SHELLEY MOORE

@tweetsomemoore

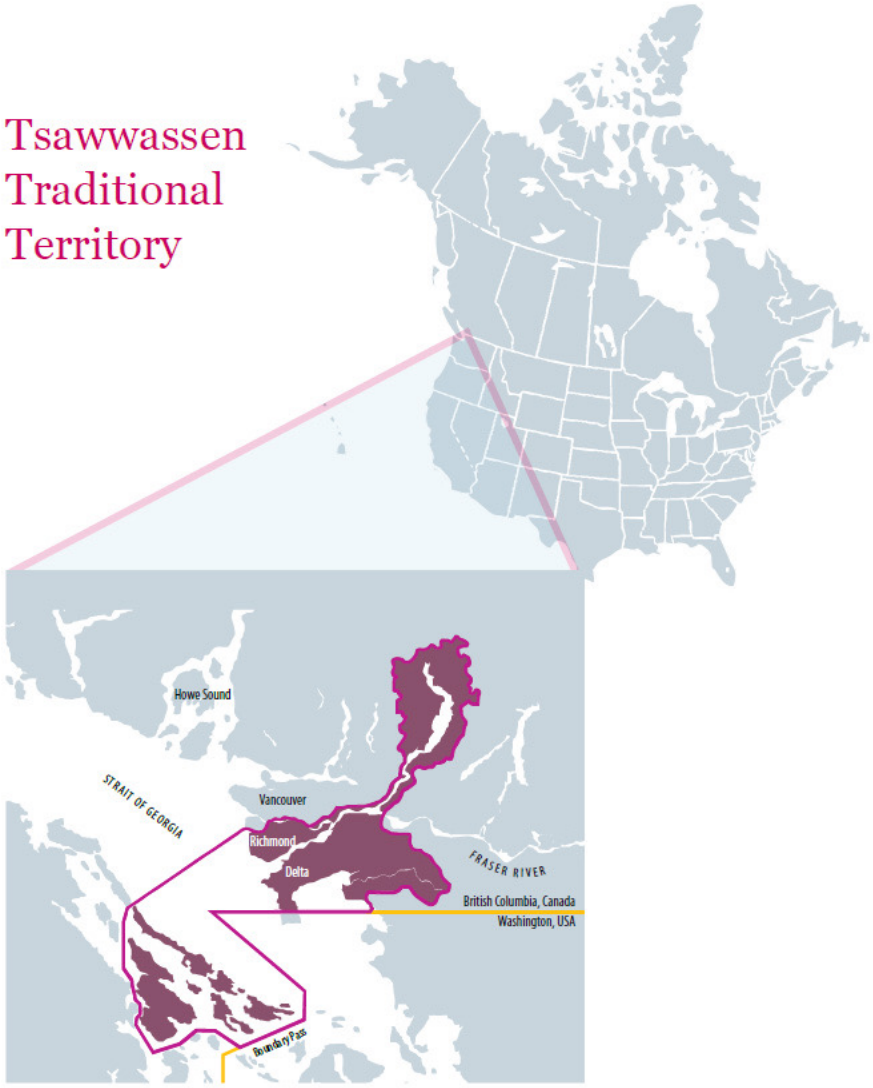
@fivemooreminutes

@fivemooreminutes

www.fivemooreminutes.com

www.blogsomemoore.com

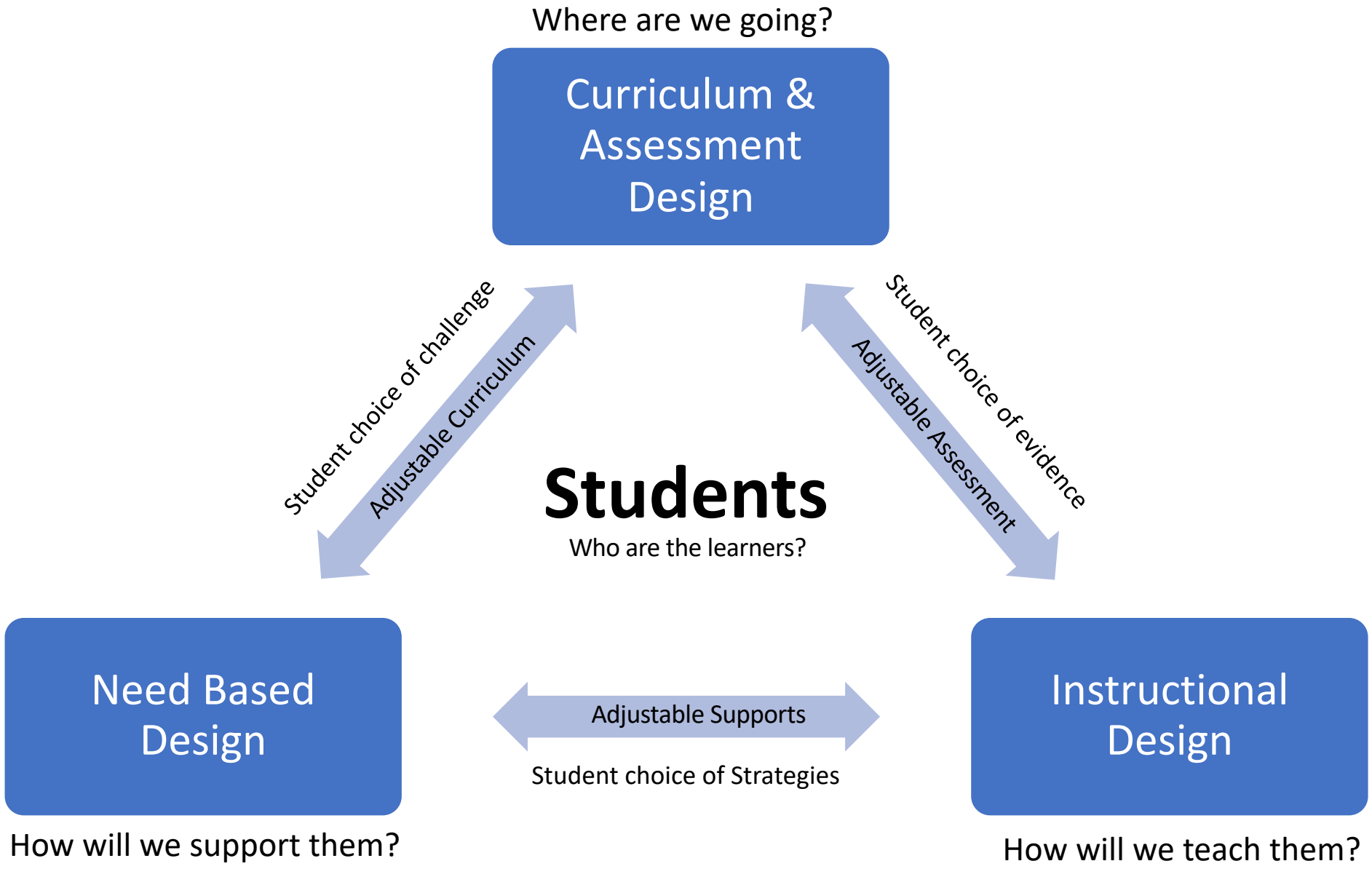
Tsawwassen Traditional Territory



*These maps are representational (not to scale) and are for general information purposes only.

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

Shelley Moore, 2019

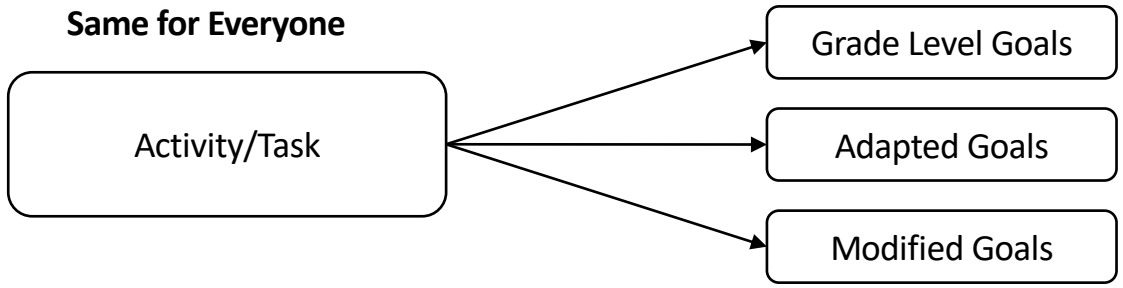


Forward Design

Standardized Evaluation

Differentiated

Same for Everyone

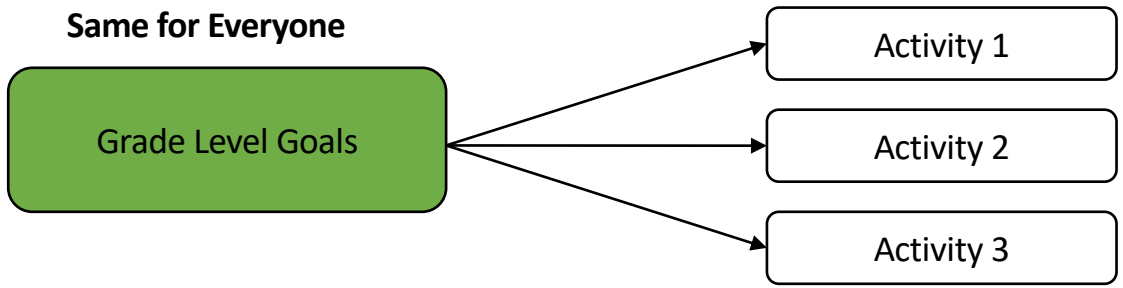


Compromises the integrity of evaluation

Backward Design

Differentiated

Same for Everyone



Does not compromise the integrity evaluation

Standards Based Evaluation

McTigue, 2010

Grade:	Subject Area:	Strand:	Planning Team:
Big Idea(s): What do I need to Understand? Overall Expectation:			Unit Guiding Question(s):
Key Vocabulary:			
Specific Expectations	Curricular Language What do I need to know and do?		Student Friendly Language
(required, assessed & evaluated)			
(required, assessed & evaluated)			
(required, assessed & evaluated)			
Strand A: (responsive & assessed)			
Transferable skills (responsive & assessed)			

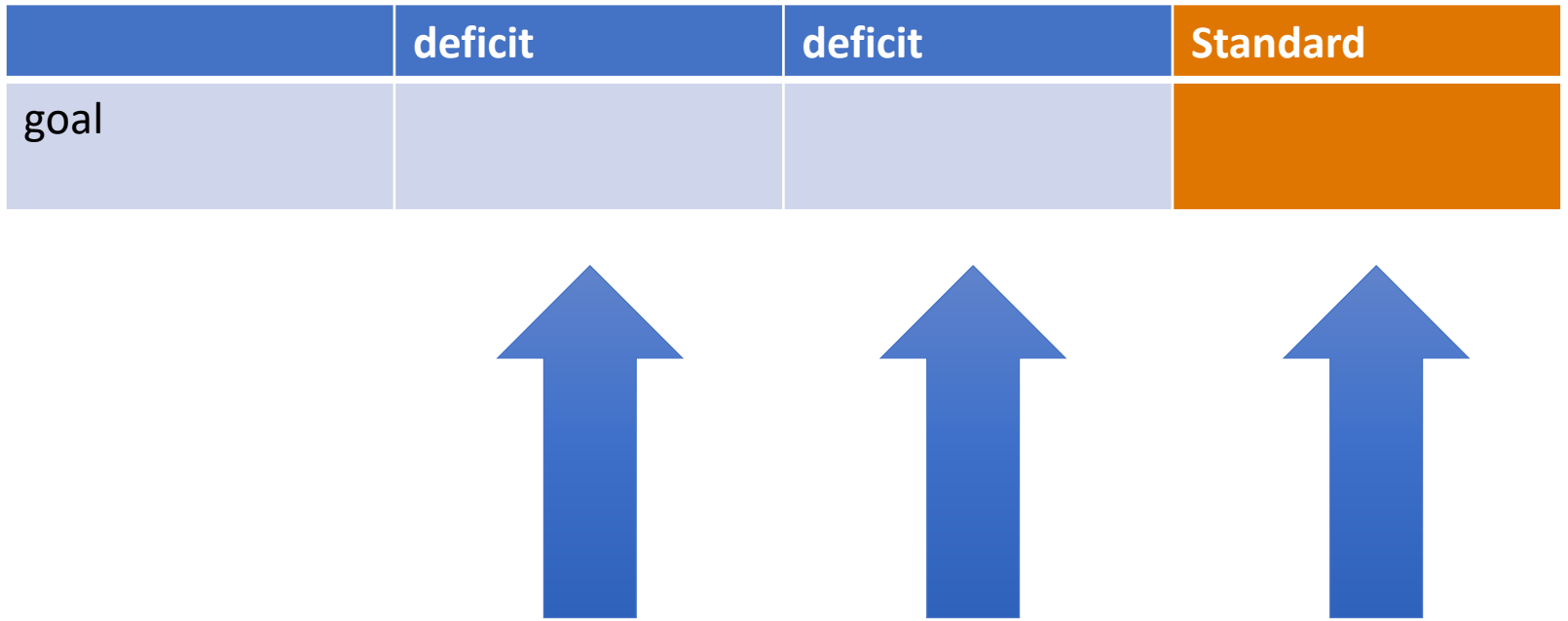
Grade: 9	Subject Area: Science	Strand: Biology	Planning Team:
Overall Expectation: B2. Investigating and Understanding Concepts **Big Idea(s): What do I need to Understand?** Environmental sustainability depends on the dynamic equilibrium of ecosystems. The cycling of matter and flow of energy within and between Earth's four spheres are natural processes that help maintain balance in ecosystems. Human activities, including activities that contribute to climate change, impact environmental sustainability, and it is our collective responsibility to mitigate these impacts.			**Unit Guiding Question(s):** **What is environmental sustainability? What is the role of ecosystems on the Earth? How are ecosystems balanced? What is the role of energy in maintaining balance of ecosystems? What is the impact of humans on environmental sustainability?**
Key Vocabulary:			

Specific Expectations (required, assessed & evaluated)	Curricular Language What do I need to know and do?	Student Friendly Language
B2.1	**investigate** interactions between the biosphere, hydrosphere, lithosphere, and atmosphere, and **explain** why these interactions are important for ecosystem sustainability	**I know the four spheres of the Earth, how they interact and how they maintain balance in ecosystems** **I can explain why these spheres are important for ecosystem sustainability**
B2.2	**explain** how naturally occurring phenomena, including the cycling of matter and the flow of energy, contribute to the dynamic equilibrium within and between ecosystems	**I know what the cycling of matter is and why it is important to ecosystems** **I know what the flow of energy is and why it is important to ecosystems** **I can explain how the cycling of matter and the flow of energy support the equilibrium within and between ecosystems**
B2.3	**compare and contrast** the processes of cellular respiration and photosynthesis, and explain how their complementary relationship contributes to the dynamic equilibrium of ecosystems	I know what cellular respiration and photosynthesis is and why they are important to ecosystems I can compare and contrast cellular respiration and photosynthesis I can explain how their relationship supports equilibrium in ecosystems
B2.4	**investigate** factors and processes, including biodiversity, air and water quality, soil health, and succession, and **explain** how they contribute to ecosystem sustainability	I know what biodiversity, air and water quality, soil health, and succession is why they are important and how they support the Earth I can explain how biodiversity, air and water quality, soil health, and succession supports and sustains ecosystems
B2.5	explain the effects of various human activities on the dynamic equilibrium (balance) of ecosystems	**I know what human activities which have significant effects on ecosystems** **I can explain how human activities effect the balance of the eco systems**
B2.6	identify and use various indicators of climate change to describe the impacts of climate change on local and global ecosystems, and analyse how human activities contribute to climate change	**I know the indicators of climate change** **I can describe the impact of climate change on local and global ecosystems** **I can analyze how humans contribute to climate change**
B2.7	explain how sustainable practices related to the cycling of matter and the flow of energy can be applied in agricultural innovations	**I know what cycling of matter and the flow of energy is** **I know sustainable practices relating to the cycling of matter rand the flow of energy** **I can explain how sustainable practices can be used in agriculture**
Strand A1: STEM (responsive & assessed)	A1. STEM Investigation Skills (**A1.1**, A1.2, A1.3, A1.4, A1.5) A2. Applications, Careers, and Connections (**A2.1**, A2.2, A2.3, A2.4, A2.5 **A1.1** apply a scientific research process and associated skills to conduct investigations, making connections between their research and the scientific concepts they are learning **A2.1** design an experiment or a prototype to explore a problem relevant to a STEM-related occupation, such as a skilled trade, using findings from research	**I know the scientific research process** **I can use the scientific research process to investigate and make connections to my learning** **I know some problems that STEM occupations are trying to solve** **I can design an experiment or a prototype to explore a problem**
Transferable skills	**Global Citizenship** Self Directed Learning	**I know what it means to be a global citizen** **I can be a global citizen**

Grade: 10	Subject Area: Science	Strand: Biology: Tissues, Organs & Systems of Living Things (B1)	Planning Team:
Big Idea(s): What do I need to Understand? Developments in medicine and medical technology can have social and ethical implications.			**Unit Guiding Question(s):**
Key Vocabulary:			

Overall Expectation	Curricular Language Specific Expectations	Student Friendly Language What do I need to know and do?
evaluate the importance of medical and other technological developments related to systems biology, and analyse their societal and ethical implications	B1.1 analyse, based on research, ethical issues related to a technological development in the field of systems biology (e.g., cloning, stem- cell research, live organ transplants, transgenic transplants), and communicate their findings [IP, PR, AI, C]	**I know** **I can**
	B1.2assess the importance to human health and/or society of medical imaging technologies (e.g., ultrasound, X-rays, computerized axial tomog- raphy [CT or CAT] scan, magnetic resonance imaging [MRI], microscopy, biophotonics) used in Canada in diagnosing or treating abnormal- ities in tissues, organs, and/or systems [AI, C]	**I know** **I can**
	B1.3 describe public health strategies related to systems biology (e.g., cancer screening and pre- vention programs; vaccines against the human papillomavirus [HPV] and measles, mumps, and rubella [MMR]; AIDS education), and as- sess their impact on society [AI, C]	**I know** **I can**
Strand A: **a1. demonstrate scientific investigation skills in the four areas of skills**	IP: Initiating & Planning: a1.3 identify and locate print, electronic, and human sources that are relevant to research questions	**I can**
	PR: Performing & Recording: a1.7 select, organize, and record relevant information on research topics from various sources, including electronic, print, and/or human sources (e.g., websites for public health organizations, federal and provincial government publications, reference books, personal inter- views), using recommended formats and an accepted form of academic documentation	**I can**
	AI: Analyzing & Interpreting: a1.9 analyse the information gathered from re- search sources for reliability and bias	**I can**
	C: Communicating: a1.11 communicate ideas, plans, procedures, results, and conclusions orally, in writing, and/or in electronic presentations, using appropriate language and a variety of formats (e.g., data tables, laboratory reports, presentations, debates, simulations, models)	**I can**

Rubrics vs. Learning Progressions



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 9

Specific Expectation: explain the effects of various human activities on the dynamic equilibrium of ecosystems				
	Level 1	**Level 2**	**Level 3**	**Level 4**
Knowledge	• Demonstrates limited knowledge	• Demonstrates some knowledge	• Demonstrates considerable knowledge	• Demonstrates thorough knowledge
Understanding	• Demonstrates limited understanding	• Demonstrates some understanding	• Demonstrates considerable understanding	• Demonstrates thorough understanding

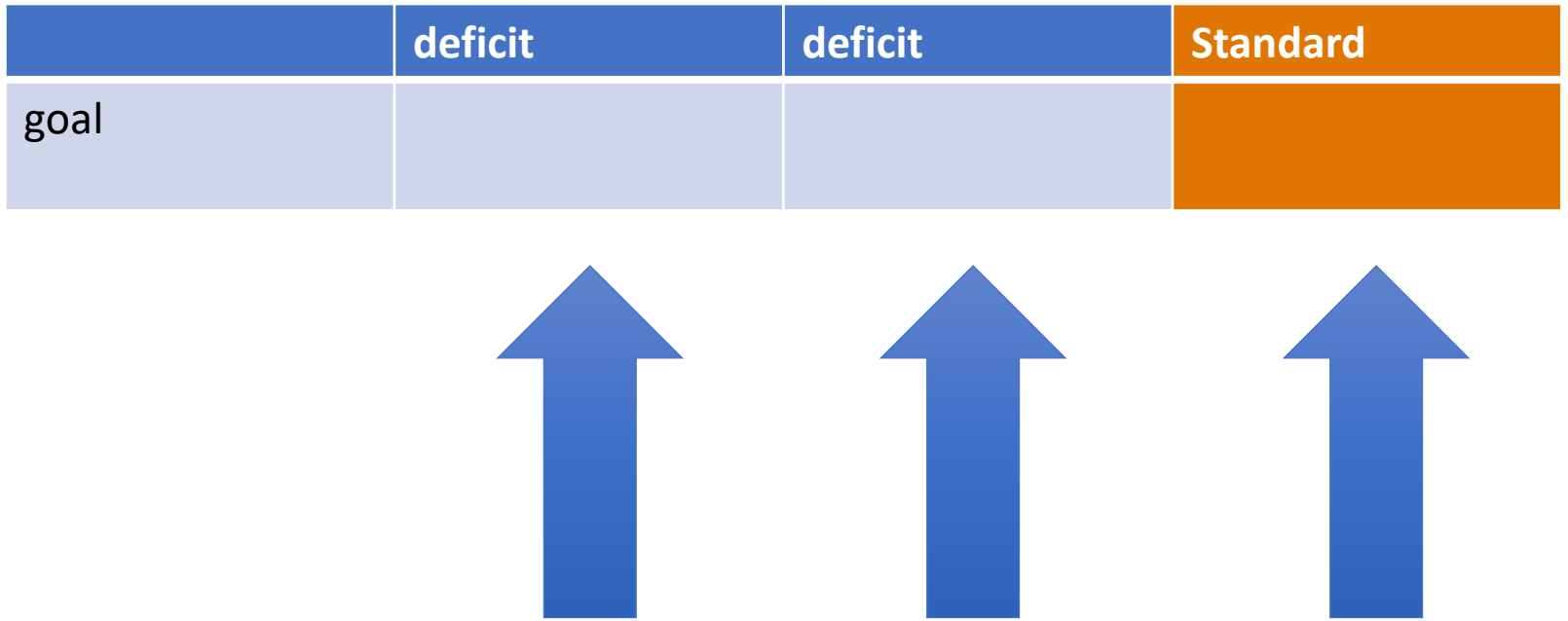
5 Minutes

What did you try (or want to try) based on our learning together so far?

What are you noticing and/or learning?

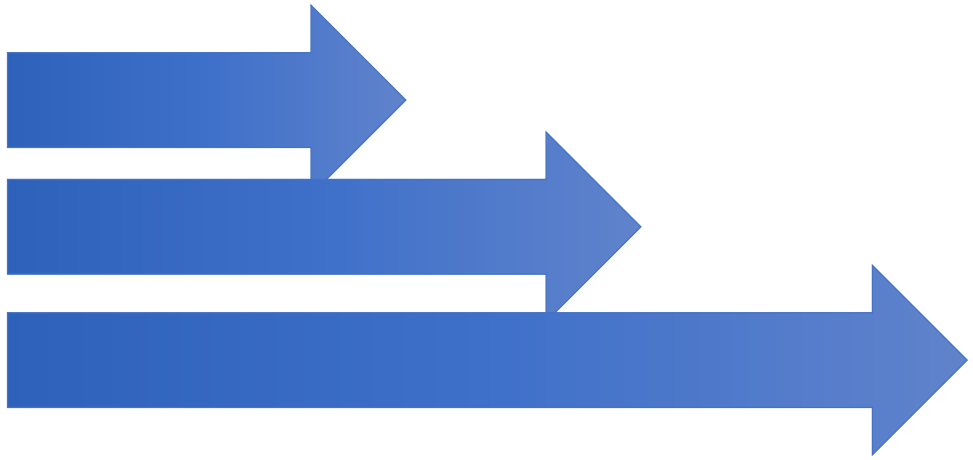
What questions are coming up for you!

Rubrics vs. Learning Progressions

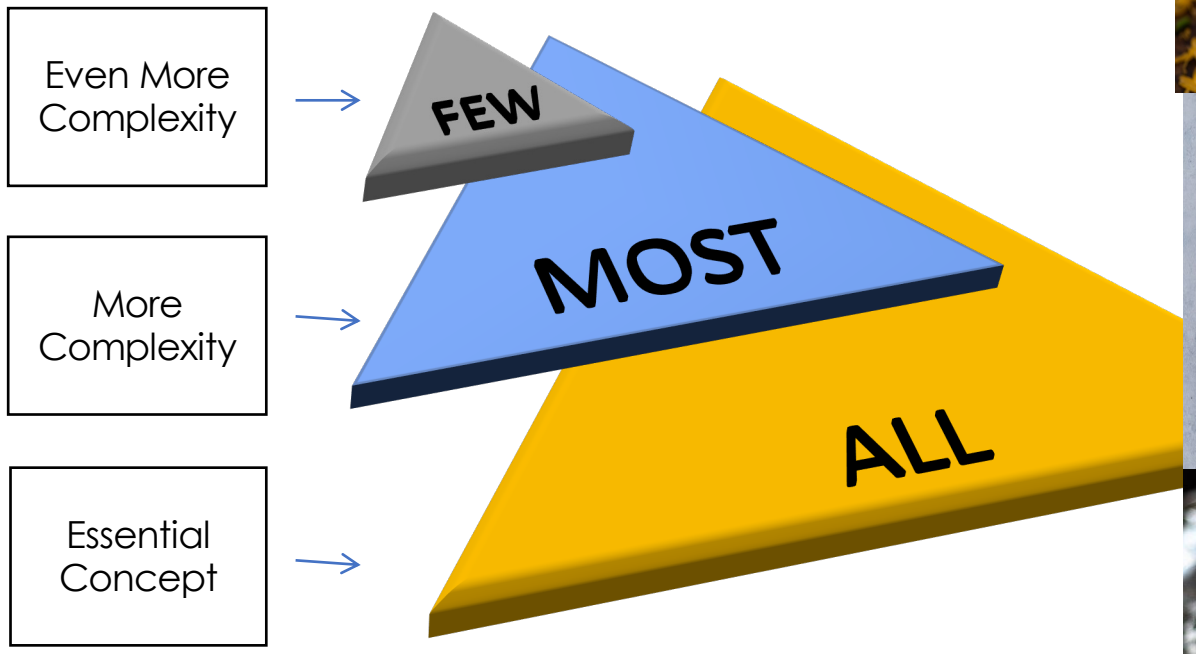


Reductive vs vs. Additive

	Essential	More complex	More complex
Learning Outcome			

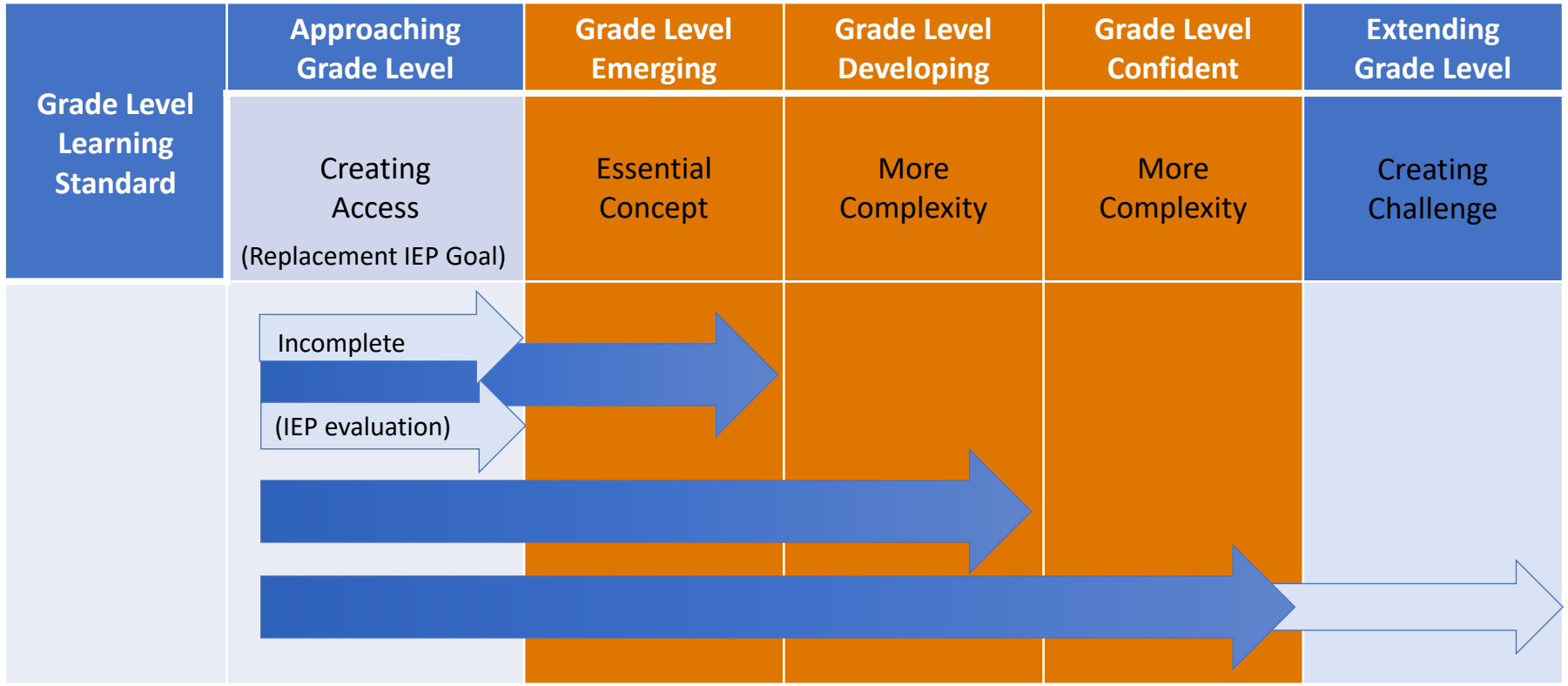


The Planning Pyramid: Differentiated Curriculum



Start from access, build on challenge

An Additive Continuum of Proficiency



Grade: 9	Subject Area: Science	Strand: Biology	Planning Team:
Overall Expectation: B2. Investigating and Understanding Concepts **Big Idea(s): What do I need to Understand?** Environmental sustainability depends on the dynamic equilibrium of ecosystems. The cycling of matter and flow of energy within and between Earth's four spheres are natural processes that help maintain balance in ecosystems. Human activities, including activities that contribute to climate change, impact environmental sustainability, and it is our collective responsibility to mitigate these impacts.			**Unit Guiding Question(s):** **What is environmental sustainability? What is the role of ecosystems on the Earth? How are ecosystems balanced? What is the role of energy in maintaining balance of ecosystems? What is the impact of humans on environmental sustainability?**
Key Vocabulary			

Specific Expectations (required, assessed & evaluated)	Curricular Language What do I need to know and do?	Student Friendly Language
B2.1	investigate interactions between the biosphere, hydrosphere, lithosphere, and atmosphere, and explain why these interactions are important for ecosystem sustainability	**I know the four spheres of the Earth, how they interact and how they maintain balance in ecosystems** **I can explain why these spheres are important for ecosystem sustainability**
B2.2	explain how naturally occurring phenomena, including the cycling of matter and the flow of energy, contribute to the dynamic equilibrium within and between ecosystems	**I know what the cycling of matter is and why it is important to ecosystems** **I know what the flow of energy is and why it is important to ecosystems** **I can explain how the cycling of matter and the flow of energy support the equilibrium within and between ecosystems**
B2.3	compare and contrast the processes of cellular respiration and photosynthesis, and explain how their complementary relationship contributes to the dynamic equilibrium of ecosystems	I know what cellular respiration and photosynthesis is and why they are important to ecosystems I can compare and contrast cellular respiration and photosynthesis I can explain how their relationship supports equilibrium in ecosystems
B2.4	investigate factors and processes, including biodiversity, air and water quality, soil health, and succession, and explain how they contribute to ecosystem sustainability	I know what biodiversity, air and water quality, soil health, and succession is why they are important and how they support the Earth I can explain how biodiversity, air and water quality, soil health, and succession supports and sustains ecosystems
B2.5	explain the effects of various human activities on the dynamic equilibrium (balance) of ecosystems	**I know what human activities which have significant effects on ecosystems** **I can explain how human activities effect the balance of the eco systems**
B2.6	identify and use various indicators of **climate change** to describe the impacts of climate change on local and global ecosystems, and analyse how human activities contribute to climate change	**I know the indicators of climate change** **I can describe the impact of climate change on local and global ecosystems** **I can analyze how humans contribute to climate change**
B2.7	explain how sustainable practices related to the cycling of matter and the flow of energy can be applied in agricultural innovations	**I know what cycling of matter and the flow of energy is** **I know sustainable practices relating to the cycling of matter rand the flow of energy** **I can explain how sustainable practices can be used in agriculture**
Strand A1: STEM (responsive & assessed)	A1. STEM Investigation Skills (**A1.1**, A1.2, A1.3, A1.4, A1.5) A2. Applications, Careers, and Connections (**A2.1**, A2.2, A2.3, A2.4, A2.5 **A1.1** apply a scientific research process and associated skills to conduct investigations, making connections between their research and the scientific concepts they are learning **A2.1** design an experiment or a prototype to explore a problem relevant to a STEM-related occupation, such as a skilled trade, using findings from research	**I know the scientific research process** **I can use the scientific research process to investigate and make connections to my learning** **I know some problems that STEM occupations are trying to solve** **I can design an experiment or a prototype to explore a problem**
Transferable skills (responsive & assessed)	**Global Citizenship** Self Directed Learning Communication	**I know what it means to be a global citizen** **I can be a global citizen**

Rubric: Science 9

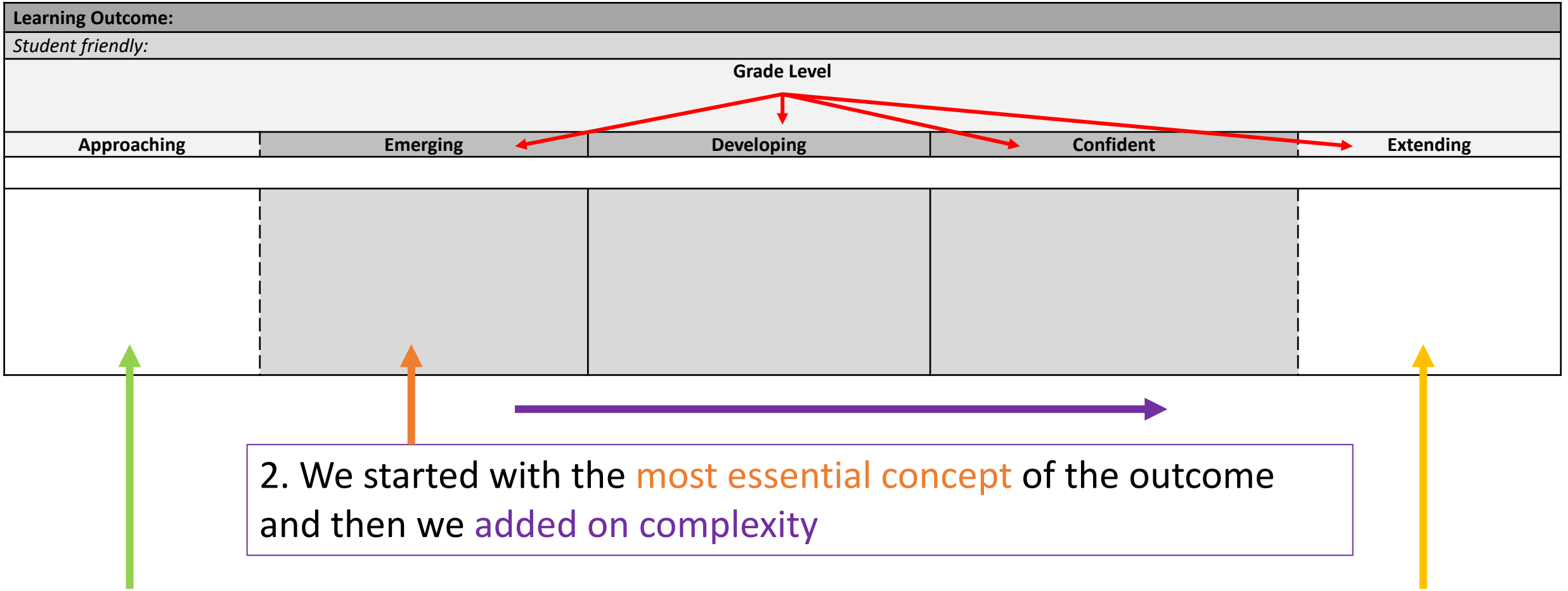
Specific Expectation B2.5: explain the effects of various human activities on the dynamic equilibrium of ecosystems				
	Level 1 (50-59%)	**Level 2 (60-69%)**	**Level 3 (70-79%)**	**Level 4 (80-100%)**
Knowledge	• Demonstrates limited knowledge	• Demonstrates some knowledge	• Demonstrates considerable knowledge	• Demonstrates thorough knowledge
Understanding	• Demonstrates limited understanding	• Demonstrates some understanding	• Demonstrates considerable understanding	• Demonstrates thorough understanding

Additive Learning Continuum: Science 9

Specific Expectation B2.5: explain the effects of various human activities on the dynamic equilibrium of ecosystems				
I know what human activities which have significant effects on ecosystems **I can explain how human activities effect the balance of the eco systems**				
Approaching (IEA/IEP)	**Emerging (2)**	**Developing (3)**	**Confident (3.5)**	**Extending (4)**
→				
• I know an ecosystem in my community • I know an example of how humans help or harm our ecosystem	• I know examples of human activities that effect ecosystems • I can explain how human activities effect ecosystems	• I know how human activities effect the balance in ecosystems • I can compare how human activities effect ecosystems in different ways	• I know how human activities effect the dynamic equilibrium of ecosystems • I can evaluate how human activities effect ecosystems over time	• I know alternative human activities that would have no or less of an impact of ecosystem equilibriums • I can propose solutions to reduce impact of human activities on the equilibrium of ecosystems

Our Co-Planning Journey: Learning Continuums

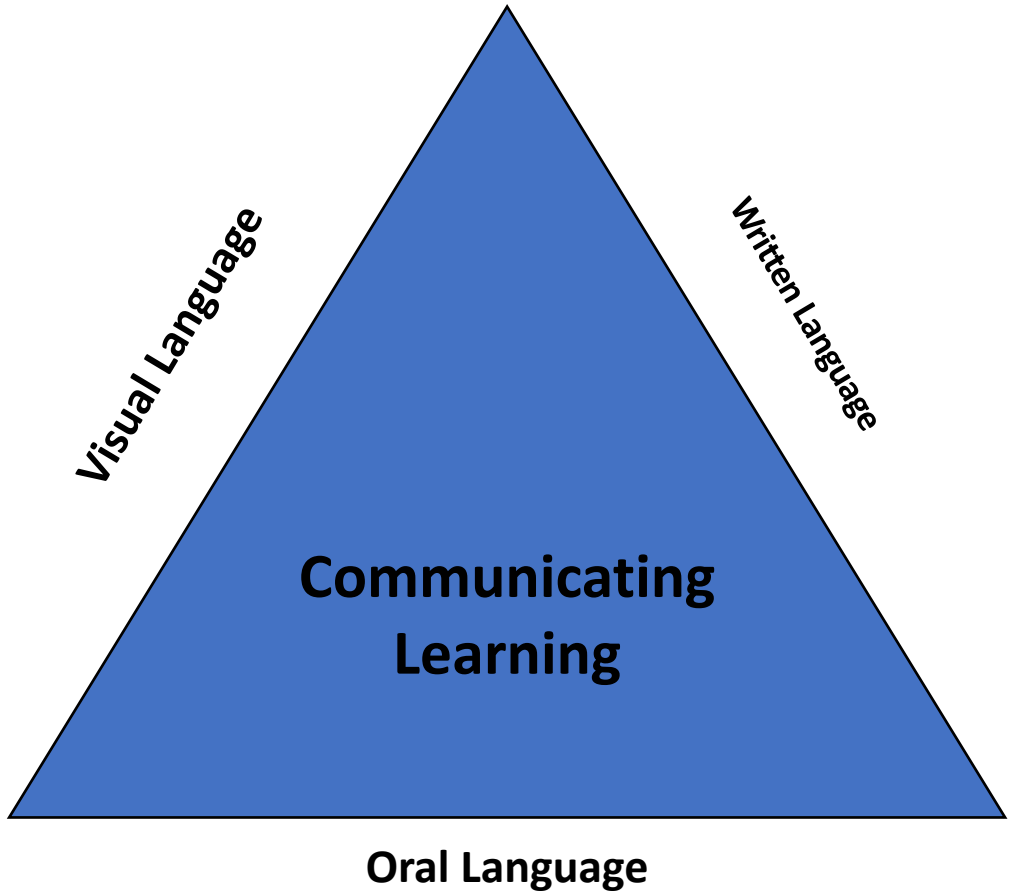
1. Using the elaborations for each learning outcome, we constructed a grade-level scaffold in *student friendly language*

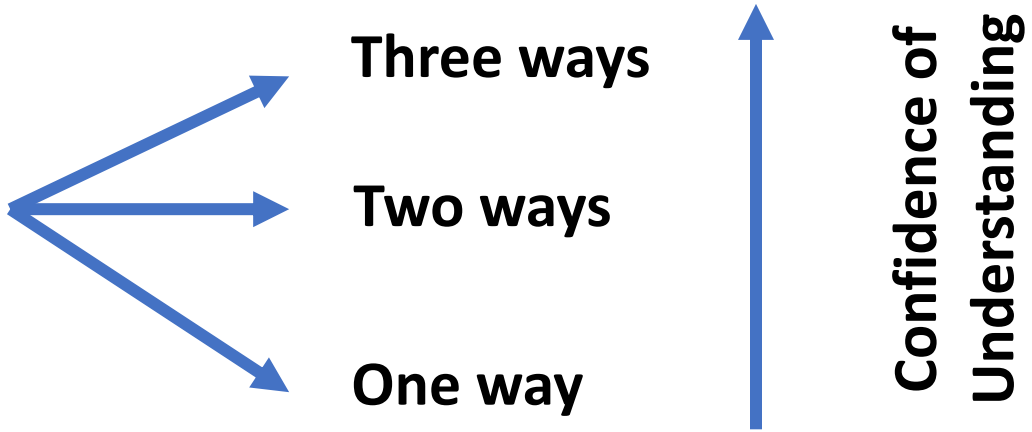


2. We started with the most essential concept of the outcome and then we added on complexity

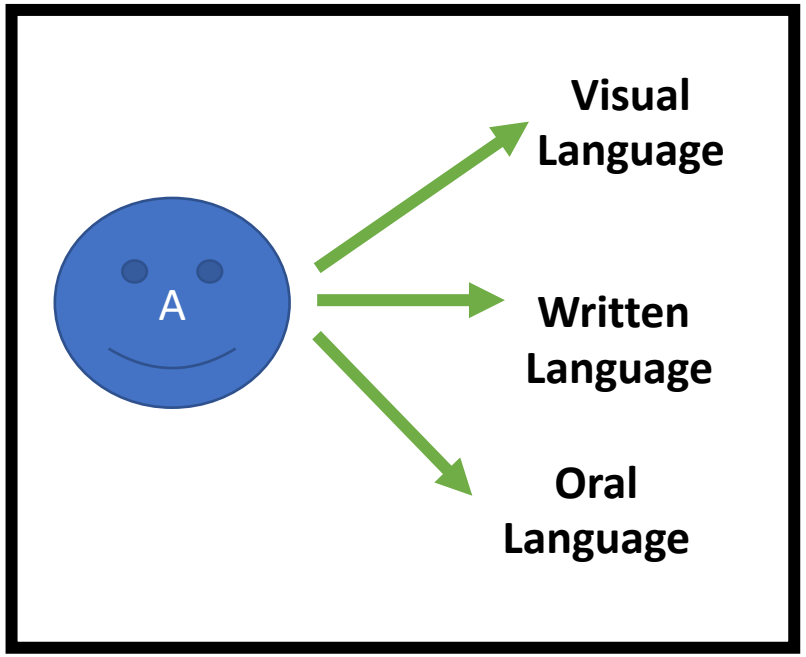
3. We extended the grade level scaffold to include an access point and challenge point

How do student show what they know?





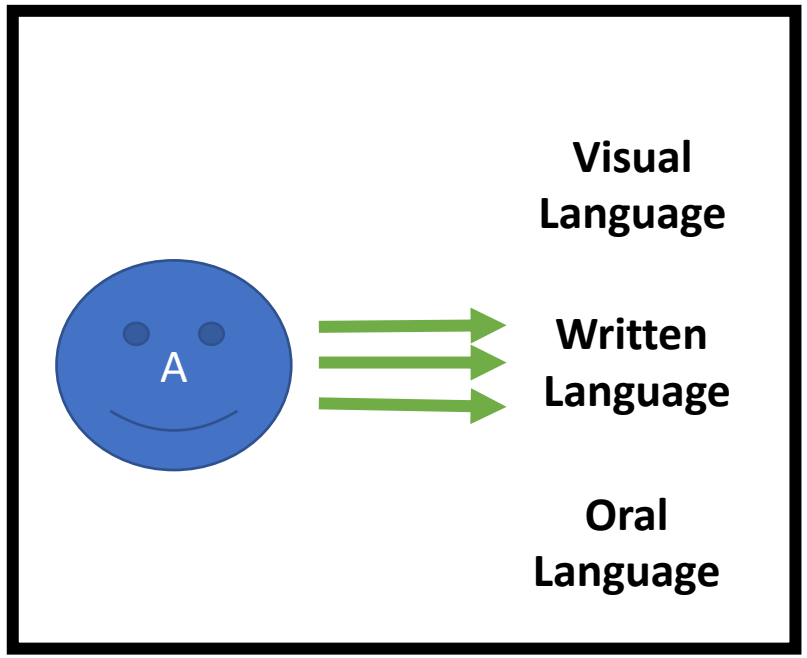
All Languages (in literacy) are Treated Equal!



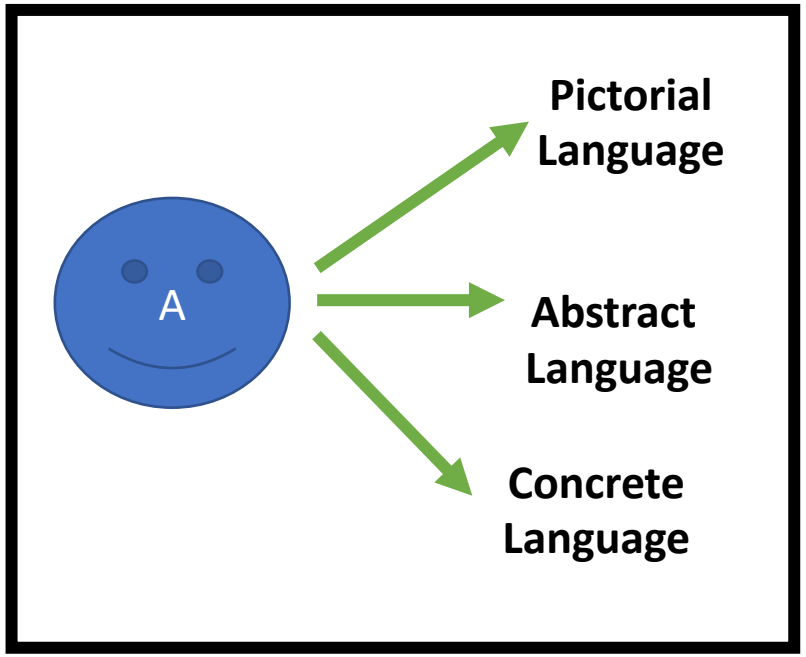
The MORE WAYS students can demonstrate learning, the more confident we are of meeting a goal

Instead of

The NUMBER OF TIMES, a student can show their learning in one way, the more confident we are of meeting a goal



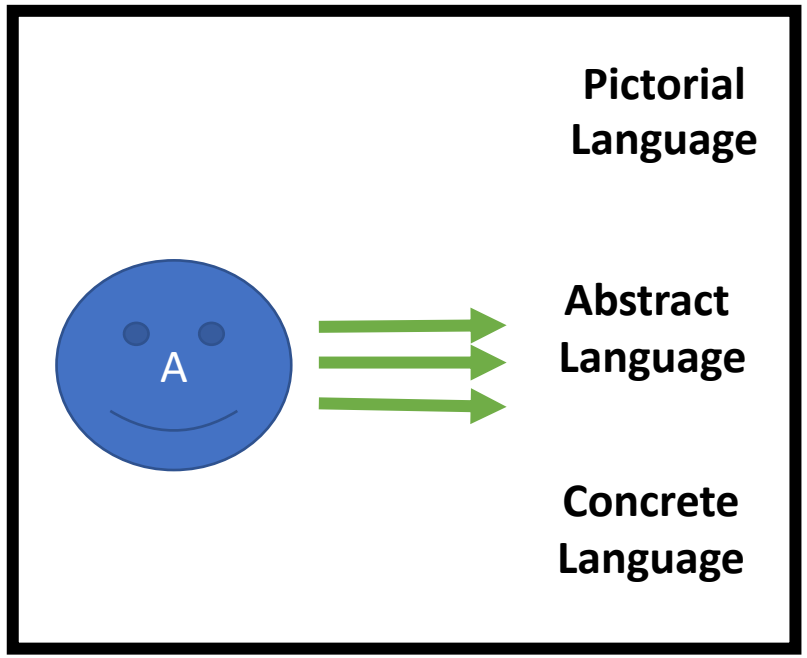
All Languages (in numeracy) are Treated Equal!



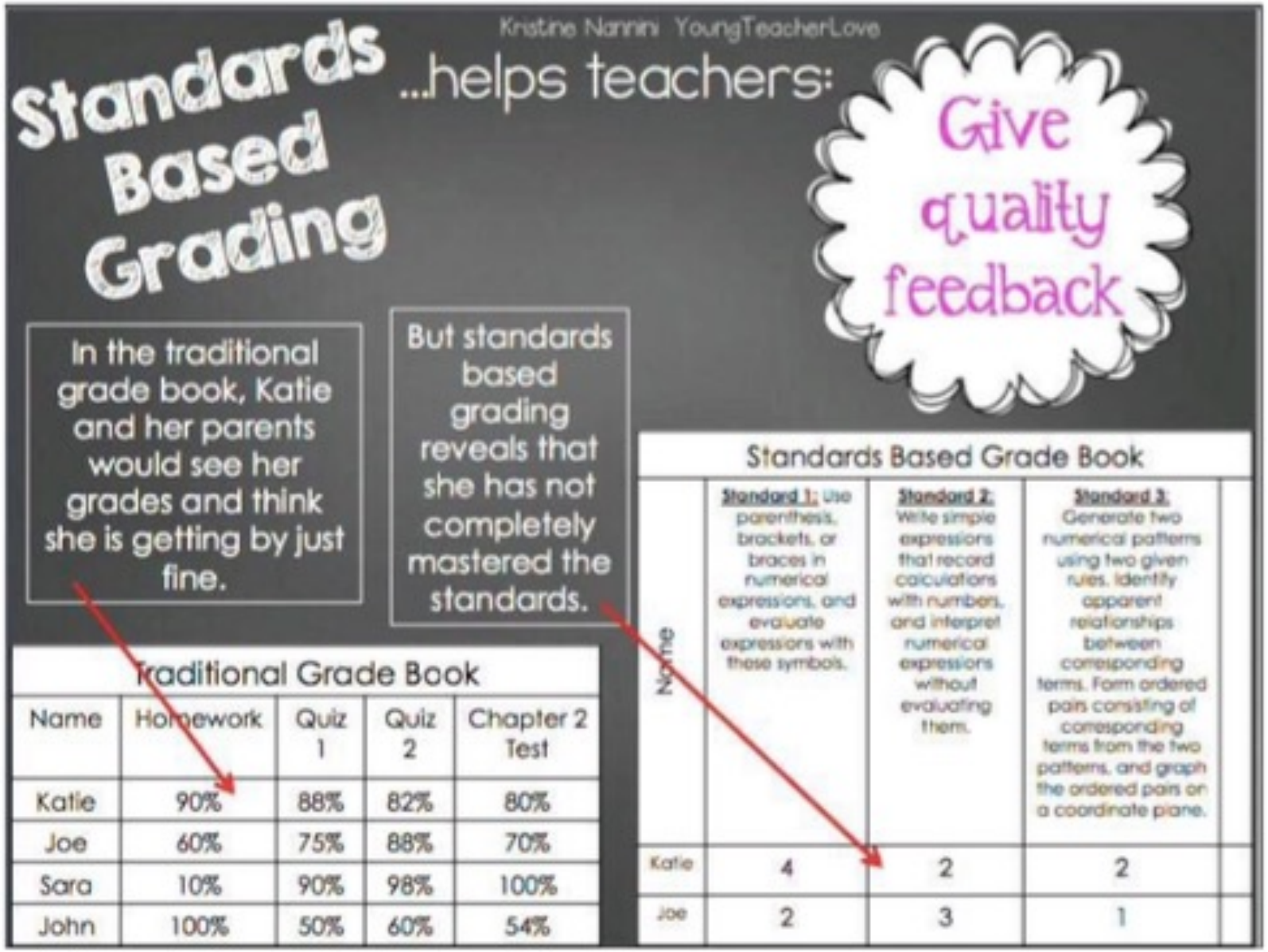
The MORE WAYS students can demonstrate learning, the more confident we are of meeting a goal

Instead of

The NUMBER OF TIMES, a student can show their learning in one way, the more confident we are of meeting a goal



1. Standards based vs. standardized curriculum



Grade: 9	Subject Area: Social Studies	Planning Team: Heather, Jenny, Shelley
Big Idea: Exploration, expansion, and colonization had varying consequences for different groups		**Unit Guiding Question(s):** Where are the traces of exploration, expansion and/or colonialization in our community and the world? What artifacts remain and/or are being created to honour the past, present and future in ethical ways?
	Curriculum	**Student Friendly Goals**
Content Goal 1:	exploration, expansion, and colonization	I know **exploration** I know **expansion** I know **colonization** I know how they are connected
Curricular Competency Goal:	Determine which causes most influenced particular decisions, actions, or events, and assess their short-and long-term consequences (cause and consequence)	I can describe what influences **causes** (actions and events) I can figure out the short and long term **consequences** (effects)
Curricular Competency Goal:	Explain different perspectives on past or present people, places, issues, or events, and compare the values, worldviews, and beliefs of human cultures and societies in different times and places (perspective)	I can explain different **perspectives** I can compare different perspectives
Curricular Competency Goal:	Make ethical judgments about past events, decisions, or actions, and assess the limitations of drawing direct lessons from the past (ethical judgment)	I can make **ethical judgements** I can **assess historical perspectives**
Core Competency Goal	**Critical thinking**	**We can be critical thinkers by…**

Social Studies 9: What Can we Learn from Artifacts?

Our Unit Questions

- Where are the **traces** of **exploration**, **expansion** and/or **colonialization** in our community and the world?
- What **artifacts** remain and/or are being created to **honour** the past, present and future in **ethical** ways?
- How can we communicate and educate other about the **traces** of **colonialism**?

Important vocabulary to know and use

exploration	**resources**	**short term**
expansion	**civilizations**	**long term**
colonization	**cause & consequence**	**perspective**
values & beliefs	**worldview**	**ethical judgement**
artifacts	**traces**	**honour**

What are the goals and how will we meet them?

Our Goals for this Unit	Summative Task Activities
Content Goal: I know **exploration**, **expansion**, and **colonization**	Choose an artifact that was created and celebrated in the name of exploration, expansion and/or colonialization
Curricular Competency Goal: I can determine which causes most influenced particular decisions, actions, or events, and assess their **short-and long-term** consequences (**cause and consequence**)	Why was this artifact created? What was it celebrating?
Curricular Competency Goal: I can explain different **perspectives** on past or present people, places, issues, or events, and compare the **values**, **worldviews**, and **beliefs** of human cultures and societies in different times and places (**perspective**)	What do you think the response to this artifact would have been at the time? What are some alternative perspectives of the celebration of this artifact?
Curricular Competency Goal: I can make **ethical judgments** about past events, decisions, or actions, and assess the limitations of drawing direct lessons from the past (**ethical judgment**)	What would be your ethical judgement, as to whether or not this artifact should continue to be celebrated and/or maintained?

Collecting Evidence of my Learning

Our Unit Questions

- Where are the **traces** of **exploration**, **expansion** and/or **colonialization** in our community and the world?
- What **artifacts** remain and/or are being created to **honour** the past, present and future in **ethical** ways?
- How can we communicate and educate other about the **traces** of **colonialism**?

Content Goal: I know exploration, expansion, and colonization

Approaching	Emerging	Developing	Confident	Extending
I know a time or a place that I have explored I know some explorers in history	I know what exploration & expansion is I know civilizations that have been explored & expanded	I know what colonialization is I know civilizations that have been colonialized in the past	I know the connections between exploration, expansion and colonialization	I know civilizations that have been and still are colonialized in the past and present

Curricular Competency Goal: I can determine which causes most influenced particular decisions, actions, or events, and assess their short-and long-term consequences (cause and consequence)

Approaching	Emerging	Developing	Confident	Extending
I can figure out the effect of a cause (decision, action or event) connected to something I am familiar with	I can determine causes of a decision, action or an event	I can determine what influenced a (cause) decision, action or an event	I can assess short term consequences of a cause (decision, action, event)	I can assess long term consequences of a cause (decision, action, event)

Curricular Competency Goal: I can explain different perspectives on past or present people, places, issues, or events, and compare the values, worldviews, and beliefs of human cultures and societies in different times and places (perspective)

Approaching	Emerging	Developing	Confident	Extending
I can describe a different point of view in an event that I am familiar with	I can describe different perspectives of places, issues and events	I can describe different perspectives of places, issues and events over time and how these perspectives change over time	I can compare the perspectives of different values, worldviews and beliefs	I can compare the perspectives of different values, worldviews and beliefs over time and how the perspectives they change

One point rubric

Name:	Date:	
Unit Guiding questions: **Where are the traces of exploration, expansion and/or colonialization in our community and the world? What artifacts remain and/or are being created to honour the past, present and future in ethical ways?**		
I still need support	**I can do this!**	**I need some challenge**
	I know exploration **I know expansion** **I know colonization** **I know how they are connected**	
	I can describe what influences causes **I can figure out the short- and long-term consequences**	
	I can explain different perspectives **I can compare different perspectives**	
	I can make ethical judgements **I can assess historical perspectives**	

Standards Based Grade Book – Socials 9 Unit

Big Idea: Exploration, expansion, and colonization had varying consequences for different groups

Learning Outcomes	exploration, expansion, and colonization					Determine which causes most influenced particular decisions, actions, or events, and assess their short-and long-term consequences (cause and consequence)					Make ethical judgments about past events, decisions, or actions, and assess the limitations of drawing direct lessons from the past (ethical judgment)					Explain different perspectives on past or present people, places, issues, or events, and compare the values, worldviews, and beliefs of human cultures and societies in different times and places (perspective)					Evaluation Date:			
Levels of Complexity	Approaching (I/IEP)	Emerging (2)	Developing (3)	Proficient/ Confident (3.5)	Extending (4)	Approaching (I/IEP)	Emerging (2)	Developing (3)	Proficient/ Confident (3.5)	Extending (4)	Approaching (I/IEP)	Emerging (2)	Developing (3)	Proficient/ Confident (3.5)	Extending (4)	Approaching (I/IEP)	Emerging (2)	Developing (3)	Proficient/ Confident (3.5)	Extending (4)	Total	Out of	%	Letter Grade
	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	•	•				•	•				•	•				•	•				8	16	50%	Pass
Student	•	•	•	•		•	•	•	•		•	•	•	•		•	•	•	•		14	16	88%	A
Student	•	•	•	•		•	•				•	•				•		•			IEA	16		I
Student	•	•	•	•		•	•	•	•	•		•	•			•	•	•			11.5	16	72%	C
Student	•	•	•	•		•	•				•	•	•			•	•	•	•		12	16	75%	B

Rubric: Science 9

Specific Expectation B2.5: explain the effects of various human activities on the dynamic equilibrium of ecosystems				
	Level 1 (50-59%)	**Level 2 (60-69%)**	**Level 3 (70-79%)**	**Level 4 (80-100%)**
Knowledge	• Demonstrates limited knowledge	• Demonstrates some knowledge	• Demonstrates considerable knowledge	• Demonstrates thorough knowledge
Understanding	• Demonstrates limited understanding	• Demonstrates some understanding	• Demonstrates considerable understanding	• Demonstrates thorough understanding

Grade: 9	Subject Area: Science	Strand: Biology	Planning Team:
Overall Expectation: B2. Investigating and Understanding Concepts **Big Idea(s): What do I need to Understand?** Environmental sustainability depends on the dynamic equilibrium of ecosystems. The cycling of matter and flow of energy within and between Earth's four spheres are natural processes that help maintain balance in ecosystems. Human activities, including activities that contribute to climate change, impact environmental sustainability, and it is our collective responsibility to mitigate these impacts.			**Unit Guiding Question(s):** **What is environmental sustainability? What is the role of ecosystems on the Earth? How are ecosystems balanced? What is the role of energy in maintaining balance of ecosystems? What is the impact of humans on environmental sustainability?**
Key Vocabulary			

Specific Expectations (required, assessed & evaluated)	Curricular Language What do I need to know and do?	Student Friendly Language
B2.1	investigate interactions between the biosphere, hydrosphere, lithosphere, and atmosphere, and explain why these interactions are important for ecosystem sustainability	**I know the four spheres of the Earth, how they interact and how they maintain balance in ecosystems** **I can explain why these spheres are important for ecosystem sustainability**
B2.2	explain how naturally occurring phenomena, including the cycling of matter and the flow of energy, contribute to the dynamic equilibrium within and between ecosystems	**I know what the cycling of matter is and why it is important to ecosystems** **I know what the flow of energy is and why it is important to ecosystems** **I can explain how the cycling of matter and the flow of energy support the equilibrium within and between ecosystems**
B2.3	compare and contrast the processes of cellular respiration and photosynthesis, and explain how their complementary relationship contributes to the dynamic equilibrium of ecosystems	I know what cellular respiration and photosynthesis is and why they are important to ecosystems I can compare and contrast cellular respiration and photosynthesis I can explain how their relationship supports equilibrium in ecosystems
B2.4	investigate factors and processes, including biodiversity, air and water quality, soil health, and succession, and explain how they contribute to ecosystem sustainability	I know what biodiversity, air and water quality, soil health, and succession is why they are important and how they support the Earth I can explain how biodiversity, air and water quality, soil health, and succession supports and sustains ecosystems
B2.5	explain the effects of various human activities on the dynamic equilibrium (balance) of ecosystems	**I know what human activities which have significant effects on ecosystems** **I can explain how human activities effect the balance of the eco systems**
B2.6	identify and use various indicators of **climate change** to describe the impacts of climate change on local and global ecosystems, and analyse how human activities contribute to climate change	**I know the indicators of climate change** **I can describe the impact of climate change on local and global ecosystems** **I can analyze how humans contribute to climate change**
B2.7	explain how sustainable practices related to the cycling of matter and the flow of energy can be applied in agricultural innovations	**I know what cycling of matter and the flow of energy is** **I know sustainable practices relating to the cycling of matter rand the flow of energy** **I can explain how sustainable practices can be used in agriculture**
Strand A1: STEM (responsive & assessed)	A1. STEM Investigation Skills (**A1.1**, A1.2, A1.3, A1.4, A1.5) A2. Applications, Careers, and Connections (**A2.1**, A2.2, A2.3, A2.4, A2.5 **A1.1** apply a scientific research process and associated skills to conduct investigations, making connections between their research and the scientific concepts they are learning **A2.1** design an experiment or a prototype to explore a problem relevant to a STEM-related occupation, such as a skilled trade, using findings from research	**I know the scientific research process** **I can use the scientific research process to investigate and make connections to my learning** **I know some problems that STEM occupations are trying to solve** **I can design an experiment or a prototype to explore a problem**
Transferable skills (responsive & assessed)	**Global Citizenship** Self Directed Learning Communication	**I know what it means to be a global citizen** **I can be a global citizen**

Standards Based Grade Book – Science 9 Unit

Overall Expectation: B2. Investigating and Understanding Concepts

Specific Expectations	B2.1 - investigate interactions between the biosphere, hydrosphere, lithosphere, and atmosphere, and explain why these interactions are important for ecosystem sustainability				
Levels of Complexity	Approaching (I/IEP)	Level 1 (2)	Level 2 (3)	Level 3 (3.5)	Level 4 (4)
Student					
Student					
Student					
Student					
Student					

Specific Expectations	B2.2 - explain how naturally occurring phenomena, including the cycling of matter and the flow of energy, contribute to the dynamic equilibrium within and between ecosystems				
Levels of Complexity	Approaching (I/IEP)	Level 1 (2)	Level 2 (3)	Level 3 (3.5)	Level 4 (4)
Student					
Student					
Student					
Student					
Student					

Specific Expectations	B2.3 - compare and contrast the processes of cellular respiration and photosynthesis, and explain how their complementary relationship contributes to the dynamic equilibrium of ecosystems				
Levels of Complexity	Approaching (I/IEP)	Level 1 (2)	Level 2 (3)	Level 3 (3.5)	Level 4 (4)
Student					
Student					
Student					
Student					
Student					

Specific Expectations	B2.4 - investigate factors and processes, including biodiversity, air and water quality, soil health, and succession, and explain how they contribute to ecosystem sustainability				
Levels of Complexity	Approaching (I/IEP)	Level 1 (2)	Level 2 (3)	Level 3 (3.5)	Level 4 (4)
Student					
Student					
Student					
Student					
Student					

Specific Expectations	B2.5 - explain the effects of various human activities on the dynamic equilibrium (balance) of ecosystems				
Levels of Complexity	Approaching (I/IEP)	Level 1 (2)	Level 2 (3)	Level 3 (3.5)	Level 4 (4)
Student					
Student					
Student					
Student					
Student					

Specific Expectations	B 2.6 - identify and use various indicators of climate change to describe the impacts of climate change on local and global ecosystems, and analyse how human activities contribute to climate change				
Levels of Complexity	Approaching (I/IEP)	Level 1 (2)	Level 2 (3)	Level 3 (3.5)	Level 4 (4)
Student					
Student					
Student					
Student					
Student					

Specific Expectations	B2.7 - explain how sustainable practices related to the cycling of matter and the flow of energy can be applied in agricultural innovations				
Levels of Complexity	Approaching (I/IEP)	Level 1 (2)	Level 2 (3)	Level 3 (3.5)	Level 4 (4)
Student					
Student					
Student					
Student					
Student					

Specific Expectations	Evaluation Date:			
Levels of Complexity	Total	Out of	%	Letter Grade
Student				
Student				
Student				
Student				
Student				

For Next Session

1. Celebration & Sharing
    1. Small group and large group sharing options
    2. 4-5 minutes
    3. Sharing template
        1. Choose some questions to share
        2. Collect evidence about what you tried
        3. Tip: make it visual (photos, videos, diagrams etc.)

Sharing Session Template

School:

Location:

Who are we?

Name: Role

Name: Role

Name: Role

Name: Role

What were our questions when we started?

What did we try based on our learning in the series?

What did we notice?

What did we learn?

What are our next steps?

SHELLEY MOORE

@tweetsomemoore

@fivemooreminutes

@fivemooreminutes

www.fivemooreminutes.com

www.blogsomemoore.com