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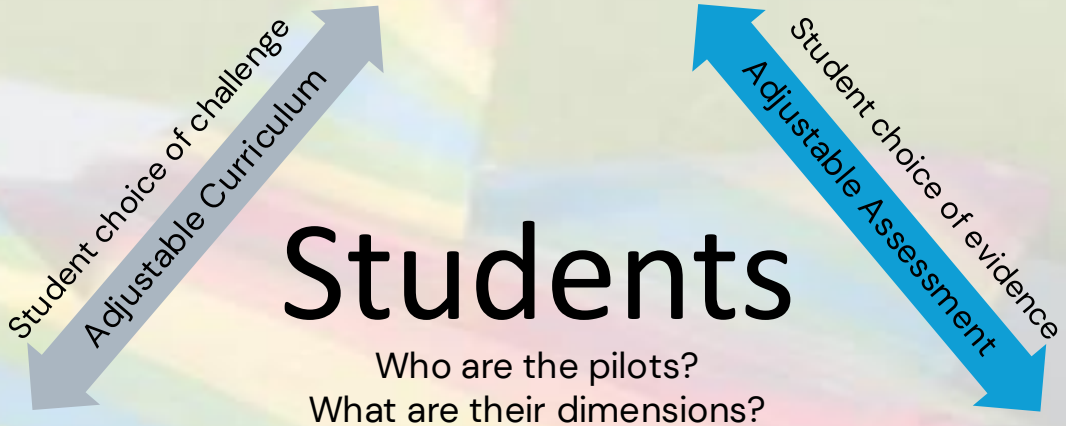
What grade level curriculum are we using?
What are the learning standards?

CURRICULUM & ASSESSMENT DESIGN



Students

Who are the pilots?
What are their dimensions?
Where is their agency?

Adjustable Supports & Strategies

Student choice of tools and actions

NEEDS BASED DESIGN

What are the student needs?
What barriers are getting in the way?
What do student require to navigate needs & barriers?

INSTRUCTIONAL DESIGN

How will students show growth within the learning standard?
How do we know?

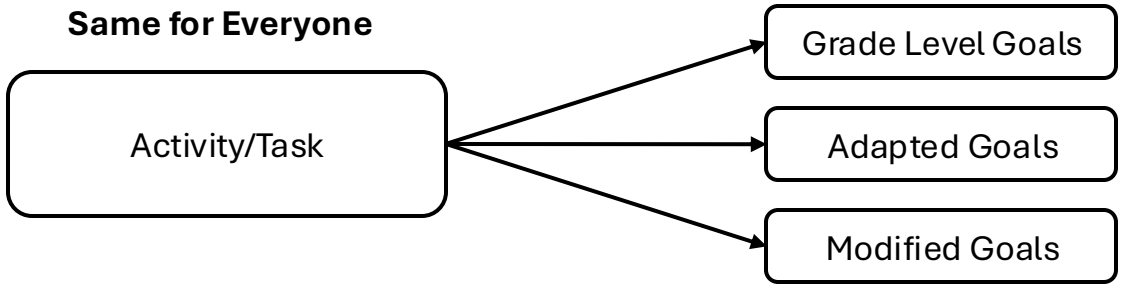
Shelley MOORE PH.D.
2023

Forward Design

Standardized Evaluation

Differentiated

Same for Everyone

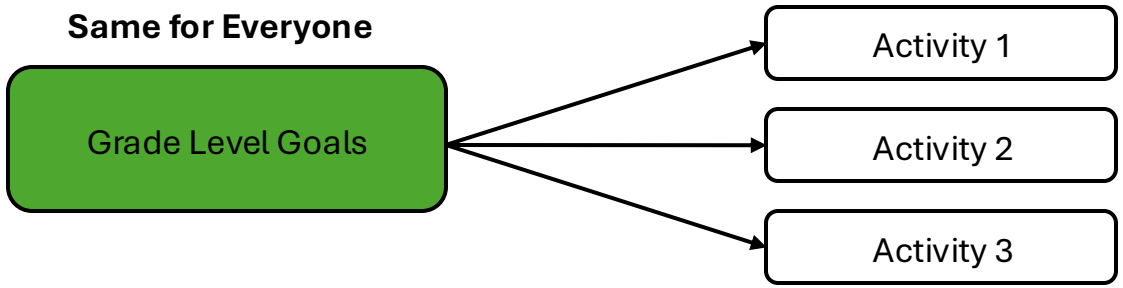


Compromises the integrity of evaluation

Backward Design

Differentiated

Same for Everyone

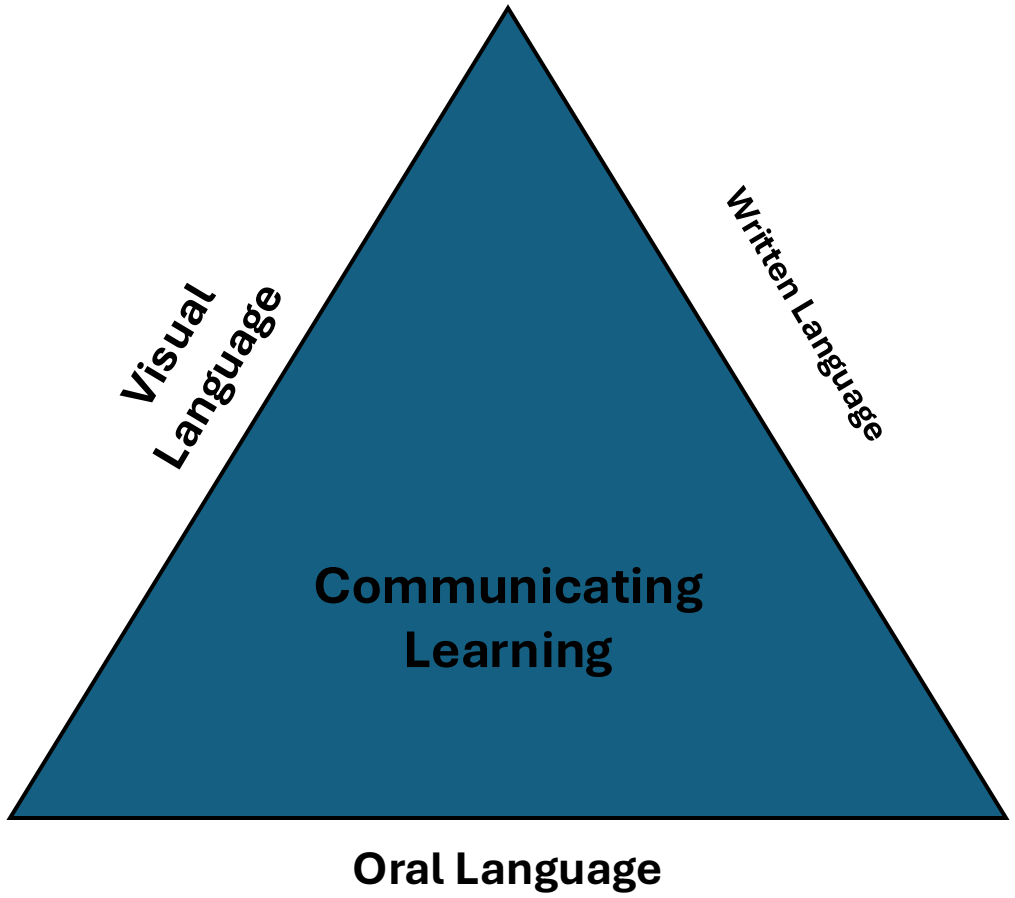


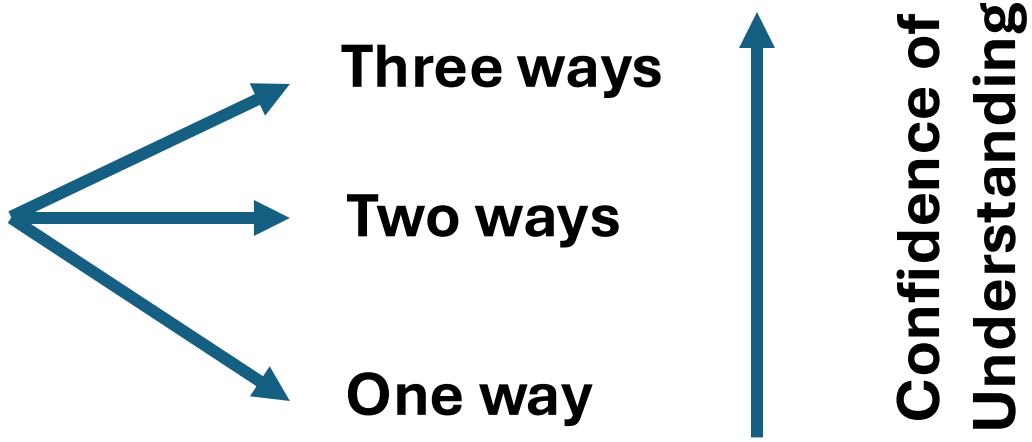
Does not compromise the integrity evaluation

Standards Based Evaluation

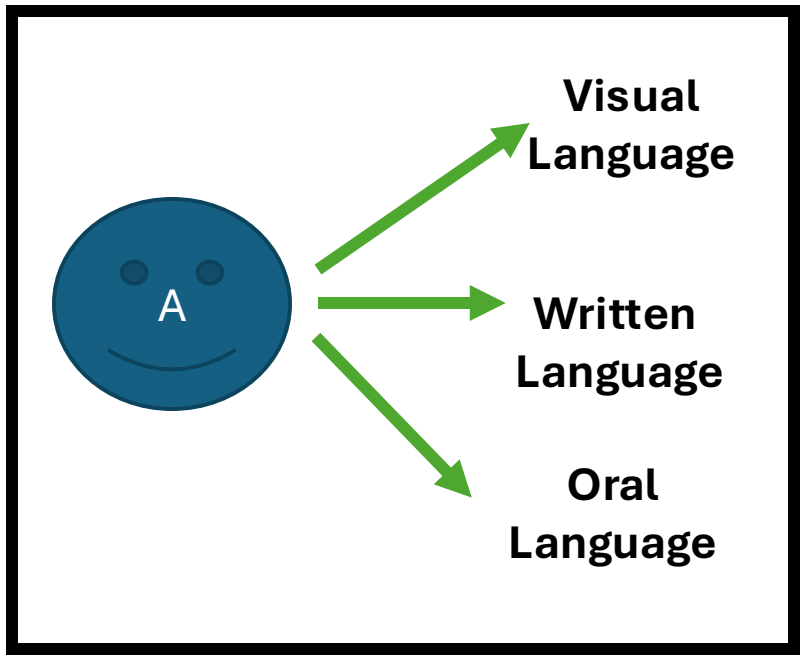
McTigue, 2010

How do student show what they know?





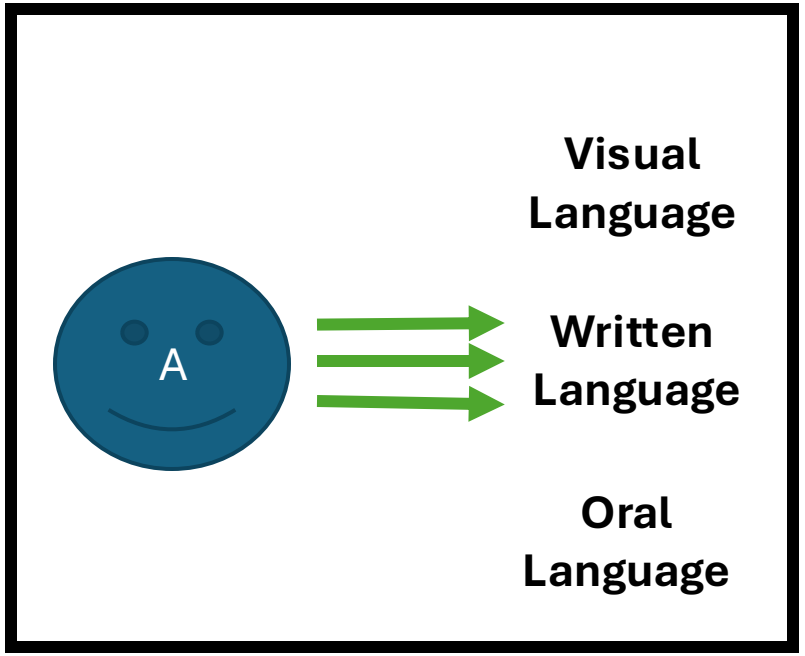
All Languages (in literacy) are Treated Equal!



The MORE WAYS students can demonstrate learning, the deeper their understanding is

Vs.

The NUMBER OF TIMES, a student can show their learning in one way, the more fluent they become



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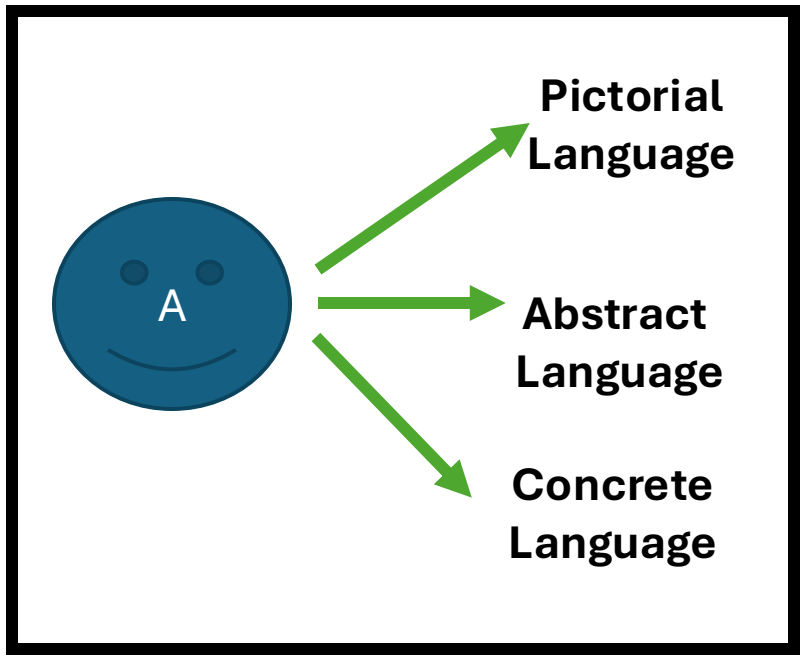

The MORE WAYS students can demonstrate learning, the deeper their understanding is

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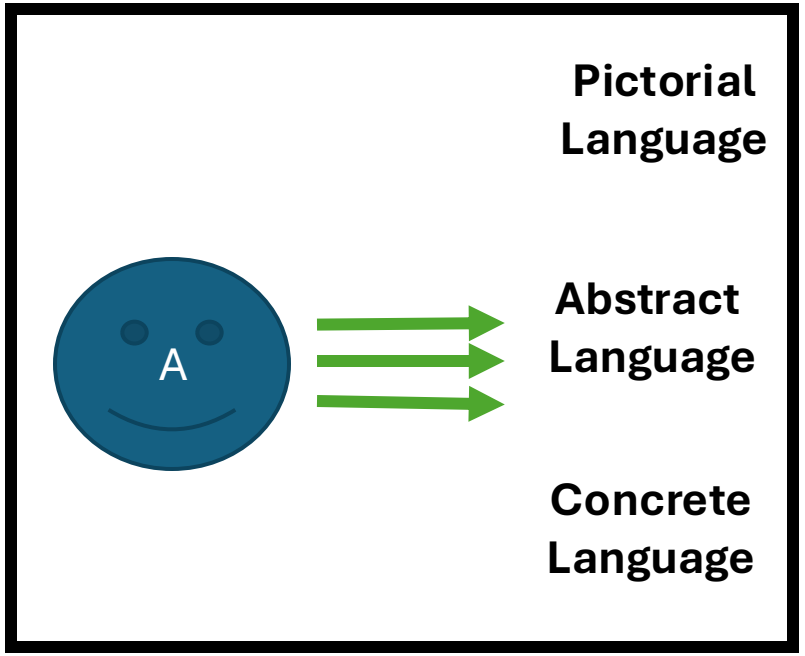
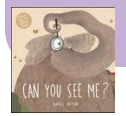


The **grade level learning goals** are the same for everyone



Math (K) Content

- Students know direct comparison measurement

ELA Content

- Students know language features, structures, and conventions including:
  - concepts of print
  - letter knowledge
  - letter formation
  - the relationship between reading, writing and oral language

Math (K) Curricular Competency

- I can estimate
- I can solve math problems by visualizing
- I can show my thinking in math by using symbols, pictures and objects
- I can connect what I am learning to interesting things in my life and the world

ELA (K) Curricular Competency

- I can understand different kinds of text by exploring it

Learning Activities and Tasks

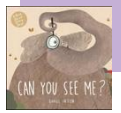
Differentiation of Evidence

Viewing and showing

Listening and speaking

Writing and decoding

The **grade level learning goals** are the same for everyone



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ELA (K) Curricular Competency

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Learning Activities and Tasks

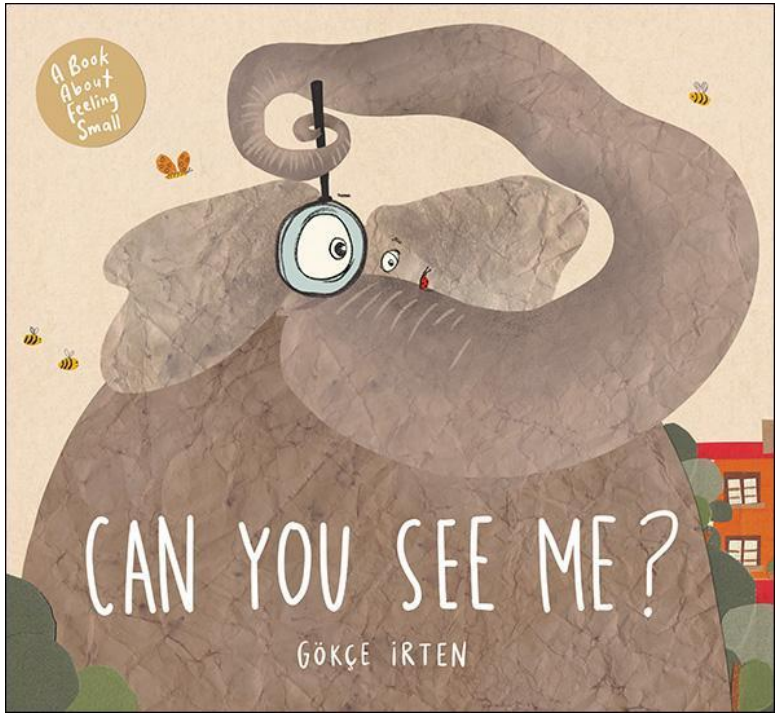
Anchor Text: Can You See Me?

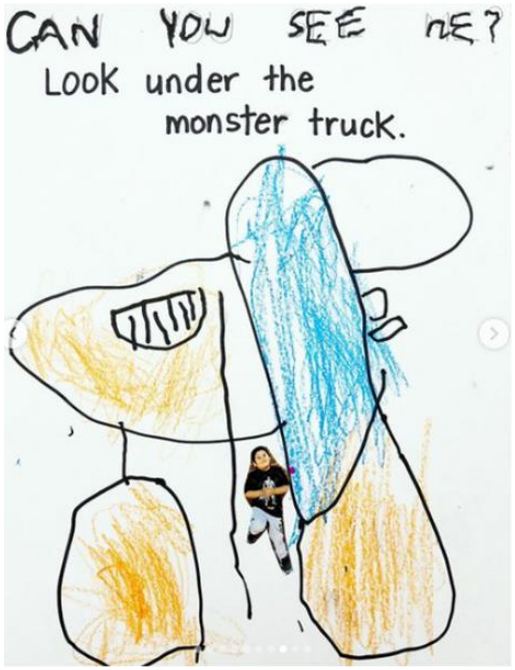
- **Activity**: Can you see me?
- **Activity**: Measurement O Rama
- **Activity:** What kind of box?

Differentiation of Evidence

viewing and showing	Listening and speaking	writing and decoding
✓	✓	✓
✓	✓	✓
✓	✓	✓

Moore and McIntosh, 2025

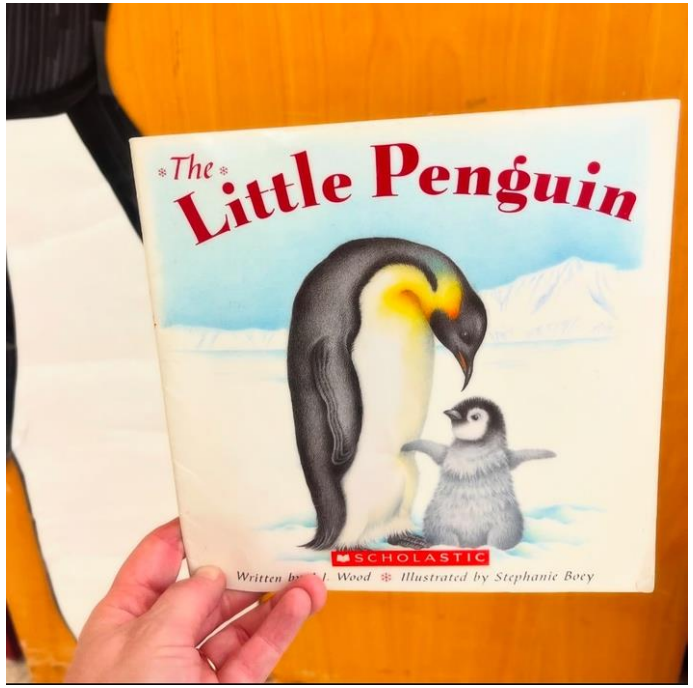




Project: Can you see me?

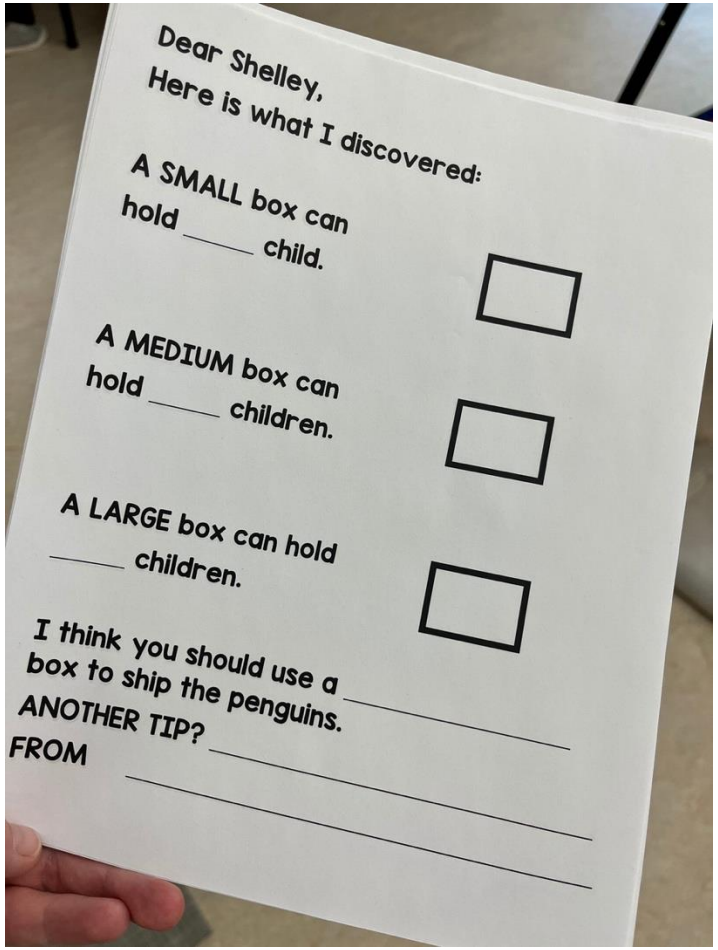
viewing and showing	Listening and speaking	writing and decoding
✓	✓	✓

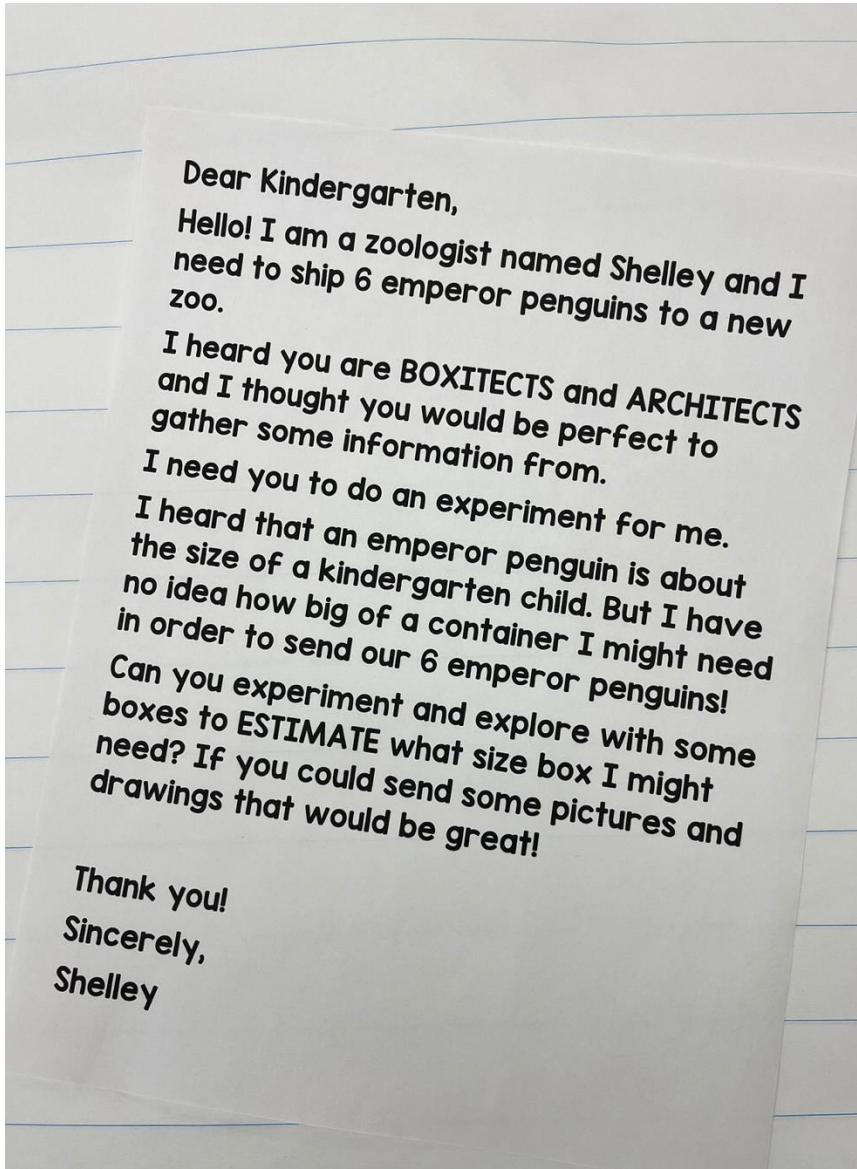
Moore and McIntosh, 2025



Activity: What kind of box?

viewing and showing	Listening and speaking	writing and decoding
✓	✓	✓





Backwards Design Planning

Grade: 9	Subject Area: Science	Strand/Topic:
Learning Standard: HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells		**Unit Guiding Question(s):** **What is the structure of DNA? What is DNA? What does DNA look like? What does DNA do?** **How are the structures of DNA and the structures of proteins related?** **How can I use evidence to explain how the structure of DNA impacts that structure of proteins?** **How are the structure of proteins and related to the essential functions of life?** **What is the role the systems of specialized cells?**
Key Vocabulary: theories and laws, evidence, natural world, **structure of DNA, DNA, proteins, essential functions of life, life, systems of specialized cells,** organisms		

Learning Goals	Curricular Language What do Students need to Know and Do?	Student Friendly Language
Science and Engineering Practices (skills)	Construct an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past , present, future.	I can explain using evidence that there are theories and laws that describe the natural world - I know what evidence is - I know what science and theories and laws* are - I know what the natural world is
Disciplinary Core Ideas (knowledge)	Disciplinary Core Ideas LS1.A: Structure and Function Systems of specialized cells within organisms help them perform the essential functions of life. All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells.	I know that the systems of specialized cells inside organisms perform essential functions of life • I know what systems of specialized cells are • I know what organisms are • I know what the essential* functions of life are I know that cells have genetic information in DNA molecules I know that genes are parts of DNA that are instructions for how proteins are formed I know how cells work
Crosscutting Concepts (Big Idea)	Structure and Function Investigating or designing new systems or structures requires a detailed examination of the properties of different materials, the structures of different components, and connections of components to reveal its function	I understand that structures are made of many different components that are connected and have specific functions.

Grade: 9	Subject Area: Science	Strand/Topic:
Learning Standard: HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells		**Unit Guiding Question(s):** **What is the structure of DNA? What is DNA? What does DNA look like? What does DNA do?** **How are the structures of DNA and the structures of proteins related?** **How can I use evidence to explain how the structure of DNA impacts that structure of proteins?** **How are the structure of proteins and related to the essential functions of life?** **What is the role the systems of specialized cells?**

Key Vocabulary: theories and laws, evidence, natural world, **structure of DNA, DNA, proteins, essential functions of life, life, systems of specialized cells,** organisms

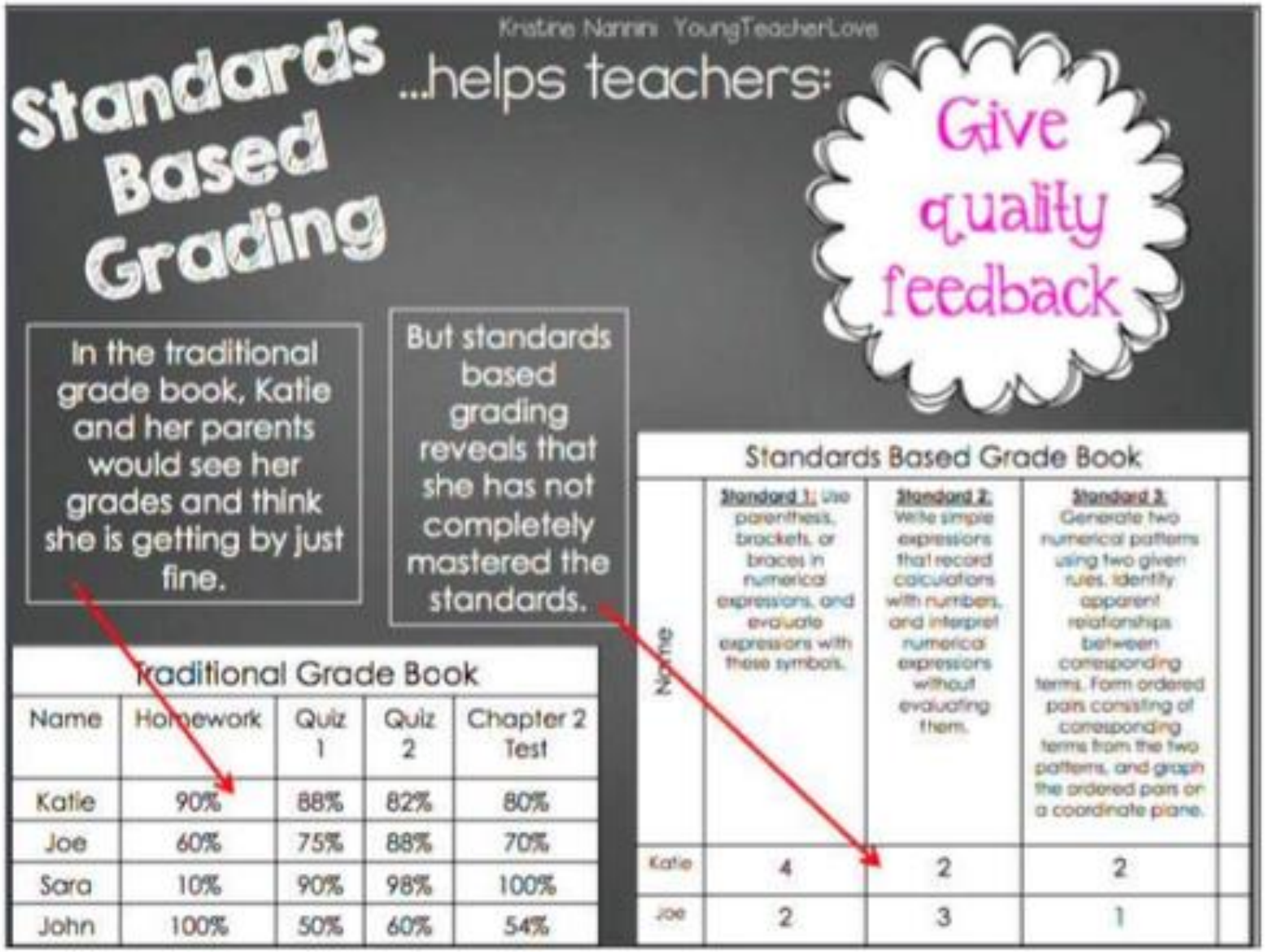
Learning Goals	Curricular Language What do Students need to Know and Do?		**Summative Task:** The Cell-tastic voyage: Exploring the Wonders of Cellular Structures and Functions		
			Visual/pictorial/ concrete (observations)	Written/abstract (products)	Oral language/ presentations (conversations)
Science and Engineering Practices (skills)	Construct an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past , present, future.	• I can explain using evidence that there are theories and laws that describe the natural world	hands-on demonstration	Written experimental plan	experimental design as part of an adventurous quest
Disciplinary Core Ideas (knowledge)	Disciplinary Core Ideas LS1.A: Structure and Function Systems of specialized cells within organisms help them perform the essential functions of life. All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells.	• I know that the systems of specialized cells inside organisms perform essential functions of life • I know that cells have genetic information in DNA molecules • I know that genes are parts of DNA that are instructions for how proteins are formed • I know how cells work	3D model of a cell	infographic or poster	a virtual tour
Crosscutting Concepts (Big Idea)	Structure and Function Investigating or designing new systems or structures requires a detailed examination of the properties of different materials, the structures of different components, and connections of components to reveal its function and/or solve a problem.	• I understand that structures are made of many different components that are connected and have specific functions.	Visual reflection	Written reflection	Oral reflection

Name:	Date:

Performance Expectation: HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells

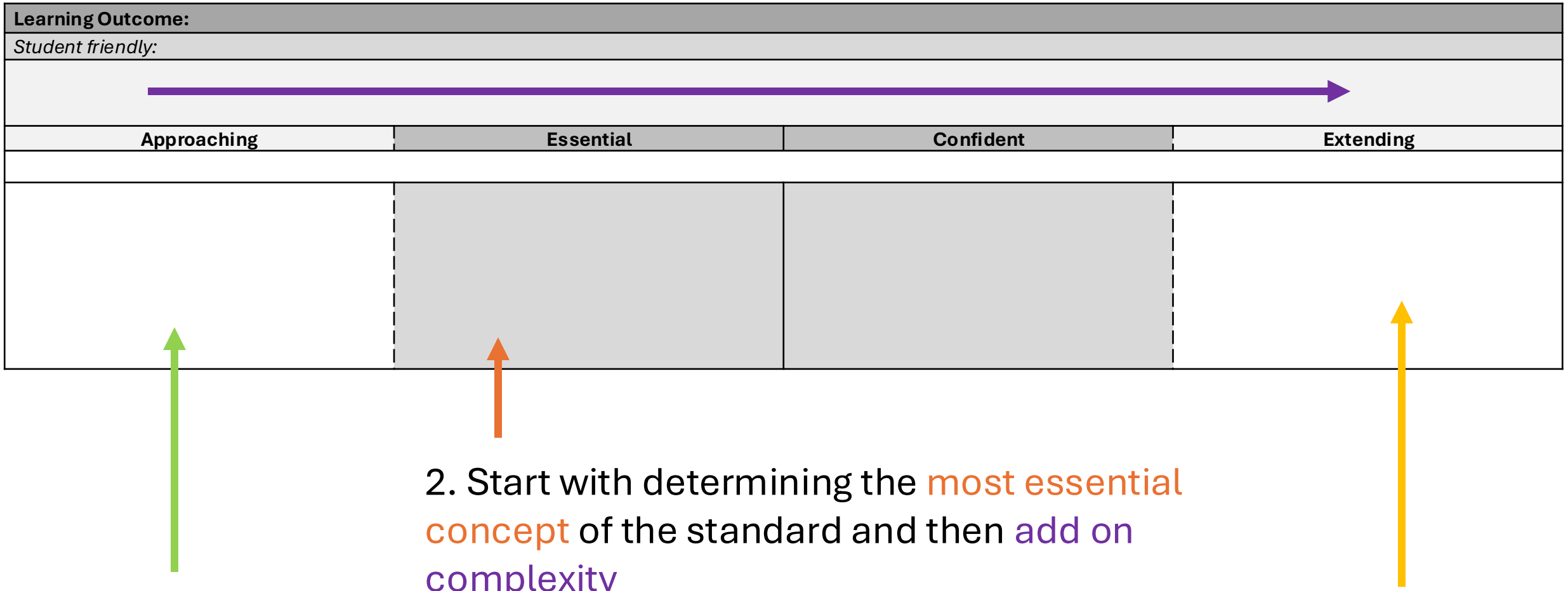
Goals	My evidence of learning	Showing my Learning			I Need Support	I Need Challenge
	Actvtivities/ tasks	written	oral	visual		
• I can explain using evidence that there are theories and laws that describe the natural world						
• I know that the systems of specialized cells inside organisms perform essential functions of life • I know that cells have genetic information in DNA molecules • I know that genes are parts of DNA that are instructions for how proteins are formed • I know how cells work						
• I understand that structures are made of many different components that are connected and have specific functions.						

1. Standards based vs. standardized curriculum



Learning Continuums

1. Choose a Learning Standard and translate it into student friendly language



2. Start with determining the most essential concept of the standard and then add on complexity

3. Extend the grade level standard to include an access point and challenge point

Scaffolded Curriculum: 3 Point Continuum

	Access Point (1)	Grade level indicators (2)	Challenge Point (3)
Grade Level Learning Standard			

Moore, 2025

Scaffolded Curriculum: 3 Point Continuum

	Access Point (1)	Grade level essential (2 - pass)	Grade level confident (3)
Grade Level Learning Standard			

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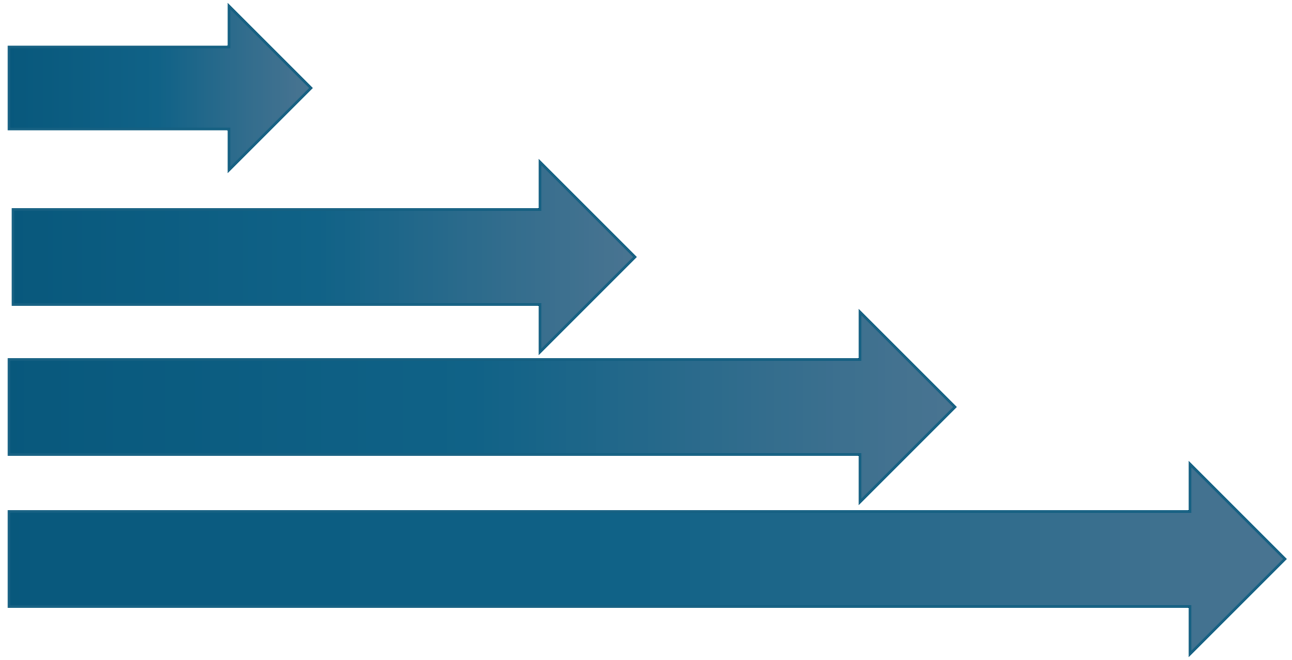
Scaffolded Curriculum: 4 Point Continuum

	Access Point	Grade level proficiency		Challenge Point
Grade Level Learning Standard	Approaching (1)	Essential (2 pass)	Confident (3)	Extending (4)



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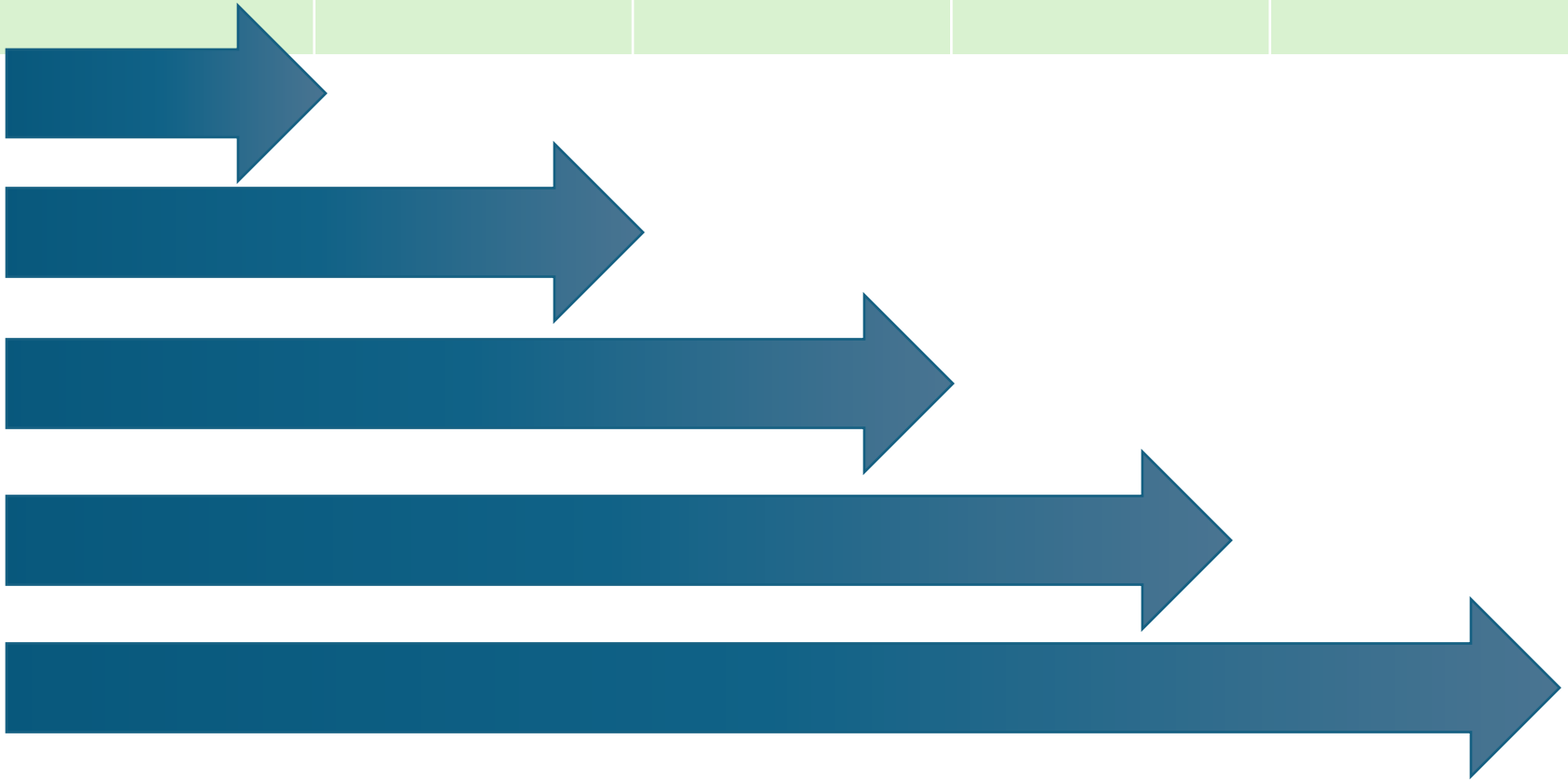
Scaffolded Curriculum: Point Continuum

	Access Point	Grade level proficiency			Challenge Point
Grade Level Learning Standard	Approaching (1) – IEP/IE	Essential (2.5 pass)	Developing (3)	Confident (4)	Extending (5)



Moore, 2025

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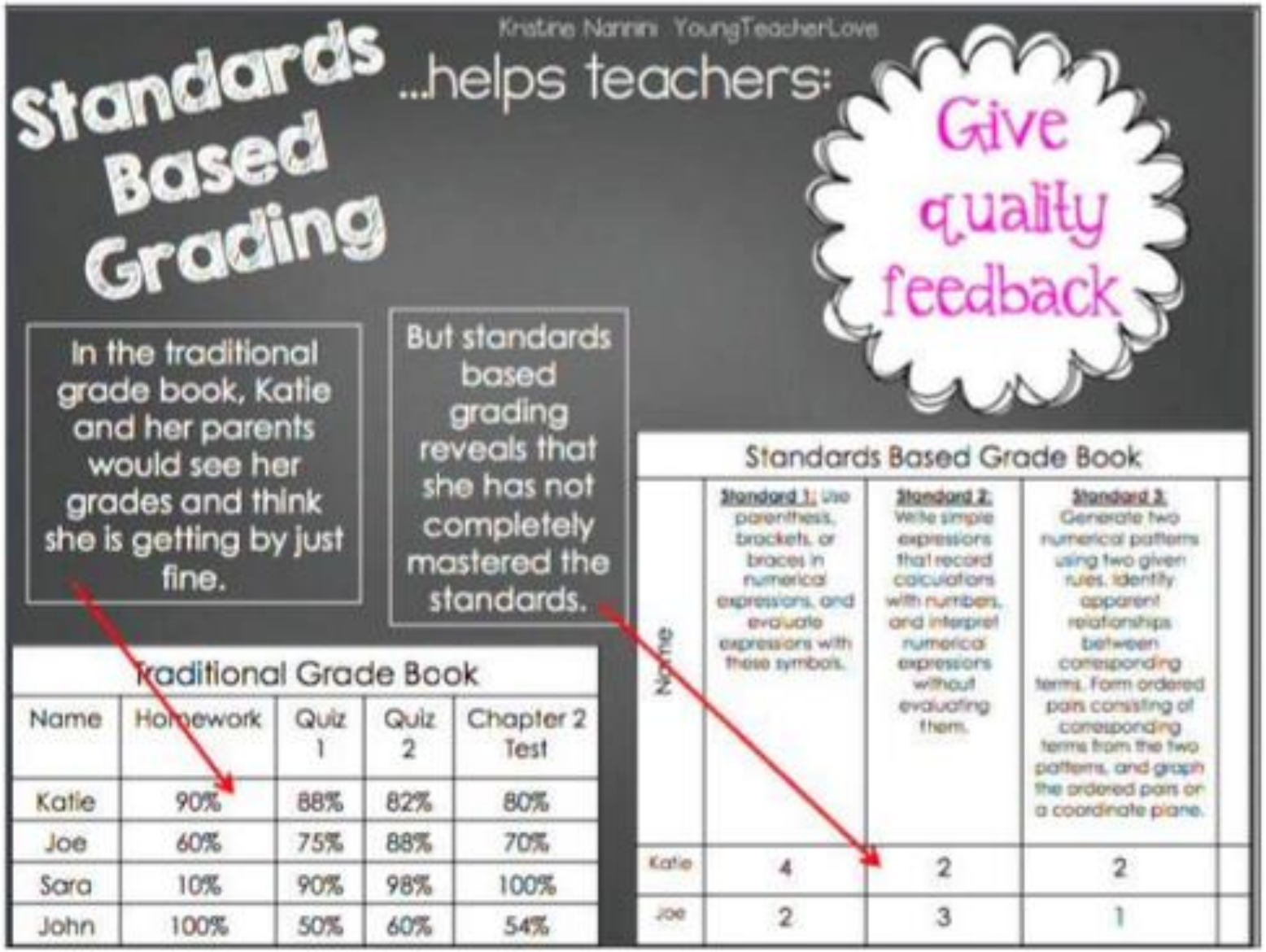

Standards Based Grade Book (NGSS													Evaluation				
Learning Standard/ Performance Expectation																	
Possible Evidence of Learning																	
Reporting Language	**Approaching/ Access Point**	**Emerging/ Essential**	**Developing**	**Extending**	**Approaching/ Access Point**	**Emerging/ Essential**	**Developing**	**Extending**	**Approaching/ Access Point**	**Emerging/ Essential**	**Developing**	**Extending**	**Total**	**Out of**	**%**	**Letter Grade**	**4-Point**
Evaluation	**IE/IEP**	**2.5**	**3**	**4**	**IE/IEP**	**2.5**	**3**	**4**	**IE/IEP**	**2.5**	**3**	**4**					
Student 1 (IEP)																	
Student 2																	
Student 3																	
Student 4																	
Student 5																	
Student 6																	

Backwards Design Planning

Grade: 5	Subject Area: Science	Strand/Topic: Structure and Properties of Matter
Learning Standard: 5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen		**Unit Guiding Question(s):** How can I use a model to help me understand that some matter is made up of particles that are too small to see?
Content Vocabulary: model, matter, particles, idea, bulk matter		**Skills Vocabulary: create, build, change, solve a problem, observe**
Learning Goals	**Curricular Language** **What do Students need to Know and Do?**	**Student Friendly Language**
Science and Engineering Practices (skills)	**Developing and Using Models** building and revising simple models and using models to represent events and design solutions. Use models to describe phenomena.	• I can create and improve a model • I can use a model to show an idea • I can use a model to solve a problem
Disciplinary Core Ideas (knowledge)	**PS1.A: Structure and Properties of Matter** Matter of any type can be subdivided into particles that are too small to see matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations including the inflation and shape of a balloon and the effects of air on larger particles or objects.	• I know that matter can be broken apart into tiny particles that are too small to see • I know that even if tiny particles are too small for my eyes to see, there are other ways to observe them • I know that a model is a way to observe tiny particles too small to see • I know some examples of models that can help me observe tiny particles that are too small to see
Crosscutting Concepts (understanding)	**Scale, Proportion, and Quantity** Natural objects exist from the very small to the immensely large.	I understand that there are things that are very tiny and very large

Standards Based Grade Book (NGSS)																	
Learning Standard/ Performance Expectation	**5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen**												**Evaluation**				
	Science and Engineering Practices				**Disciplinary Core Ideas**				**Crosscutting Concepts**								
Possible Evidence of Learning																	
Reporting Language	**Approaching/ Access Point**	**Emerging/ Essential**	**Developing**	**Extending**	**Approaching/ Access Point**	**Emerging/ Essential**	**Developing**	**Extending**	**Approaching/ Access Point**	**Emerging/ Essential**	**Developing**	**Extending**	**Total**	**Out of**	**%**	**Letter Grade**	**4-Point**
Evaluation	**IE/IEP**	**2.5**	**3**	**4**	**IE/IEP**	**2.5**	**3**	**4**	**IE/IEP**	**2.5**	**3**	**4**		**12**			
Student 1 (IEP)	•				•				•	•			3	**3***	100%	A*	4*
Student 2	•	•			•	•			•	•			7.5	**12**	63%	D	2.5
Student 3	•	•	•	•	•	•	•	•	•	•	•		11	**12**	92%	A-	3.67
Student 4			•	•	•	•	•		•	•			IE	**12**			
Student 5	•	•	•	•	•	•							IE	**12**			
Student 6	•	•	•		•	•	•	•	•	•	•	•	11	**12**	92%	A-	3.67

Student 1 (IEP)

Next Generation Science Standards (NGSS)		
Subject Area: Science	**Strand: Matter and Its Interactions**	**Grade: 5**
Performance Expectation: 5-PS1-1 **Students can develop a model to describe that matter is made of particles too small to be seen**	**Guiding Unit Question:** How do we know that something exists if we cannot see it?	
Unit Vocabulary (Content): properties, structures, scale, proportion, quantity, models, particles, bulk matter,	**Unit Vocabulary (Skills):** make, observe	

Foundations	Student Friendly Language	Access Point	Essential	Confident	Extend
Science & Engineering Practices	I can make a model to help me understand an idea by:	following/ participating in creating a model	planning and creating a model	creating a model to solve a problem	Adjusting or revising a model I have created
Disciplinary Core Ideas	I know that matter is made up of particles that are too small to see by: I know that models can help us see particles that are too small to see by:	describing what matter is describing that there are different states of matter describing examples of different kinds of matter in the world	describing what bulk matter is describing that matter (that I can see) is made up of tiny particles (that are too small to see) describing examples of models that help to observe particles that are too small to see	describing how collecting many tiny particles can help us observe how matter takes up space describing which part of the model is bulk matter, and which part of the model is particles	describing the relationship between matter and particles using the model to describe the relationship between matter and how particles move when they are collected
Crosscutting Concepts	I know that objects in the world can be very large and very small by:	describing objects in the world that are very small and very large	describing what microscopic and macroscopic is and examples of each in the world	describing what is similar and what is different between microscopic and macroscopic objects in the world	describing what scale is and how it helps us understand microscopic and macroscopic objects

***Description: can include but are not limited to written, oral, pictorial, and kinesthetic**

Student 2 – 63%

Next Generation Science Standards (NGSS)		
Subject Area: Science	**Strand: Matter and Its Interactions**	**Grade: 5**
Performance Expectation: 5-PS1-1 **Students can develop a model to describe that matter is made of particles too small to be seen**		**Guiding Unit Question:** How do we know that something exists if we cannot see it?
Unit Vocabulary (Content): properties, structures, scale, proportion, quantity, models, particles, bulk matter,		**Unit Vocabulary (Skills):** make, observe

Foundations	Student Friendly Language	Access Point	Essential	Confident	Extend
Science & Engineering Practices	I can make a model to help me understand an idea by:	following/ participating in creating a model	planning and creating a model	creating a model to solve a problem	Adjusting or revising a model I have created
Disciplinary Core Ideas	I know that matter is made up of particles that are too small to see by: I know that models can help us see particles that are too small to see by:	describing what matter is describing that there are different states of matter describing examples of different kinds of matter in the world	describing what bulk matter is describing that matter (that I can see) is made up of tiny particles (that are too small to see) describing examples of models that help to observe particles that are too small to see	describing how collecting many tiny particles can help us observe how matter takes up space describing which part of the model is bulk matter, and which part of the model is particles	describing the relationship between matter and particles using the model to describe the relationship between matter and how particles move when they are collected
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***Description: can include but are not limited to written, oral, pictorial, and kinesthetic**

Student 3 – 92%

Next Generation Science Standards (NGSS)		
Subject Area: Science	**Strand: Matter and Its Interactions**	**Grade: 5**
Performance Expectation: 5-PS1-1 **Students can develop a model to describe that matter is made of particles too small to be seen**	**Guiding Unit Question:** How do we know that something exists if we cannot see it?	
Unit Vocabulary (Content): properties, structures, scale, proportion, quantity, models, particles, bulk matter,	**Unit Vocabulary (Skills):** make, observe	

Foundations	Student Friendly Language	Access Point	Essential	Confident	Extend
Science & Engineering Practices	I can make a model to help me understand an idea by:	following/ participating in creating a model	planning and creating a model	creating a model to solve a problem	Adjusting or revising a model I have created
Disciplinary Core Ideas	I know that matter is made up of particles that are too small to see by: I know that models can help us see particles that are too small to see by:	describing what matter is describing that there are different states of matter describing examples of different kinds of matter in the world	describing what bulk matter is describing that matter (that I can see) is made up of tiny particles (that are too small to see) describing examples of models that help to observe particles that are too small to see	describing how collecting many tiny particles can help us observe how matter takes up space describing which part of the model is bulk matter, and which part of the model is particles	describing the relationship between matter and particles using the model to describe the relationship between matter and how particles move when they are collected
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Student 3 – 92%

Next Generation Science Standards (NGSS)		
Subject Area: Science	**Strand: Matter and Its Interactions**	**Grade: 5**
Performance Expectation: 5-PS1-1 **Students can develop a model to describe that matter is made of particles too small to be seen**	**Guiding Unit Question:** How do we know that something exists if we cannot see it?	
Unit Vocabulary (Content): properties, structures, scale, proportion, quantity, models, particles, bulk matter,	**Unit Vocabulary (Skills):** make, observe	

Foundations	Student Friendly Language	Access Point	Essential	Confident	Extend
Science & Engineering Practices	I can make a model to help me understand an idea by:	following/ participating in creating a model	planning and creating a model	creating a model to solve a problem	Adjusting or revising a model I have created
Disciplinary Core Ideas	I know that matter is made up of particles that are too small to see by: I know that models can help us see particles that are too small to see by:	describing what matter is describing that there are different states of matter describing examples of different kinds of matter in the world	describing what bulk matter is describing that matter (that I can see) is made up of tiny particles (that are too small to see) describing examples of models that help to observe particles that are too small to see	describing how collecting many tiny particles can help us observe how matter takes up space describing which part of the model is bulk matter, and which part of the model is particles	describing the relationship between matter and particles using the model to describe the relationship between matter and how particles move when they are collected
Crosscutting Concepts	I know that objects in the world can be very large and very small by:	describing objects in the world that are very small and very large	describing what microscopic and macroscopic is and examples of each in the world	describing what is similar and what is different between microscopic and macroscopic objects in the world	describing what scale is and how it helps us understand microscopic and macroscopic objects

***Description: can include but are not limited to written, oral, pictorial, and kinesthetic**

Student 4 – IE

Next Generation Science Standards (NGSS)		
Subject Area: Science	**Strand: Matter and Its Interactions**	**Grade: 5**
Performance Expectation: 5-PS1-1 **Students can develop a model to describe that matter is made of particles too small to be seen**	**Guiding Unit Question:** How do we know that something exists if we cannot see it?	
Unit Vocabulary (Content): properties, structures, scale, proportion, quantity, models, particles, bulk matter,	**Unit Vocabulary (Skills):** make, observe	

Foundations	Student Friendly Language	Access Point	Essential	Confident	Extend
Science & Engineering Practices	I can make a model to help me understand an idea by:	following/ participating in creating a model	planning and creating a model	creating a model to solve a problem	Adjusting or revising a model I have created
Disciplinary Core Ideas	I know that matter is made up of particles that are too small to see by: I know that models can help us see particles that are too small to see by:	describing what matter is describing that there are different states of matter describing examples of different kinds of matter in the world	describing what bulk matter is describing that matter (that I can see) is made up of tiny particles (that are too small to see) describing examples of models that help to observe particles that are too small to see	describing how collecting many tiny particles can help us observe how matter takes up space describing which part of the model is bulk matter, and which part of the model is particles	describing the relationship between matter and particles using the model to describe the relationship between matter and how particles move when they are collected
Crosscutting Concepts	I know that objects in the world can be very large and very small by:	describing objects in the world that are very small and very large	describing what microscopic and macroscopic is and examples of each in the world	describing what is similar and what is different between microscopic and macroscopic objects in the world	describing what scale is and how it helps us understand microscopic and macroscopic objects

Student 4 – with evidence
9.5/12
79%
3.2

***Description: can include but are not limited to written, oral, pictorial, and kinesthetic**

Student 5 – IE

Next Generation Science Standards (NGSS)		
Subject Area: Science	**Strand: Matter and Its Interactions**	**Grade: 5**
Performance Expectation: 5-PS1-1 **Students can develop a model to describe that matter is made of particles too small to be seen**	**Guiding Unit Question:** How do we know that something exists if we cannot see it?	
Unit Vocabulary (Content): properties, structures, scale, proportion, quantity, models, particles, bulk matter,	**Unit Vocabulary (Skills):** make, observe	

Foundations	Student Friendly Language	Access Point	Essential	Confident	Extend
Science & Engineering Practices	I can make a model to help me understand an idea by:	following/ participating in creating a model	planning and creating a model	creating a model to solve a problem	Adjusting or revising a model I have created
Disciplinary Core Ideas	I know that matter is made up of particles that are too small to see by: I know that models can help us see particles that are too small to see by:	describing what matter is describing that there are different states of matter describing examples of different kinds of matter in the world	describing what bulk matter is describing that matter (that I can see) is made up of tiny particles (that are too small to see) describing examples of models that help to observe particles that are too small to see	describing how collecting many tiny particles can help us observe how matter takes up space describing which part of the model is bulk matter, and which part of the model is particles	describing the relationship between matter and particles using the model to describe the relationship between matter and how particles move when they are collected
Crosscutting Concepts	I know that objects in the world can be very large and very small by:	describing objects in the world that are very small and very large	describing what microscopic and macroscopic is and examples of each in the world	describing what is similar and what is different between microscopic and macroscopic objects in the world	describing what scale is and how it helps us understand microscopic and macroscopic objects

Student 5 – with evidence
9/12
75%
3.0

***Description: can include but are not limited to written, oral, pictorial, and kinesthetic**

What is one useful idea?

What is one thing you want to try?

What is one thing you want to think about?

What is one thing you want to learn more about?

What is one ting you want to share with someone who is not here today?

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