

Shelley
MOORE PH.D.



www.drshelleymoore.com



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[@drshelleymoore.bksy.social](https://www.blogger.com/profile/12345678901234567890/@drshelleymoore.bksy.social)



[@drshelleymoore](mailto:drshelleymoore)



[Dr. Shelley Moore](https://www.facebook.com/Dr.Shelley.Moore)

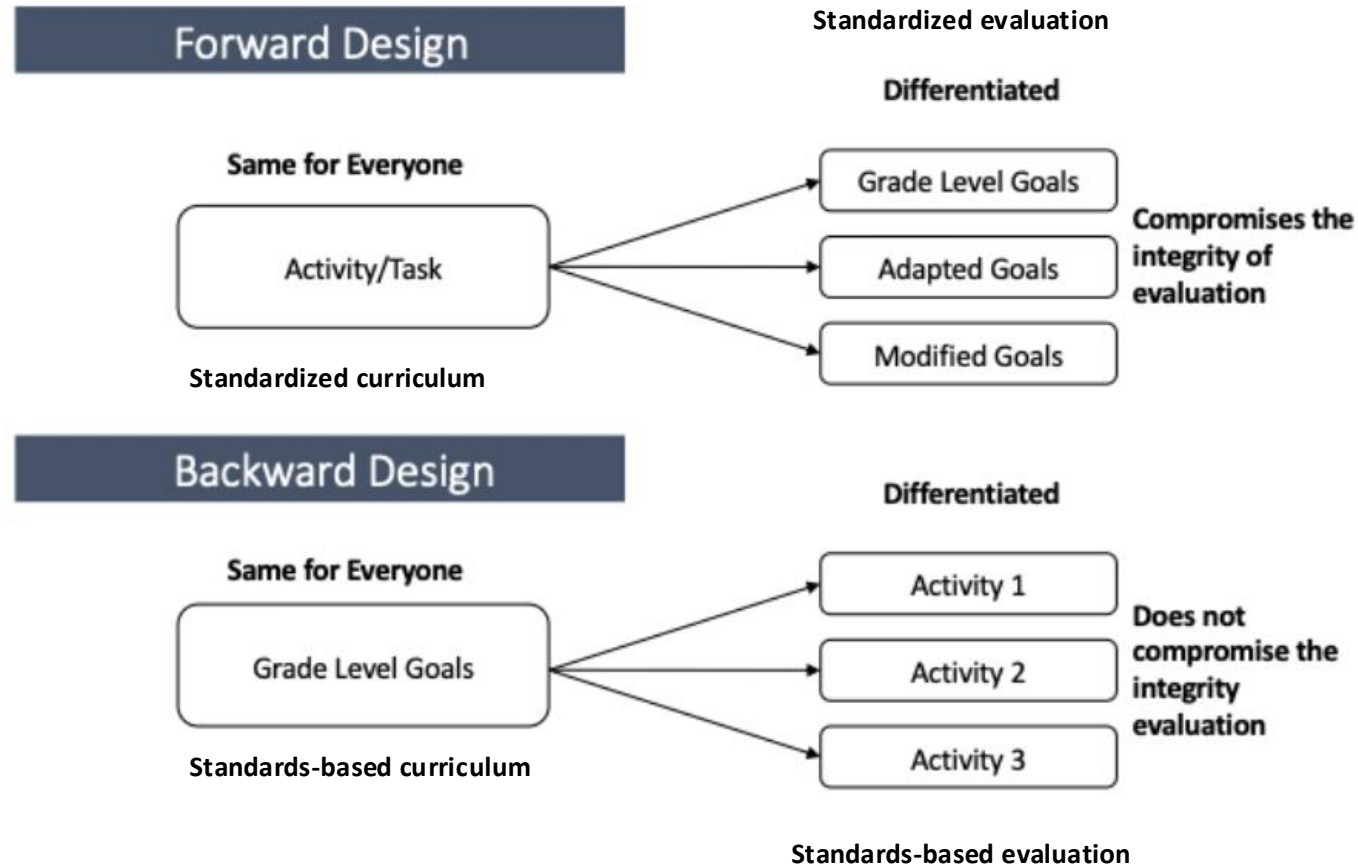




The renewed curriculum relies on a **Backwards Design** framework

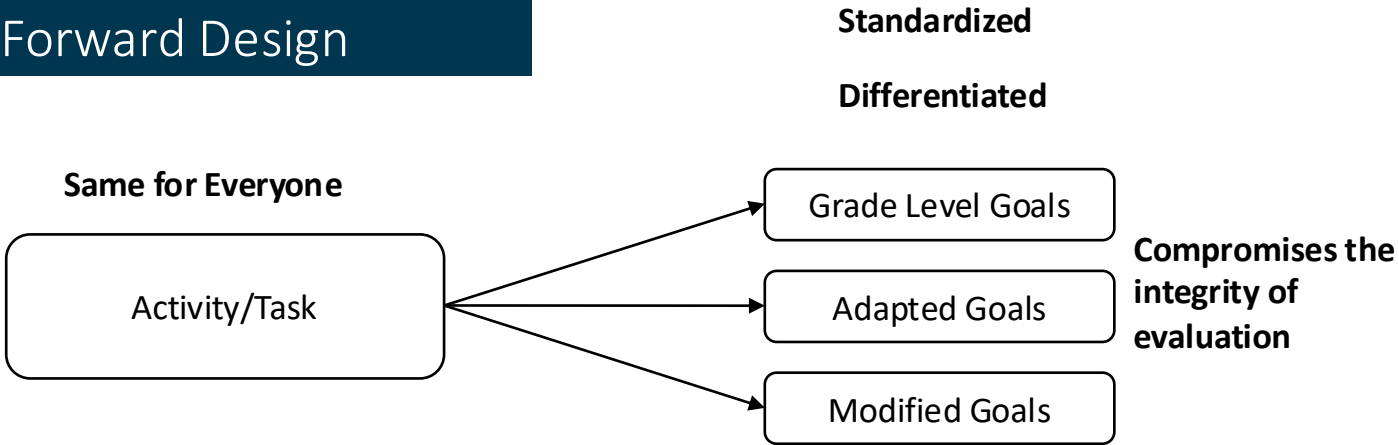
UBD: Determining the Learning Standard

Adapted from McTigue, 2010

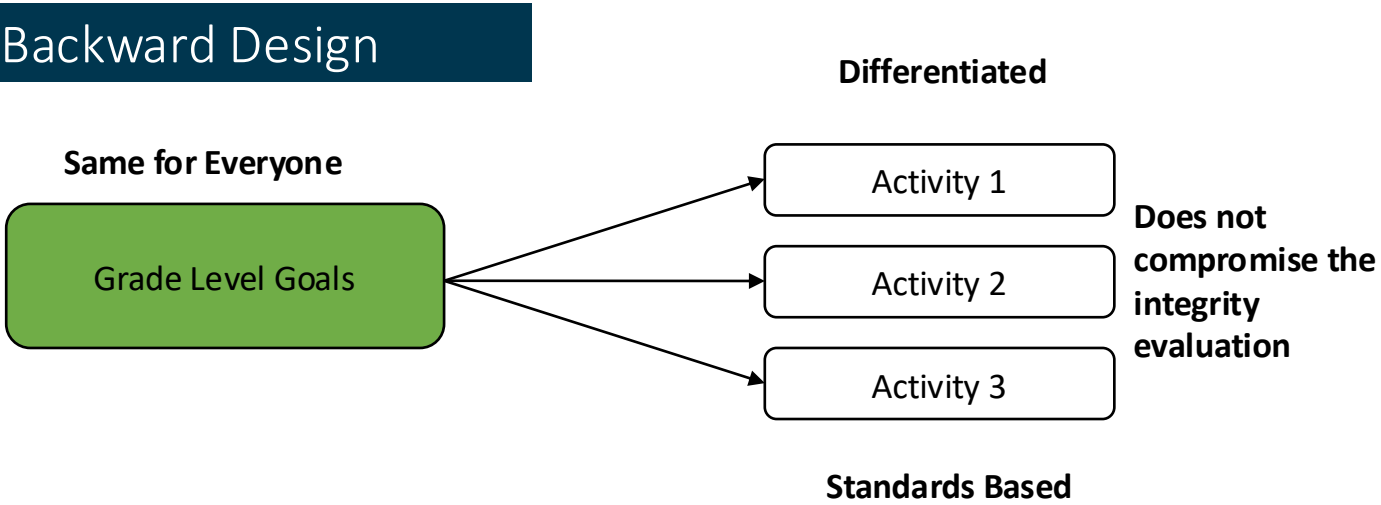


UBD: Determining the Learning Standard

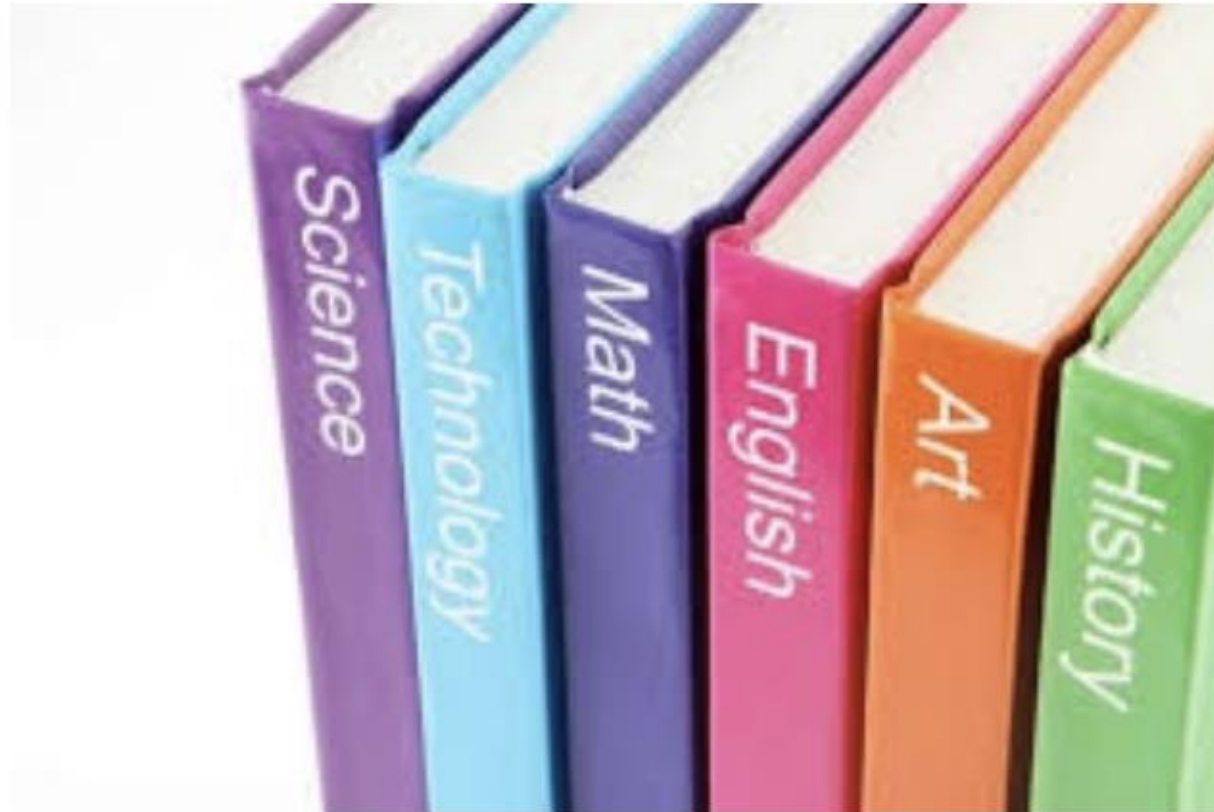
Forward Design



Backward Design



Is curriculum linear?



Backwards Design: Previous Curriculum

What types of goal are in the curriculum?

- **Content**

- What do we need to know?

- **Process**

- What do we need to do?

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PRESCRIBED LEARNING OUTCOMES BY GRADE

GRADE 4

Processes and Skills of Science
It is expected that students will:

- make predictions, supported by reasons and relevant to the context
- use data from investigations to recognize patterns and relationships and reach conclusions

Life Science: Habitats and Communities
It is expected that students will:

- compare the structures and behaviours of local animals and plants in different habitats and communities
- analyse simple food chains
- demonstrate awareness of the Aboriginal concept of respect for the environment
- determine how personal choices and actions have environmental consequences

Physical Science: Sound and Light
It is expected that students will:

- identify sources of light and sound
- explain properties of light (e.g., travels in a straight path, can be reflected)
- explain properties of sound (e.g., travels in waves, travels in all directions)

Earth and Space Science: Weather
It is expected that students will:

- measure weather in terms of temperature, precipitation, cloud cover, wind speed and direction
- analyse impacts of weather on living and non-living things

What do you notice?

Backwards Design

What do we need to **UNDERSTAND**?

What do we need to **KNOW**?

What do we need to **DO**?

Who do we need to **BECOME**?

Backwards Design: What are the GOALS?

- **Backwards Design**
 - **Big Idea**
 - What do we need to understand?
 - **Content**
 - What do we need to know?
 - **Curricular Competencies**
 - What do we need to do?
 - **Key Competencies**
 - Who do we need to become?



BIG IDEAS

Decimals, fractions, and percents are used to represent and describe parts and wholes of numbers.

Computational fluency and flexibility with numbers extend to operations with integers and decimals.

Linear relations can be represented in many connected ways to identify regularities and make generalizations.

The constant ratio, π , between the circumference and diameter of any circle can be used to describe, measure, and compare spatial relationships.

Data from circle graphs can be used to illustrate proportion and to compare and interpret.

Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to do the following:</i></p> <p>Reasoning and analyzing</p> <ul style="list-style-type: none"> Use logic and patterns to solve puzzles and play games Use reasoning and logic to explore, analyze, and apply mathematical ideas Estimate using a variety of strategies Demonstrate and apply mental math strategies Use tools or technology to explore and create patterns and relationships, and test conjectures Model mathematics in contextualized experiences <p>Understanding and solving</p> <ul style="list-style-type: none"> Apply multiple strategies to solve problems in both abstract and contextualized situations Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving Visualize to explore mathematical concepts Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local communities, and other cultures <p>Communicating and representing</p> <ul style="list-style-type: none"> Communicate mathematical thinking in many ways Use mathematical vocabulary and language to engage in mathematical discussions Explain and justify mathematical ideas and decisions 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> multiplication and division facts to 100 (extending computational fluency) operations with integers (addition, subtraction, multiplication, division, and order of operations) operations with decimals (addition, subtraction, multiplication, division, and order of operations) relationships between decimals, fractions, ratios, and percents discrete linear relations, using expressions, tables, and graphs two-step equations with whole-number coefficients, constants, and solutions circumference and area of circles volume of rectangular prisms and cylinders Cartesian coordinates and graphing combinations of transformations circle graphs experimental probability with two independent events financial literacy — financial percentage and consumer transactions

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Learning Standards (continued)

Curricular Competencies	Content
<ul style="list-style-type: none"> Represent mathematical ideas in concrete, pictorial, and symbolic forms <p>Connecting and reflecting</p> <ul style="list-style-type: none"> Reflect on and articulate mathematical thinking Connect mathematical concepts to each other and to other areas and personal interests Use mathematical arguments to support personal choices Incorporate Indigenous worldviews and perspectives to make connections to mathematical concepts 	



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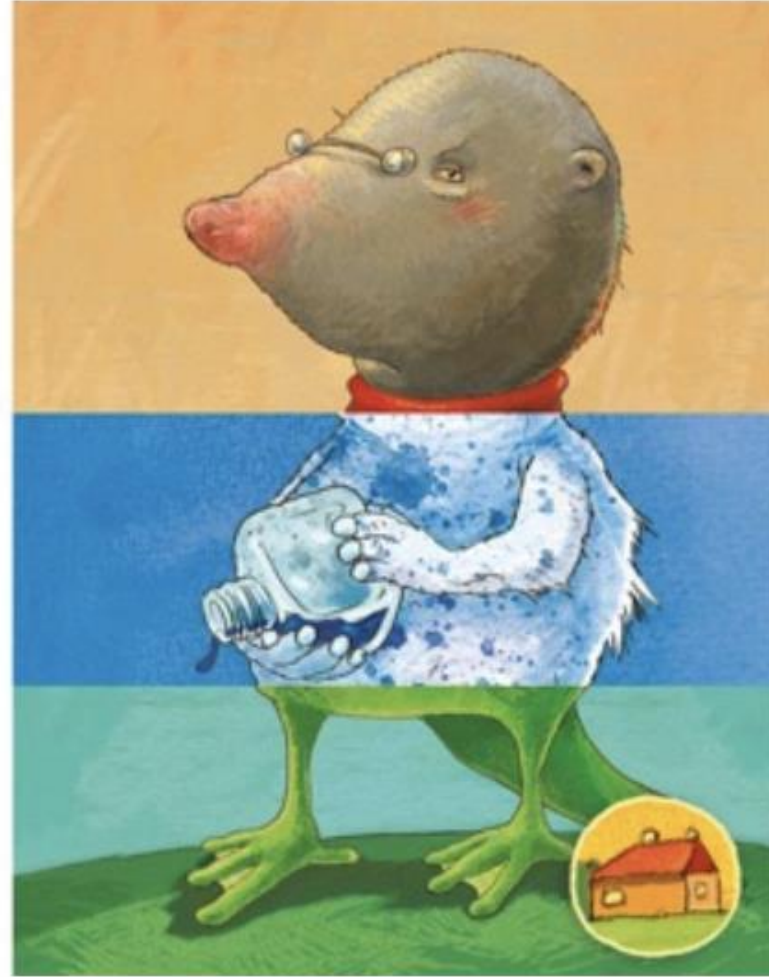


Can curriculum be less linear and more responsive?

Miserable

Two-toed

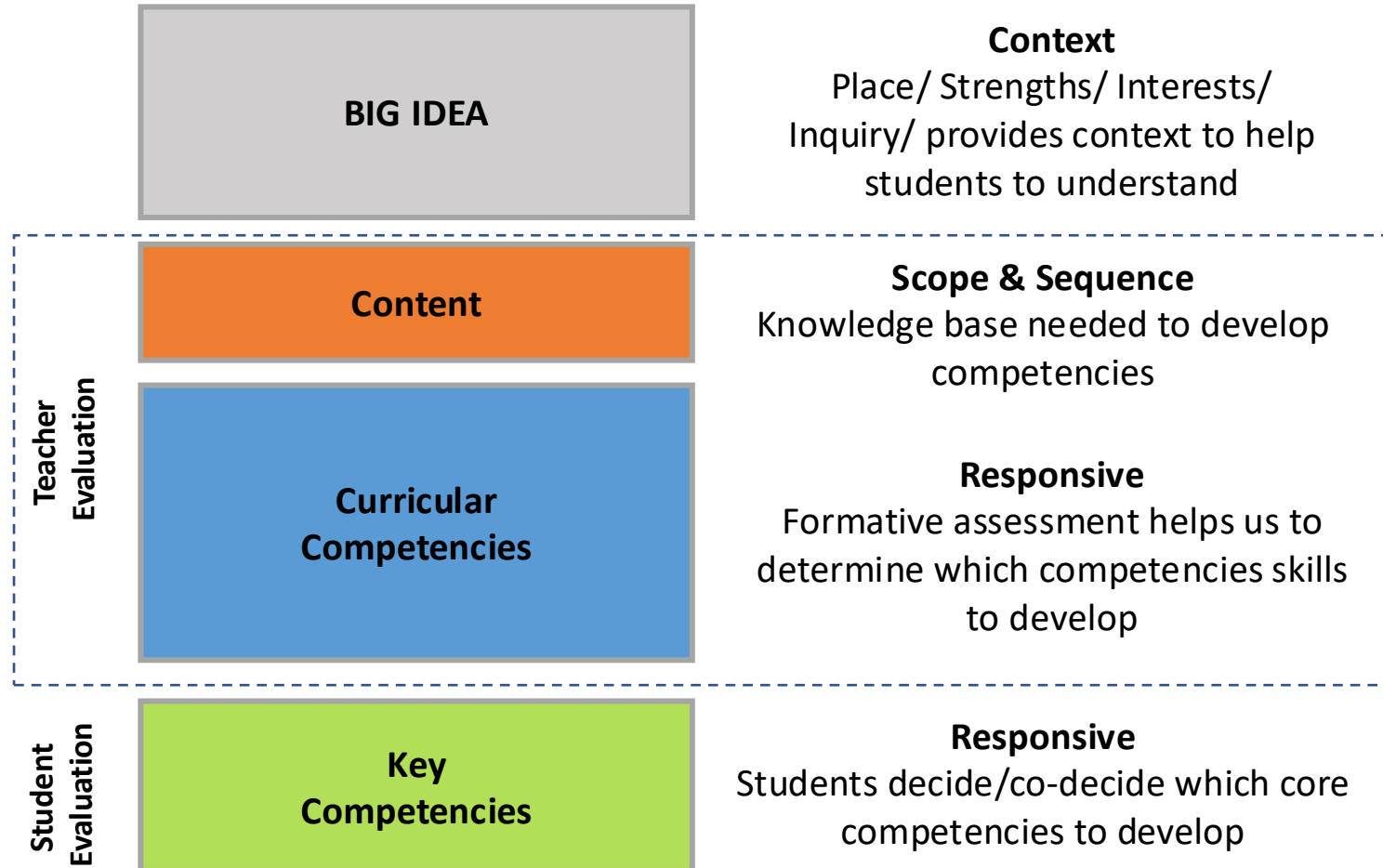
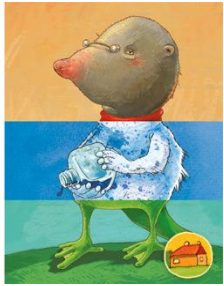
Lizard



Miserable

Two-toed

Lizard



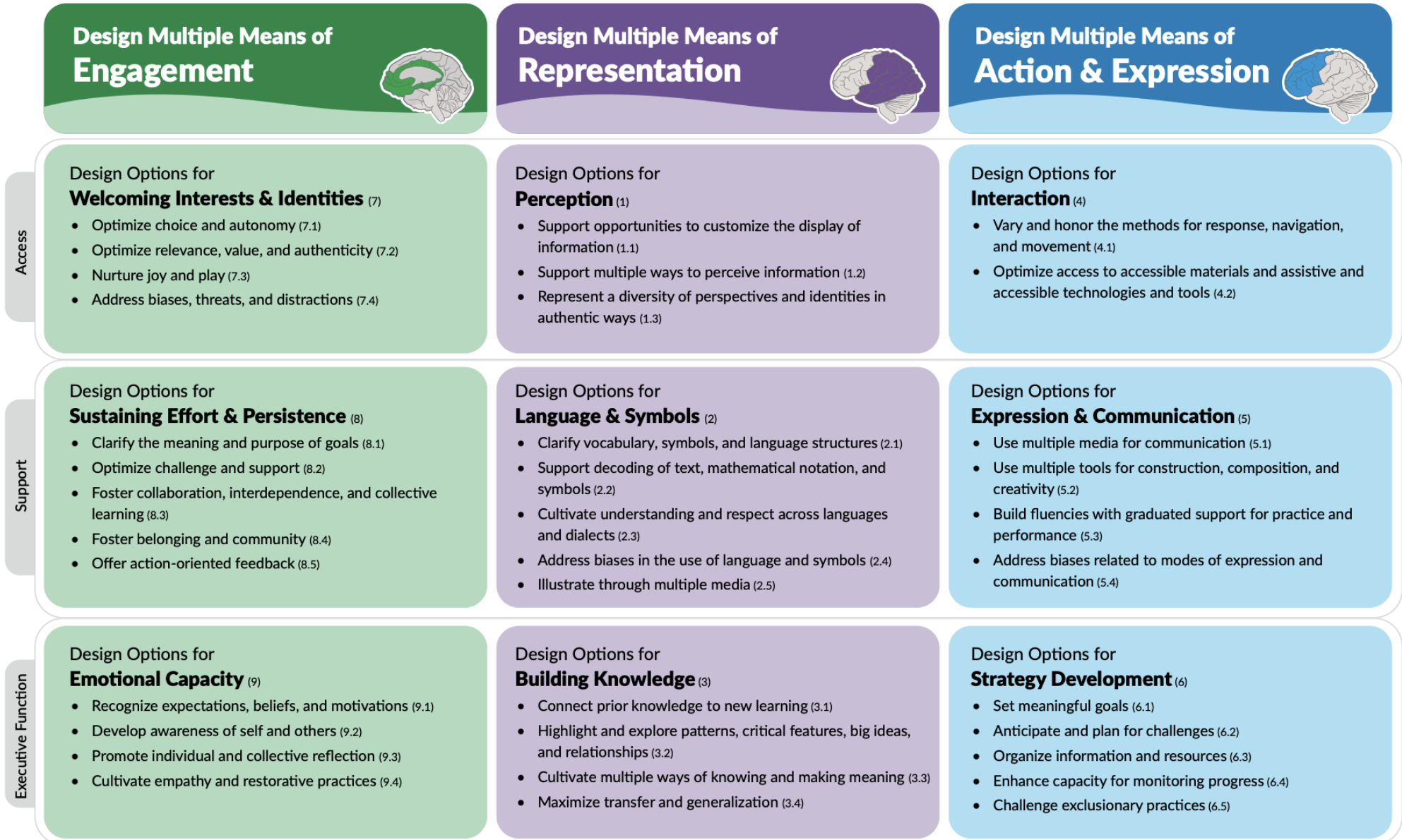
		Curricular Competencies																		
Foundations of Mathematics and Pre-Calculus 10		Reasoning and analyzing					Understanding and solving				Communicating and representing				Connecting and reflecting					
Big Ideas	<p>Algebra allows us to generalize relationships through abstract thinking.</p> <p>The meanings of, and connections between, each operation extend to powers and polynomials.</p> <p>Constant rate of change is an essential attribute of linear relations and has meaning in different representations and contexts.</p>	Develop thinking strategies to solve puzzles and play games	Explore, analyze, and apply mathematical ideas using reason, technology, and other tools	Estimate reasonably and demonstrate fluent, flexible, and strategic thinking about number	Model with mathematics in situational contexts	Think creatively and with curiosity and wonder when exploring problems	Develop, demonstrate, and apply mathematical understanding through play, story, inquiry, and problem solving	Visualize to explore and illustrate mathematical concepts and relationships	Apply flexible and strategic approaches to solve problems	Solve problems with persistence and a positive disposition	Engage in problem-solving experiences connected with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures	Explain and justify mathematical ideas and decisions in many ways	Represent mathematical ideas in concrete, pictorial, and symbolic forms	Use mathematical vocabulary and language to contribute to discussions in the classroom	Take risks when offering ideas in classroom discourse	Reflect on mathematical thinking	Connect mathematical concepts with each other, other areas, and personal interests	Use mistakes as opportunities to advance learning	Incorporate First Peoples' worldviews, perspectives, knowledge, and practices to make connections with mathematical concepts	
		Content	operations on powers with integral exponents																	
prime factorization																				
functions and relations: connecting data, graphs, and situations																				
linear functions: slope and equations of lines																				
arithmetic sequences																				
systems of linear equations																				
multiplication of polynomial expressions																				
polynomial factoring																				
primary trigonometric ratios																				
financial literacy: gross and net pay																				

<https://curriculum.gov.bc.ca/curriculum/mathematics/10/foundations-of-mathematics-and-pre-calculus>

Class:	Subject Area(s):	Planning Team:
Big Idea(s):		
Unit Goals	Curricular Language	
Content Goal		
Content Goal		
Curricular Competency Goal		
Curricular Competency Goal		
Curricular Competency Goal		
Curricular Competency Goal		
Core Competency Goal		



What universal supports & strategies can be taught to reduce barriers for everyone?



High Impact UDL Strategies

- Benefits all students
- Reducing many barriers at the same time
- Meets multiple needs at the same time
- Small adjustments that make big differences to student learning
- Does not compromise evaluation

What are you already doing?

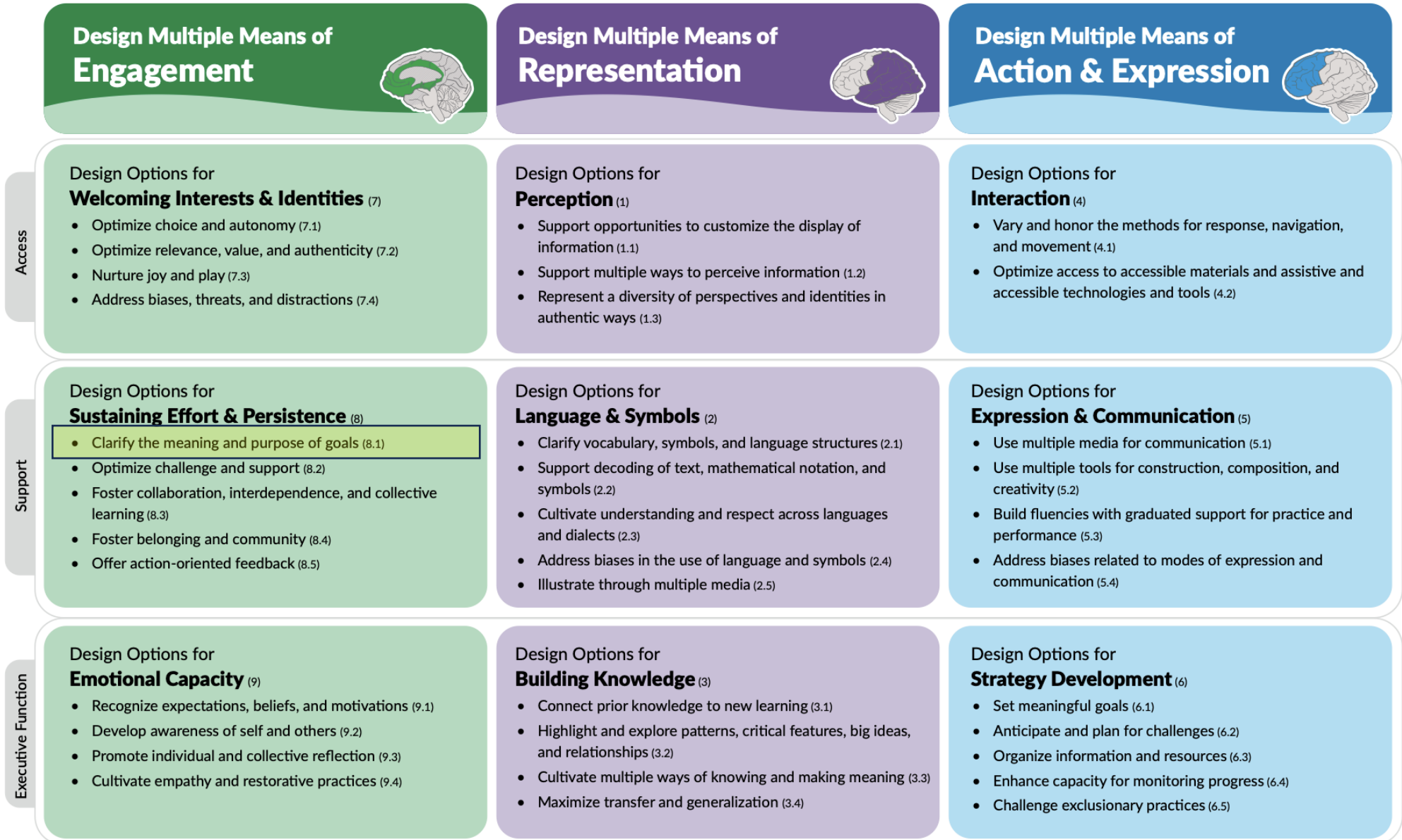
What is one more thing you could try?

High Impact UDL Strategies

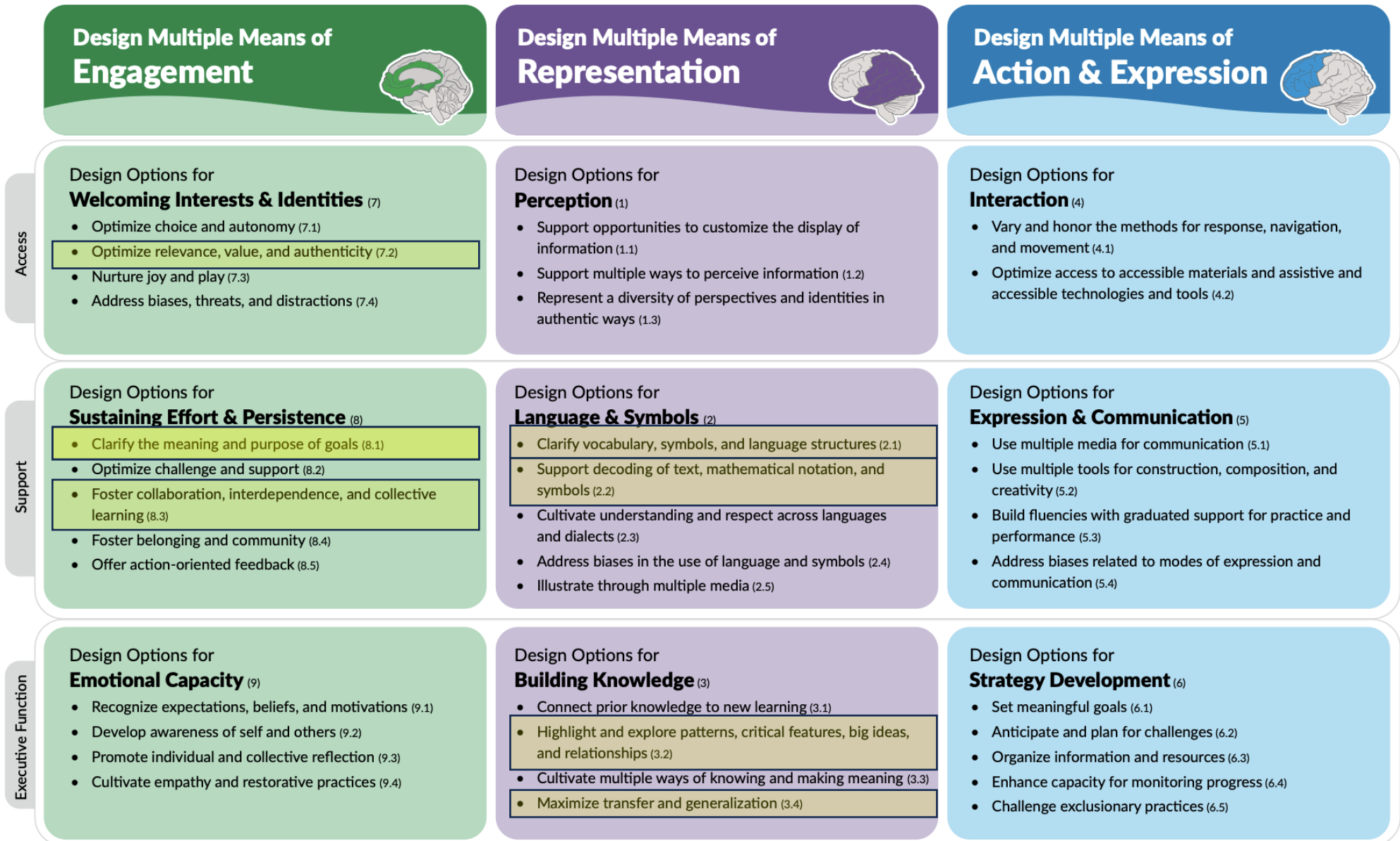
8.1: Clarify the Meaning and Purpose of Goals

- **What learning standards are we intentionally targeting, teaching and assessing the unit we are teaching?**
- **How do the goals represent all the area of the BC Curriculum?**
 - **Content**
 - **Curricular Competency Goals**
 - **Core Competency Goals**
 - **Does our unit emphasize competencies? (i.e., are there more competencies than content?)**

High Impact UDL Strategies in Curricular Design



High Impact UDL Strategies in Curricular Design



High Impact UDL Strategies

7.2: Optimizing relevance, value & authenticity

8.1: Heighten Salience of goals and objectives

8.3: Foster collaboration and community

3.2: Highlight patterns, critical features, big ideas and relationships

3.4: Maximize transfer and generalization

- How does the Big Idea(s) of the unit anchor in an authentic and relevant problem, context, community-based idea?
- Where are the students given an opportunity to understand and/or translate the learning standards?
- What guiding questions can teachers/students codevelop to navigate learning together over time?
- How do the guiding questions help students to connect their learning to the world?

Class:	Subject Area(s):	Planning Team:
Big Idea(s):		Unit Guiding Question(s):
Vocabulary to know and use (content):		Vocabulary to know and use (skills & competencies):
Unit Goals	Curricular Language	Student friendly language
Content Goal		<i>I know...</i>
Content Goal		<i>I know...</i>
Curricular Competency Goal		<i>I can...</i>
Curricular Competency Goal		<i>I can...</i>
Curricular Competency Goal		<i>I can...</i>
Curricular Competency Goal		<i>I can...</i>
Core Competency Goal		<i>We are...</i>

Grade:	Subject Area:	Planning Team:
Big Idea(s): What do I need to Understand?		Unit Guiding Question(s):
Key Vocabulary:		
	Learning Standard	Student Friendly Language
What do students need to know? Content		I know
What do students need to do? Curricular Competencies		I can
What do students need to do? Curricular Competencies		I can
What do students need to do? Curricular Competencies		I can
Who do student need to be? Core Competency Goals	I can become/ I am...	

Class: Ms. P Gr. 2/3		Subject Area(s): Cross Curricular	Planning Team: Ms. P & Shelley
Big Idea(s): <ul style="list-style-type: none"> • Forces influence the motion of an object. (Science) • Everyone has a unique story to share. (Language Arts) 		Unit Guiding Question(s): Who are our monsters? What are their stories ? How can we use forces to help us catch them?	
Vocabulary to know and use (content): Forces, story, ideas, audience, purpose, idea, tools, materials		Vocabulary to know and use (skills & competencies): know, can, make, plan, try, create, use my sense, creative thinking, solving a problem, trying something new, changing what I am doing	
Unit Goals	Curricular Language	Student friendly language	
Content Goal: Science (2)	types of forces	I know different types of forces	
Content Goal: Language Arts (2/3)	Story/text: elements of a story	I know what makes a story	
Curricular Competency Goal: ADST (2/3)	Making: Make a product using known procedures or through modelling of others	I can make something for a purpose	
Curricular Competency Goal: Science (2/3)	Safely manipulate materials to test ideas and predictions	I can make a plan and try out my ideas	
Curricular Competency Goal: Language Arts (2/3)	Plan and create a variety of communication forms for different purposes and audiences	I can create a story for an audience	
Curricular Competency Goal: Art (2/3)	Exploring and creating: Explore elements, processes, materials, movements, technologies, tools, and techniques of the arts	I can create many things using different art tools and materials	
Key Competency Goal: (Profile 1/2)	Creative Thinking: I get ideas when I play (1) I can get new idea or build on or combine other people’s ideas to create new things within the constraint of a form, a problem or materials (2)	We are creative thinkers because we get new ideas! I get new ideas by: (Students choose): <ul style="list-style-type: none"> • using my senses to explore • changing what I am doing • trying something new • solving a problem in a new way 	

Grade: 9	Subject Area: Science	Planning Team: Colleen and Shelley
Big Ideas: Students will understand that <u>the electron arrangement of atoms impacts their chemical nature.</u>		Teacher Provocation: How does the organization of electrons in atoms impact their chemical nature ?
Vocabulary to know and use	Electron, atom, chemical nature, element properties, periodic table, compounds, pattern, trend, data, inconsistencies, data, variables, scientific concepts	Student Generated Questions: Question, predict, observe, process, analyze, apply, innovate, draw conclusions, transfer, apply
Unit Goals	Learning Standard	Student Friendly Language
Content Goal	Students will know element properties as organized in the <u>periodic table</u>	I know that there are patterns used in the periodic table I know that the periodic table organizes elements by their properties
Content Goal	Students will know that the arrangement of electrons determines the <u>compounds</u> formed by elements	I know that electrons determine which elements make compounds
Curricular Competency:	Students will be able to question and predict by ...making observations aimed at identifying their own questions , including increasingly complex ones, about the natural world	I can question and predict by asking questions about what I am observing
	Students will be able to process and analyze by...seeking and analyzing patterns, trends, and connections in data , including describing relationships between variables (dependent and independent) and identifying inconsistencies	I can process and analyze data by seeing patterns and trends in data ; by finding connections in data and information; by describing relationships between variables ; by finding inconsistencies in data
	Students will be able to process and analyze by...using knowledge of scientific concepts to draw conclusions that are consistent with evidence	I can process and analyze data by using what I know about scientific concepts to draw conclusions
	Students will be able to apply and innovate by... transferring and applying learning to new situations	I can apply and innovate by transferring and applying what I am learning to new situations
Key Competency Goal	We can communicate by...	

Shelley
MOORE PH.D.



@tweetsomemoore



@fivemooreminutes



@fivemooreminutes



www.fivemooreminutes.com

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