Specific Outcomes	none
Process Goals: What do we need to do? (evaluate)	Skills	Values & Attitudes	Skills & Processes	Specific learning outcomes
	Attitudes	Dimensions of Thinking		

Backwards Design Plan: Science 9

How have **humans** attained a presence 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?

Vocabulary to know and use:			
Unit Goals: Curricular Language		**Student 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 communicate ideas, procedures and results		I can communicate and work as a team by Solve problems and communicate ideas

Attitudes	Scientific Inquiry *Students will be encouraged to:* 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)*		I can be a scientific researcher by finding evidence to answer questions and solve problems
	Stewardship *Students will be encouraged to:* Demonstrate sensitivity and responsibility in pursuing a balance between the needs of 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)*	**Attitudes**	I can show stewardship by Finding out about and understanding ideas from different perspectives, including stakeholders, that is connected to a problem or event
	Collaboration *Students will be encouraged to:* Work collaboratively in carrying out 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)*		I can collaborate by Work together to build ideas and solve problems
Competencies	Critical Thinking - questioning and analyzing evidence, assertions or assumptions - demonstrating intellectual integrity, fairness and open-mindedness	**Competencies**	I can be a critical thinker by: Questioning what I know by understanding evidence from multiple perspectives Being open minded to learn new things and to change my thinking and my ideas based on what I am learning (growth mindset)

Big Idea: Students will examine the effects of nationalism, ultranationalism and the pursuit of the national interest.	**Our Unit Questions:** What is nationalism? Why is it important? What are the effects of nationalism?

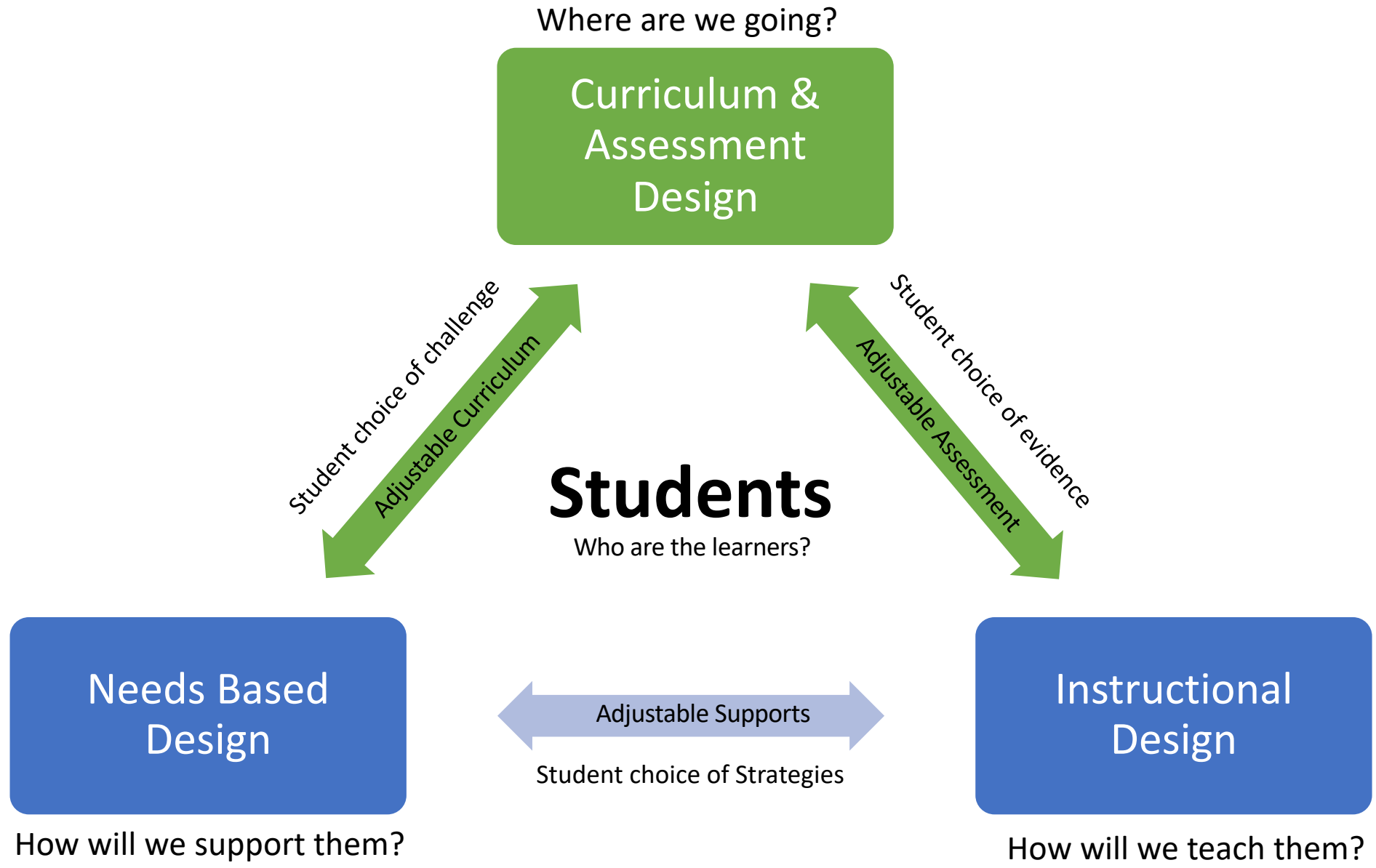
Vocabulary to know and use:			
Unit Goals: Curricular Language		**Student Friendly Language**	
Values &	20-4.2a appreciate that **nations** and states pursue the **national interest**	**Values &**	I understand why **nations** try and build **national interest**
	20-4.2b appreciate multiple **perspectives** related to the pursuit of the **national interest**		I understand why it is important to include different **perspectives** when building **national interest**
Knowledge & Understanding	20-4.2c explore a range of **expressions** of **national interest**	**Knowledge & Understanding**	I learn about different ways that **national interest** is shown or expressed
	20-4.2d explore the **relationship** between **nationalism** and the pursuit of the **national interest**		I can learn about how **nationalism** and building **national interest** connects to each other
	20-4.2e examine **similarities and differences** between **nationalism** and **ultranationalism**		I can look at how **nationalism** and ultranationalism are the same and different
	20-4.2f identify the effects of **nationalism** and **ultranationalism** during times of **conflict**		I can tell the **effects** of n**ationalism** and **ultranationalism** during **conflict**
	20-4.2g examine **ultranationalism** as a cause of **genocide**		I can look at how ultranationalism can lead to **genocide**
	20-4.2h examine the **relationship** between **nationalism** and **national self-determination**		I can look at how **nationalism** and **national self-determination** connect to each other

Grade: 20-2	Subject Area: Math	Planning Team: Kim and team
Big Idea(s): What do I need to understand? I understand algebraic and graphical reasoning 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

How do we change the system?
Design with Equity in Mind

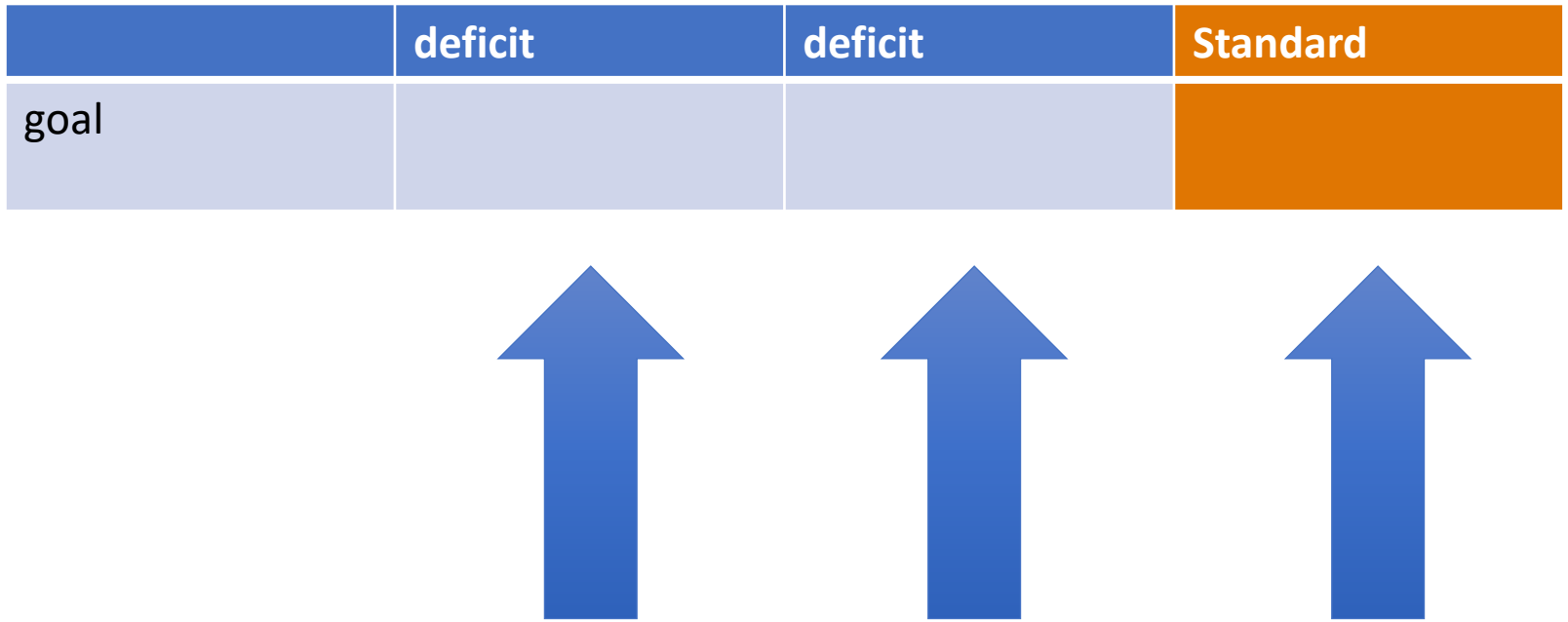
Shelley Moore, 2019



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



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.

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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 materials by using my senses by:				
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

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• 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 always know 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	

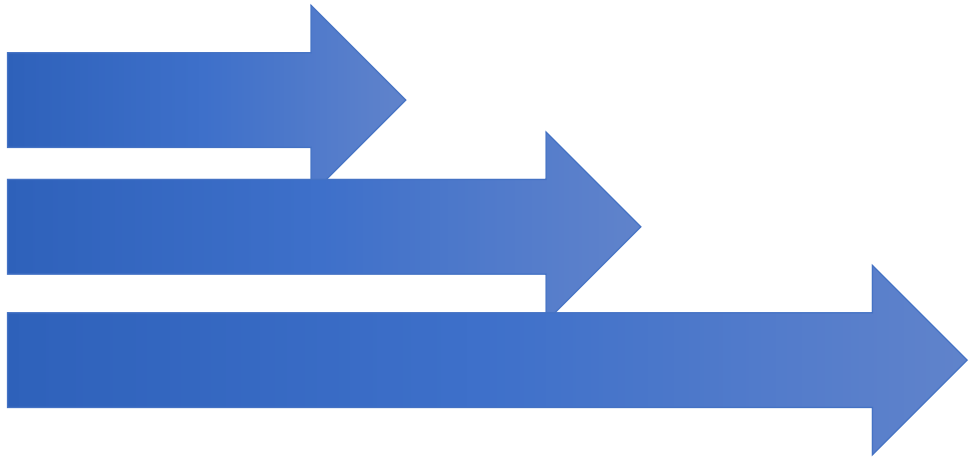
One Point Rubric: Science K

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

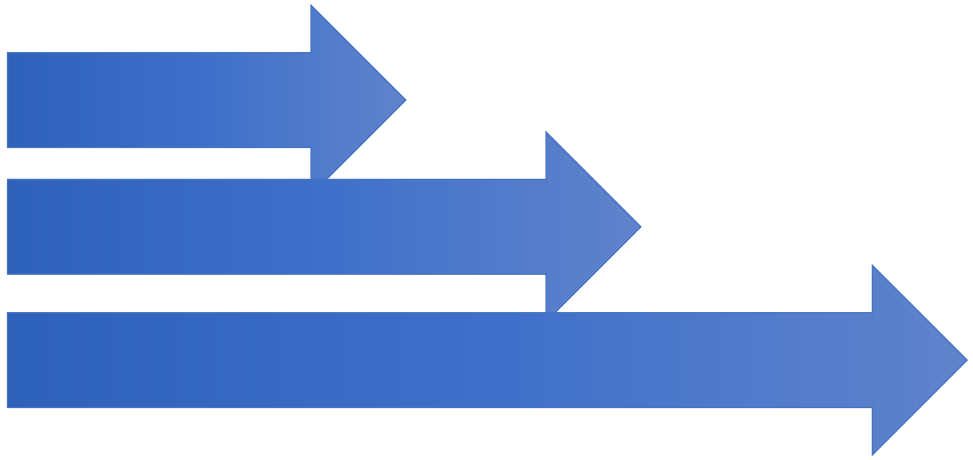
Reductive vs vs. Additive

	Essential	More complex	More complex
Learning Outcome			

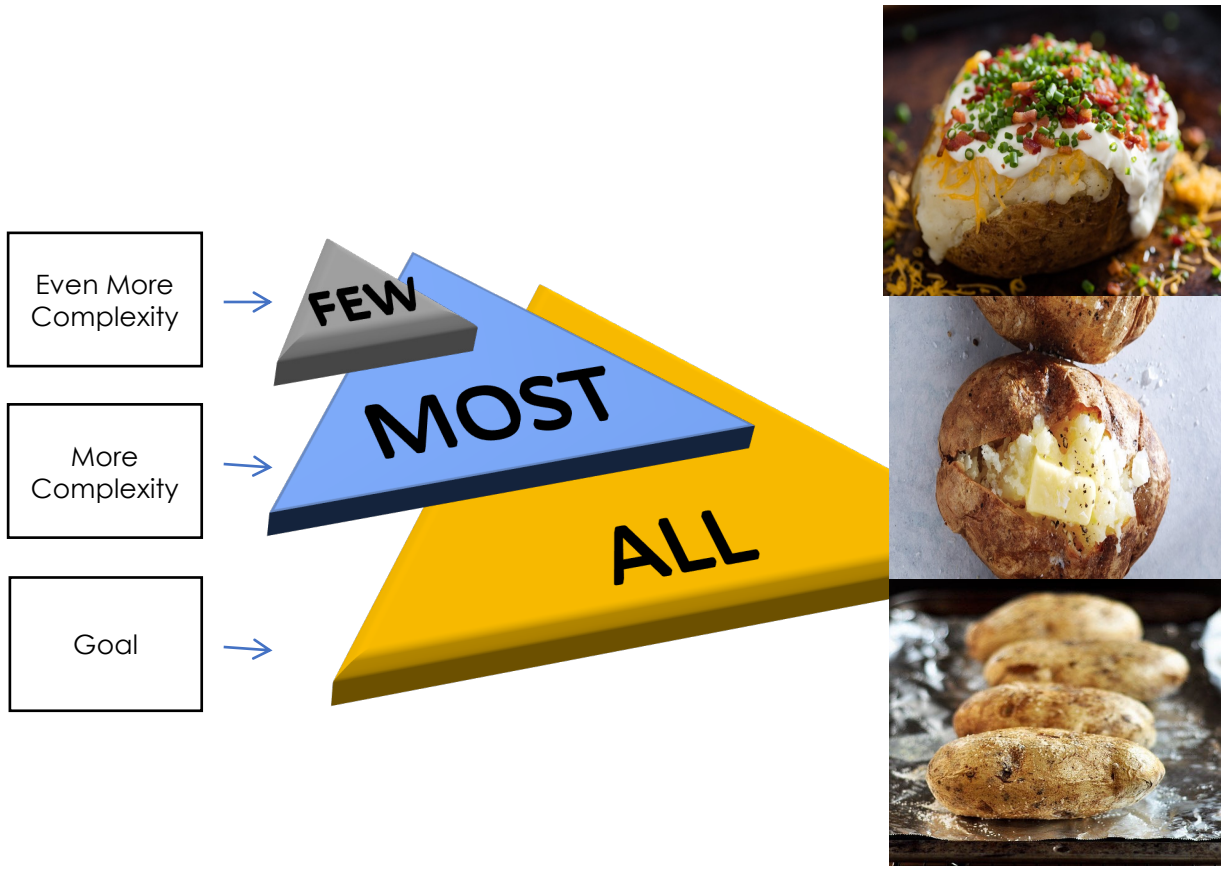


Rubrics vs. Learning Maps

	Standard	More complex	More complex
goal			



Differentiated Curriculum: The Planning Pyramid

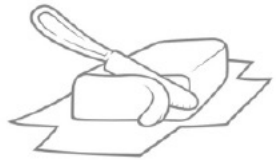


Baked Potato Planning Pyramid: Designing for a range of complexity

Goal:

Goal for **ALL**

Goal for **MOST**



Goal for **FEW**

Shelley Moore, 2019

Creating Access AND Challenge

Challenge

Even more goals

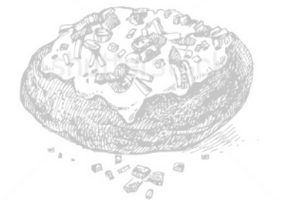
More goals

Goals

Access

The Baked Potato Planning Strategy:

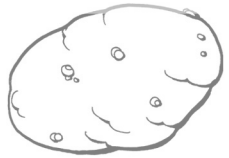
Goal:



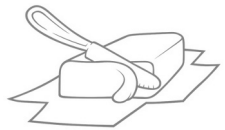
Elaborations/ Achievement Indicators

Goal for ALL (Essential)

Access



Goal for MOST (add complexity)

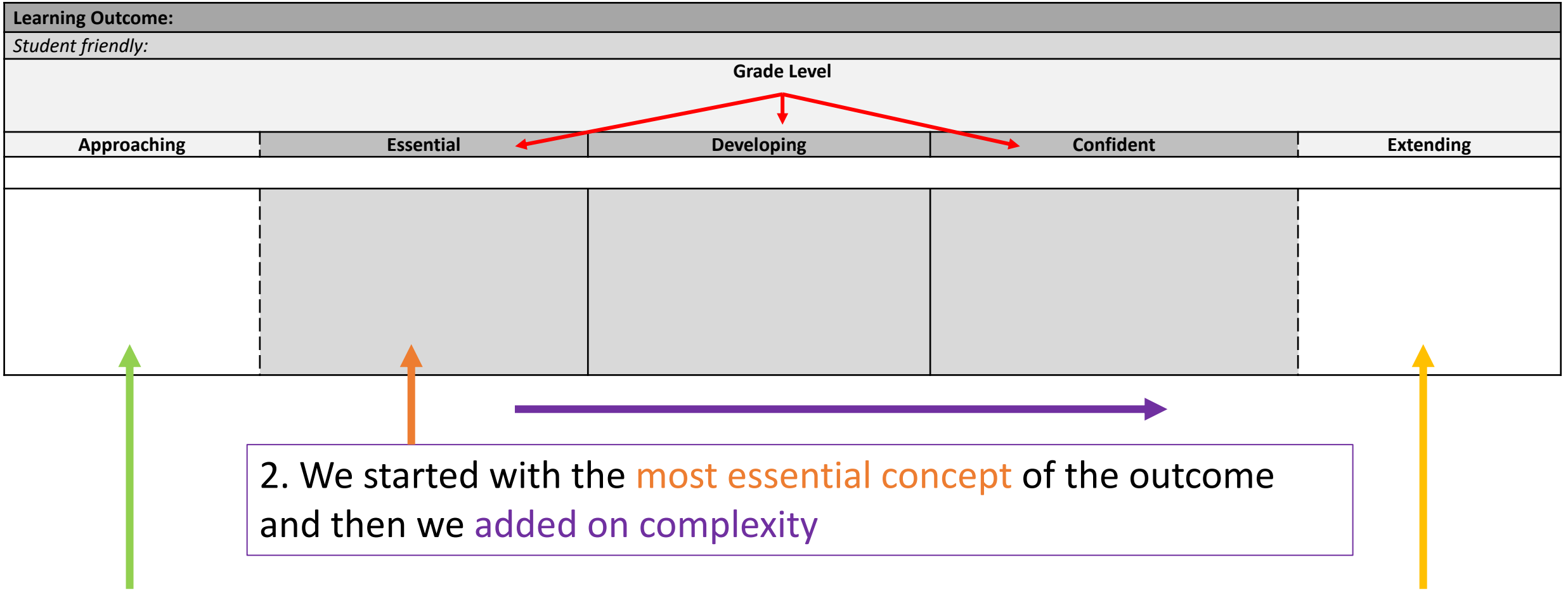


Goal for FEW (add complexity)

Challenge

Our Co-Planning Journey: Learning Continuums

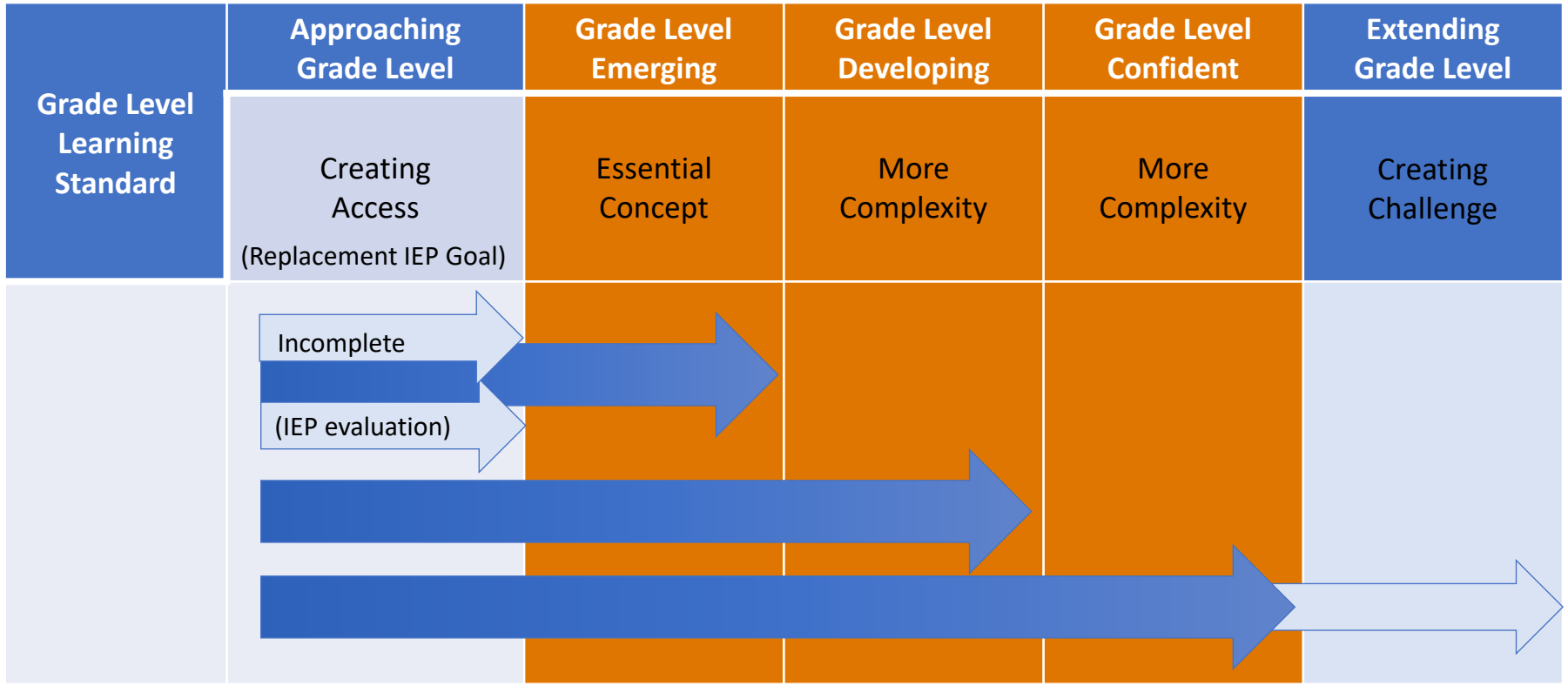
1. Using the elaborations for each learning outcome, we constructed a grade-level scaffold in *student friendly language*



2. We started with the most essential concept of the outcome and then we added on complexity

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

An Additive Continuum of Proficiency



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	**Essential**	**Developing**	**Confident**	**Extending**
→				
• Showing (or matching) that I know what rocks, fabric, soil, wood, sand, plastic, paper, sponges, metal are	• Using colour & texture to describe objects and materials • Describing roots, bark, trunk and needs of a cedar) • Describing fabric and soil	• Using hardness and flexibility to describe objects and materials • Describing wood, sand, plastic • Describing rocks	• Using absorbency to describe objects and materials • Describing paper, sponges • Describing berries (frozen), dyed fabric	• Using lustre to describe objects and materials • Describing metals • Describing bones, fur

Our Co-Planning Journey: Learning Continuums

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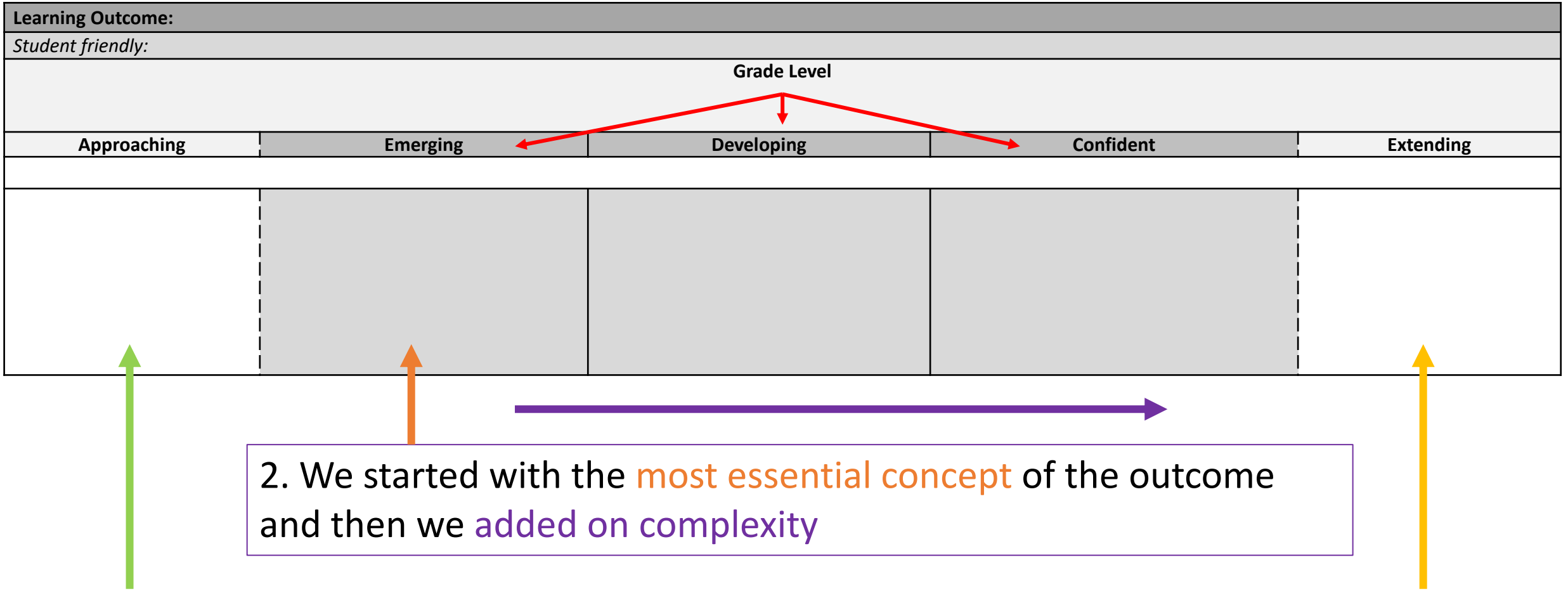

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Our Guiding Unit Question: How does water impact living things in the environment?		**Student Friendly:** What is water? Why is water important to living things?
Learning Outcome: Students investigate characteristics of water and the importance of water to living things in the environment.		**Student friendly:** 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, environment, living things, citizen, strategies, communicate, investigate, collect data, text	

Learner Progression

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

	Approaching (Beginning) (Plate)	Essential (Acceptable) (Potato)	Developing (Proficient) (Dairy)	Confident (Mastery) (Baked Bits)	Extending (Challenge) (Onions)
knowledge	I know the difference between land and water on the Earth I know water in our community I know the Water cycle I know that Earth has salt water and fresh water	I know that water is a natural resource that is found in oceans, lakes, ponds, rivers, streams, wetlands, and glaciers I know that water covers most of Earth's surface, making Earth a unique planet in the solar system I know that almost all of the water on Earth is salt water that is not drinkable by many animals I know that most living things on Earth are found near water because water is essential for life I know that water returns to the environment through rain, snow, sleet, and hail (precipitation) I know that First Nations, Métis, and Inuit have a sense of place and identity that is connected to water I know that scientists ask questions, make predictions, and collect and record data	I know that freshwater habitats are found in rivers, ponds, lakes, and wetlands I know that freshwater habitats are home to a variety of plant and animal life (biodiversity) I know that saltwater habitats are found in oceans and seas I know that saltwater habitats are home to a variety of plant and animal life (biodiversity) I know that investigation of water in the environment needs to be done respectfully and safely	I know that clean fresh water has no taste, colour, or smell I know that much of Earth's fresh water is in the form of ice and snow at the north and south poles, found in glaciers, or stored underground (groundwater) I know that observations of living things can be done with minimal disturbance to the environment	I know that water is essential to non-living things

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, environment, living things, citizen, strategies, communicate, investigate, collect data, text	

Learner Progression

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

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

Grade: 3	Subject(s): LA	Planning Team:
Guiding Unit Question: How can text organization enhance meaning?	What is text? How is it organized? How does the organization of text help me understand it?	
Key Vocabulary:	Text, organization, form, structure, 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)
Understanding The purpose, form, or structure of texts can help organize the expression and understanding of ideas and information.	**Knowledge**	I know my favourite books, movies, tv shows, websites, games etc. I know texts in my life that I learn new information from I know texts in my life that are fun and enjoyable I know that text have a purpose	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 • drama • short stories • Images I know that some examples of fiction and non fiction text Fiction is a type of text that uses imagination to tell a story. Non-fiction is a type of text that expresses information and facts. I know the difference between fiction and non fiction Stories can be fiction or non-fiction and can follow a structure, including • problem • Solution I know that text can have a structure that can include a problem and solution	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 on the text
	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 how it helps me understand the ideas in the text

Grade:	Subject(s):	Planning Team:
Curricular Language		**Student Friendly Language**
Organizing Idea		
Our Guiding Unit/Essential 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 Idea		
Guiding Unit Question:		
Key Vocabulary:		

Learner Progressions

Learning Outcome:

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

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?**

	Unit Goals: Curricular Language		Student Friendly Language
(SS) Value & Attitudes	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
	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
	9.2.3 appreciate the impact of government decision making on quality of life (C, CC, PADM)		I can
(SS) Knowledge & Understandings	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:
	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:
	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) Dimensions of Thinking	*critical thinking and creative thinking*		I can be a critical and creative thinker
	decision making and problem solving		I can make decisions and solve problems
	research and information		I can research and understand new information
	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 of space technology, identify alternatives involved, (and analyze implications)		I can identify problems and opportunities of space technology I can identify alternative technologies
(Scien	Initiating and Planning		I can initiate and plan by asking questions and making a plan to investigate those questions
Co	Managing information	Comp	I can manage information by collecting, 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:

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

Student Friendly Language	Approaching	Emerging	Developing	Confident	Extending
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	○ I know how culture has shaped our understanding of space ○ I know how we know what is in our solar system ○ 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	○ I can describe how objects in space move	○ I know how scientists predict alignment and collision of objects in space

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

Student Friendly Language	Approaching	Emerging	Developing	Confident	Extending
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	○ I can apply my knowledge and understanding of life in space to identify and solve problems that may arise because of space exploration.	○ I can investigate the scientific principles related to space living and exploration	○ I know where technology is still needed. I can explain ○ I can explain how space living and exploration helps with life on earth (GPS, weather).

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

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

STS (Curricular Language): 4. Identify issues and opportunities arising from the application of space technology, identify alternatives involved, and analyze implications

Student Friendly Language	Approaching	Emerging	Developing	Confident	Extending
I can find problems and see potential in studying space and space technology	o I know that space is dangerous	o I can explain some risks and dangers of space exploration	o I can describe how Canada has contributed to space exploration	o I can explain how space exploration can be connected to political, ethical, or environmental issues	o I can explain the differences between political, ethical, or environmental issues involved in space exploration

Skill Outcomes (Curricular Language): Initiating and Planning: Ask questions about the relationships between and among observable variables, and plan investigations to address those questions

Student Friendly Language	Approaching	Emerging	Developing	Confident	Extending
I can **initiate** and **plan** by asking questions investigating and researching to find answers to those questions	o I can choose an issue or problem to solve to research	o I can research to find and organize useful information (evidence) to help me solve the problem	o I can come up with some possible solutions to the problem	o I can create a plan to solve the problem	o I can reflect on my plan and find limitations o I can explain what is needed to put my plan into action

Skill Outcomes (Curricular Language): Communication and Teamwork: Work collaboratively on problems; and use appropriate language and formats to communicate ideas, procedures, and results

Student Friendly Language	Approaching	Emerging	Developing	Confident	Extending
I can communicate and work as a team by solving problems and communicating ideas	o I can share my ideas in a group	o I can listen to other people's ideas, and I understand that they can be different than mine	o I can include ideas from other people o I can work with a team to create and carry out a plan	o I can work with a team to troubleshoot problems as they come up	o I can defend a position based on evidence that you have found

Attitude Outcomes (Curricular Language): Scientific Inquiry: 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)*

Student Friendly Language	Approaching	Emerging	Developing	Confident	Extending
I can be a scientific researcher by finding evidence to answer questions and solve problems	o I can ask a question or find a problem to learn more about	o I can find evidence about an issue or problem	o I can find evidence from other perspectives	o I can figure out if the evidence is useful or not	o I can use evidence to support my position on an issue

Backwards Design Plan: Socials 20-4
Planning Team:

Big Idea: Students will examine the effects of nationalism, ultranationalism and the pursuit of the national interest.	**Our Unit Questions:** What is nationalism? Why is it important? What are the effects of nationalism?

Vocabulary to know and use:			
Unit Goals: Curricular Language		**Student Friendly Language**	
Values &	20-4.2a appreciate that **nations** and states pursue the **national interest**	Values &	I understand why **nations** try and build **national interest**
	20-4.2b appreciate multiple **perspectives** related to the pursuit of the **national interest**		I understand why it is important to include different **perspectives** when building **national interest**
Knowledge & Understanding	20-4.2c explore a range of **expressions** of **national interest**	Knowledge & Understanding	I learn about different ways that **national interest** is shown or expressed
	20-4.2d explore the **relationship** between **nationalism** and the pursuit of the **national interest**		I can learn about how **nationalism** and building **national interest** connects to each other
	20-4.2e examine **similarities and differences** between **nationalism** and **ultranationalism**		I can look at how **nationalism** and ultranationalism are the same and different
	20-4.2f identify the effects of **nationalism** and **ultranationalism** during times of **conflict**		I can tell the **effects** of **nationalism** and **ultranationalism** during **conflict**
	20-4.2g examine **ultranationalism** as a cause of **genocide**		I can look at how ultranationalism can lead to **genocide**
	20-4.2h examine the **relationship** between **nationalism** and **national self-determination**		I can look at how **nationalism** and **national self-determination** connect to each other

		Social Studies 20-4		Socials 20-2		
	Evaluation	20-4 Essential (C) 20-2 Approaching (I)	20-4 Developing (B) 20-2 Approaching (I)	Essential (C)	Developing (B)	Confident (A)
Values & Attitudes	**General Outcome**	**Students will examine the effects of the pursuit of internationalism.**		**Students will assess impacts of the pursuit of internationalism in contemporary global affairs.**		
	Specific Outcome	20-4.3a express an interest in current events and world affairs (C, GC)		3.1 appreciate that nations and states engage in regional and global affairs for a variety of reasons (GC, C)		
	Student Friendly	I know some current events that are happening in the world right now	I can show, over time, how I am interested in ongoing current events that are happening in the world	I can understand why different nations are involved in affairs locally	I can understand different reasons why countries (nations) are involved in events (affairs) around the world	
	Specific Outcome	20-4.3b appreciate the relationships among human beings in an interdependent world (C, GC)		3.2 appreciate the impacts of nation and state involvement in regional and global affairs on individual and collective identities (GC, C)		
	Student Friendly	I know what interdependence means and examples of it in the world	I can understand the relationship between humans and an interdependent world	I can understand how a country's (nation's) involvement in global events effects their identity locally	I can understand how a country's (nation's) involvement in global events effects their identity collectively	
	Specific Outcome	20-4.3c demonstrate understanding of a global consciousness of the human condition and world affairs (C, GC)		3.3 demonstrate a global consciousness with respect to the human condition and global affairs (C, GC)		
	Student Friendly	I know what global consciousness means and can give examples	I know what human condition means and can give examples	I know how global consciousness is impacted by human condition	I know how global consciousness is impacted by world events (affairs)	

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

Our Unit Questions

- How are carbon, oxygen, nitrogen 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?

General Learning Outcome: Students will understand the constant flow of energy through the biosphere and ecosystems.

	Unit Goals: Curricular Language		Student 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 Outcomes for Skills	**Initiating and Planning** **20–A1.1s** Students will: formulate questions about observed relationships and plan investigations of questions, ideas, problems, and issues	Specific Outcomes for Skills	I can **initiate** and **plan** by: • by asking questions about what I observe in my environment • by making predicting based on what I observe
	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		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: • looking 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)

Learning Outcome Progressions: Bio 20-1

What do I need to know?

20–A1.1k: I know how energy is used in a biosphere (stored, transferred, lost)

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 and problems of how energy is used in existing and/or potential biospheres

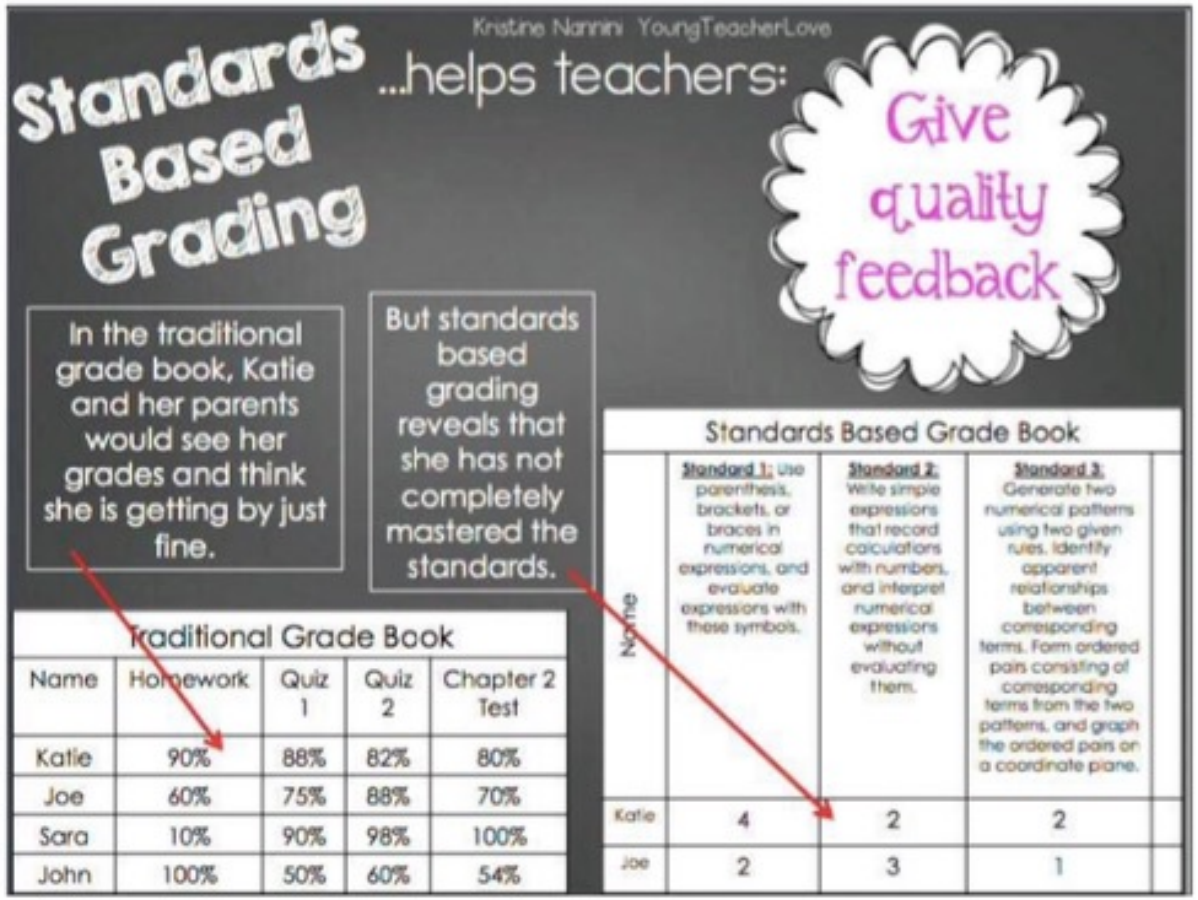
20–A1.2k I know that energy in different biospheres is balanced and cycles; I know how biospheres are interconnected

Approaching	Emerging	Developing	Confident	Extending
I know why I need the sun and plants I know why plants need me	I know the products of photosynthesis, chemosynthesis, and cellular respiration	I know that there can be balance or imbalance between photosynthesis, chemo synthesis and cellular respiration	I know the impact of imbalance in photosynthesis and chemosynthesis and cellular respiration (global warming)	I know the pros/cons to possible solutions in imbalances of photosynthesis and chemosynthesis and cellular respiration

20–A1.3k I know what an ecosystem is and how it is organized

Approaching	Emerging	Developing	Confident	Extending
I know what a food chain 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 level

1. Standards based vs. standardized curriculum



Standards Based Grade Book																										
Learning Standards	**sexual reproduction**					**Questioning and predicting** - Make observations aimed at identifying their own questions, including increasingly complex ones, about the natural world					**Processing and analyzing data and information** - Experience and interpret the local environment					Apply First Peoples perspectives and knowledge, other **ways of knowing**, and local knowledge as sources of information					Evaluation Date:				
Levels of Complexity	Approaching (IEP-R)	Essential (Emerging)	Developing	Confident (Proficient)	Extending	Approaching (IEP-R)	Essential (Emerging)	Developing	Confident (Proficient)	Extending	Approaching (IEP-R)	Essential (Emerging)	Developing	Confident (Proficient)	Extending	Approaching (IEP-R)	Essential (Emerging)	Developing	Confident (Proficient)	Extending	Total	Out of	%	Letter Grade	4-point
	2		**3**	**3.5**	**4**	**2**		**3**	**3.5**	**4**	**2**		**3**	**3.5**	**4**	**2**		**3**	**3.5**	**4**	**16**	**16**			
	ALL	ALL	MOST	SOME	FEW	ALL	ALL	MOST	SOME	FEW	ALL	ALL	MOST	SOME	FEW	ALL	ALL	MOST	SOME	FEW					
Student 1	•	•				•	•				•	•				•	•				**8**	**16**	**50**	**C-**	**2**
Student 2	•	•	•	•		•	•	•	•		•	•	•	•		•	•	•	•		**14**	**16**	**88**	**A**	**3 +**
Student 3	•	•				•	•	•	•		•		•			•	•	•			**I**	**16**	**I**	**I**	**1**
Student 4 (IEP-S)	•	•	•	•			•	•	•		•	•				•	•				**11**	**16**	**69**	**C+**	**2+**
Student 5 (IEP-R)	•					•					•					•					**4**	**4***	**100**	**A**	**4(R)**

General Learning Outcome		1. Student will explain the constant flow of energy through the biosphere and ecosystems																																Biosphere Project		
Specific Learning Outcome		**20–A1.1k**					**20–A1.3k**					**20–A2.1k**					**20–A2.2k**					**20–A3.1k**					**20–A3.2k**					**20–A3.1sts**					**20–A1.1s**					**20–A1.4s**							
Curricular Outcome - Student Language		I know how energy is used in a biosphere (stored, transferred, lost)					I know what an ecosystem is and how it is organized					I know the biogeochemical cycles (carbon, oxygen, nitrogen & phosphorus) and can explain how they recycle matter					I know the role of water in the hydrologic (water) cycle, label the steps and explain the process of the water cycle					I know how energy and matter cycle through an ecosystem and how this impacts the productivity of the ecosystem.					I know how photosynthesis and cellular respiration work together in the atmosphere					I can connect the value of creating a biosphere to meet the future needs of society.					I can **initiate** and **plan** by: -asking questions about what I observe in my environment -making predictions based on what I observe					I can work collaboratively and communicate my findings by: -presenting my findings so that it makes sense to others (modes of resprestation)							
Specific tasks in Biopshere project pertaining to this Outcome		Breakdown of the food necessary to have in the biosphere. Ingredients needed for your favourite food.					Planet choice, inhabitants and carrying capacity.					Oxygen in the biosphere					Water in the biosphere					Biomes chosen and description					Article Review					Model created					All planning pages that led to the development of your model.					(model) is clear and understandable, infomercial communicated key elements of project,							
Learning Outcome Progressions		Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Total	Out of	%
[Biosphere Project]		IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4	IE/IEP	2	3	3.5	4			
Student	11																																													0	36	0
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Student	14				3.5					3.5				3					3						3.5						3.5				3					3.5				3.5		30	36	83.33333333
Student	15			3						3.5				3					3						3.5					3					3					3				3.5		29	36	79.16666667
Student	16				3.5					3.5				3						3.5					3.5						3.5						3.5				4				3.5		32	36	87.5
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Student	19																																													0	36	0
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Student	26					4				3.5				3					3							4					4						4				4						4		30	36	81.94444444

Your Work

1. Start with a Backwards Design Plan

Grade:	Subject Area:	Planning Team:
Big Idea(s): What do I need to Understand?		Unit Guiding Question(s):
Key Vocabulary:		
	Curricular Language	Student Friendly Language
What do students need to know? Knowledge Goals		I know
What do students need to do? Skills/Process Goals		I can
What do students need to do? Skills/Process Goals		I can
What do students need to do? Skills/Process Goals		I can
Who do student need to be? Competency Goals	I can become/ I am…	

Your Work

1. Start with a Backwards Design Plan
2. Choose one learning standard to stretch

Learning Outcome:				
Student friendly:				
				
Approaching	**Emerging/ Essential**	**Developing**	**Confident**	**Extending**

Your Work

3. Determine the **Goal for ALL** (the MOST essential information to know and/or do at grade level)

- Think about background knowledge, experience, context of your learners
- In some curricular areas, elaborations can be useful (and this where community priorities can also be reflected)

Learning Outcome:				
Student friendly:				
				
Approaching	**Emerging/ Essential**	**Developing**	**Confident**	**Extending**

Your Work

4. Based on the Goal for ALL, determine the next levels of complexity of the grade level standard

Learning Outcome:				
Student friendly:				
Approaching	**Emerging/ Essential**	**Developing**	**Confident**	**Extending**

Your Work

5. Stretch the Goal for ALL to be accessible or learners who need more support (can extend beyond grade level)

Learning Outcome:				
Student friendly:				
				
Approaching	**Emerging/ Essential**	**Developing**	**Confident**	**Extending**

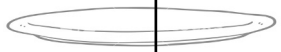
Your Work

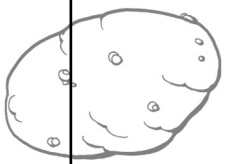
6. Stretch the most complex level to be challenging for learners who need extension (can extend beyond grade level)

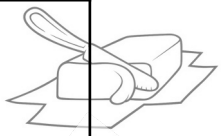
Learning Outcome:				
Student friendly:				
				
Approaching	**Emerging/ Essential**	**Developing**	**Confident**	**Extending**

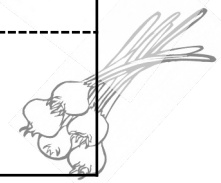
The Baked Potato Planning Strategy: Creating a Scaffolded Continuum

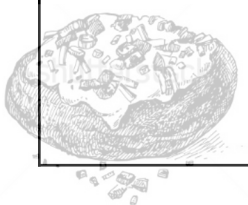
Subject & Grade:	**Planning Team:**
Grade Level Learning Standard:	
Elaborations/ Achievement Indicators/ Background knowledge & skills/ strengths, stretches & interests of the community	**Creating a Scaffolded Learning Continuum**
	Access Point (the plate)
	The most important information to know and/or do (the potato)
	Add on complexity (the butter and sour cream)
	Add on complexity (the bacon bits)
	Challenge (the onions)











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