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How can we inclusively plan for, teach, and assess all students in a diverse classroom?

Session 1: Determining Learning Standards using Backwards Design

Session 2: Developing asset based learning continuums

Session 3: Inclusive lesson design reflecting UDL

Session 4: Inclusive and standards based assessment

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UBD: Determining the Learning Standard

Forward Design

Standardized

Differentiated

Same for Everyone

Activity/Task

- Grade Level Goals
- Adapted Goals
- Modified Goals

Compromises the integrity of evaluation

Backward Design

Differentiated

Same for Everyone

Grade Level Goals

- Activity 1
- Activity 2
- Activity 3

Does not compromise the integrity evaluation

Standards Based

McTigue, 2010

Backwards Design Using Arizona Science Curriculum

Grade:	**Subject Area:**	**Strand/Topic:**	
Learning Standard:		**Teacher Provocation Questions:**	**Student Generated Questions**
Key Vocabulary:			

Learning Goals	**Possible Access Points** (accessible version of grade level)	**Curricular Language**	**Student Friendly Language**
Understandings			
Knowledge			
Skills			

Backwards Design Using Arizona Science Curriculum

Grade: 2	Subject Area: Science	Strand/Topic: Physical Science	
Learning Standard: Students develop an understanding of observable properties of matter and how changes in energy (heating or cooling) can affect matter or materials		**Teacher Provocation Questions: What is matter? How does energy change matter?**	**Student Generated Questions**
Key Vocabulary: matter, energy, change, heating, cooling, materials, affect, particles, move, object, force, closed system, transfer, scientists, observations, collect evidence, understand, theory, models, explain, science, solve problems, products, conversations, questions, positive, negative, gather, share, information, heat energy			

Learning Goals	Possible Access Points (accessible version of grade level)	Curricular Language	Student Friendly Language
Knowledge	• Solid, liquid, gas • Fall, push, pull	• P1: All matter in the Universe is made of very small particles • P2: Objects can affect other objects at a distance. • P3: Changing the movement of an object requires a net force to be acting on it. • P4: The total amount of energy in a closed system is always the same but can be transferred from one energy store to another during an event.	• I know that matter is made up of very tiny particles that are too small to see • I know that objects affect each other, even if they are far away from each other • I know that force changes how an object moves • I know that the amount of energy in a closed system is always the same; I know that energy can be transferred
Understandings	• Using senses, experiencing, drawing what you see	• U1: Scientists explain phenomena using evidence obtained from observations and or scientific investigations. Evidence may lead to developing models and or theories to make sense of phenomena. As new evidence is discovered, models and theories can be revised. • U2: The knowledge produced by science is used in engineering and technologies to solve problems and/or create products. • U3: Applications of science often have both positive and negative ethical, social, economic, and/or political implications.	• I understand that scientists make observations in the world and collect evidence to help them understand what is happening • I understand that evidence helps develop theories and models to explain what is happening • I understand that science is used to solve problems and create new products for the world • I understand that science can lead to many conversations and questions about how it is used in both good (positive) and bad (negative)ways
Skills	• Observe, participate, show	• 2.P1U1.1 Plan and carry out an investigation to determine that matter has mass, takes up space, and is recognized by its observable properties; use the collected evidence to develop and support an explanation. • 2.P1U1.2 Plan and carry out investigations to gather evidence to support an explanation on how heating or cooling can cause a phase change in matter. • 2.P4U1.3 Obtain, evaluate and communicate information about ways heat energy can cause change in objects or materials	• I can observe and collect evidence to learn more about matter; I can use my evidence to explain what I am learning • I can collect evidence to explain how heating and cooling matter can change it • I can gather and share information about how heat energy can change matter

Evidence of Learning: Choose your Challenge

Start Here

Go as far as you can in the time allotted

Series Guiding Question: How can we inclusively plan for, teach and assess students in a diverse classroom?

- **I understand** that students are diverse and that planning for them requires anticipating variability rather than homogeneity
- **I know** that Backwards Design is an inclusive planning framework, connected to UDL that identifies learning standards and sub standards that allows for task differentiation which will increase opportunities for students to engage, understand, and show evidence of their learning
- **I can** identify the grade level learning standards and sub standards in a curricular unit
- **I am** inclusive and believe that ALL students, regardless of their ability, can access grade level curriculum

Task: Backwards Design Unit Planning		**Time: Before the next session (Nov. 6, 2024)**	**Supports & Strategies**
I NEED to...	• Find one person to collaborate with and choose a curricular unit that you will be teaching/supporting this fall		• Choice of collaborative partner/group • Choice of curricular area to use • Choice of task challenge On Series Dashboard • Access to session handouts • Access to examples • Access to planning template
I MUST...	• Identify the learning standards/ sub standard in the unit you have chosen by looking at the curricular documents • Highlight the important words that students will need to know and use in this unit • Underline the words that could be substituted for a more student friendly option		
I CAN...	• Practice translating the learning standards/ sub standards into student friendly learning statements using the stems (I know..., I can..., I understand..., or I am...)		
I COULD...	• Develop some student friendly and provoking guiding questions that can organize the learning standard/sub standards into an inquiry		
I can TRY to...	• Identify corresponding literacy and/or numeracy standards that could be drawn into this unit		

Shelley MOORE PH.D.

2024

How can we inclusively plan for, teach, and assess all students in a diverse classroom?

Session 1: Determining Learning Standards using Backwards Design

Session 2: Developing asset based learning continuums

Session 3: Inclusive lesson design reflecting UDL

Session 4: Inclusive and standards based assessment

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Series Guiding Question:

How can we inclusively plan for, teach, and assess all students in a diverse classroom?

Session 1 goals:

- **I understand** that students are diverse and that planning for them requires anticipating variability rather than homogeneity
- **I know** that Learning Continuums are an inclusive planning strategy, connected to UDL that provides a scaffold of a learning standard and/or a sub standard that allows for choice of complexity which will increase opportunities for students to engage, understand, and show evidence of their learning
- **I can** identify the concept of a grade level learning standard and/or sub standard in a curricular unit, and add on complexity
- I can derive an accessible entry point to a grade level concept that can be accessible for any learner in a grade level classroom
- **I am** inclusive and believe that ALL students, regardless of their ability, can access grade level curriculum

How can we inclusively plan for, teach, and assess all students in a diverse classroom?

Nov. 6: Developing asset-based learning continuums

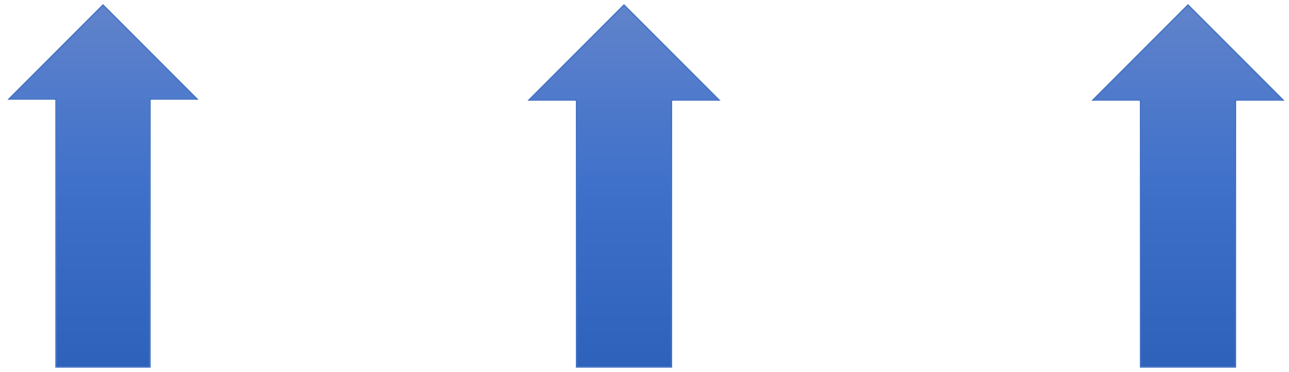
Shelley MOORE PH.D.

Asset Based Rubric

- Learning maps/ learning continuum/ learner progressions
- Task neutral/ standards based
- Same entry point/ multiple exit points
- Start from access (what is essential/conceptual), add on challenge
- Students can have a role in choosing their challenge
- Different from a traditional rubric

Rubrics vs. Learning Continuum

	deficit	deficit	Most complex description
Grade Level Learning Standard			



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

Knowledge goal: student knows the 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

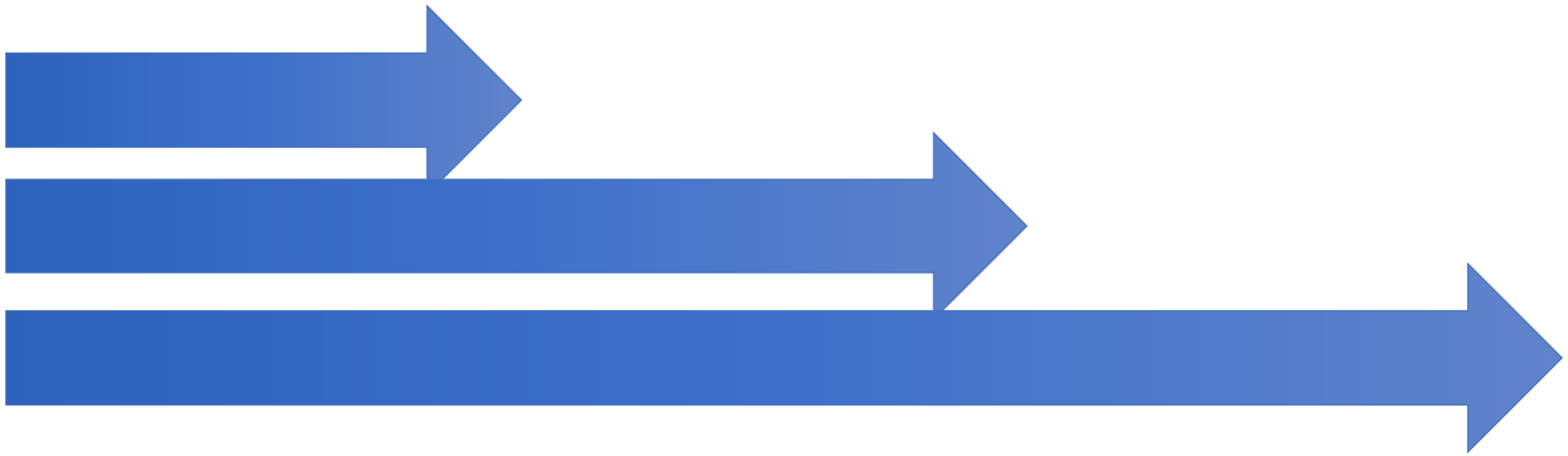
Rubric: Science K

Knowledge goal: student knows the 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 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

Rubrics vs. Learning Continuum

	Essential	More complex	More complex
Grade Level Learning Standard			



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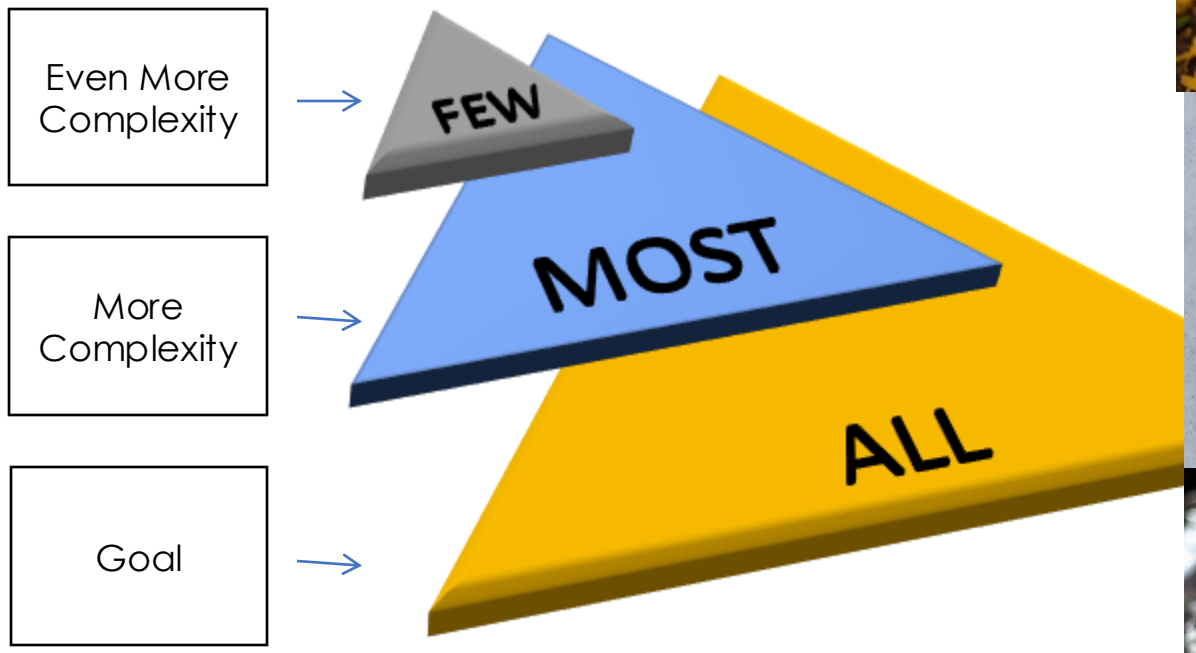
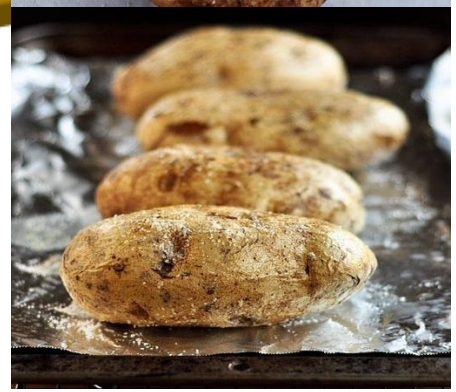
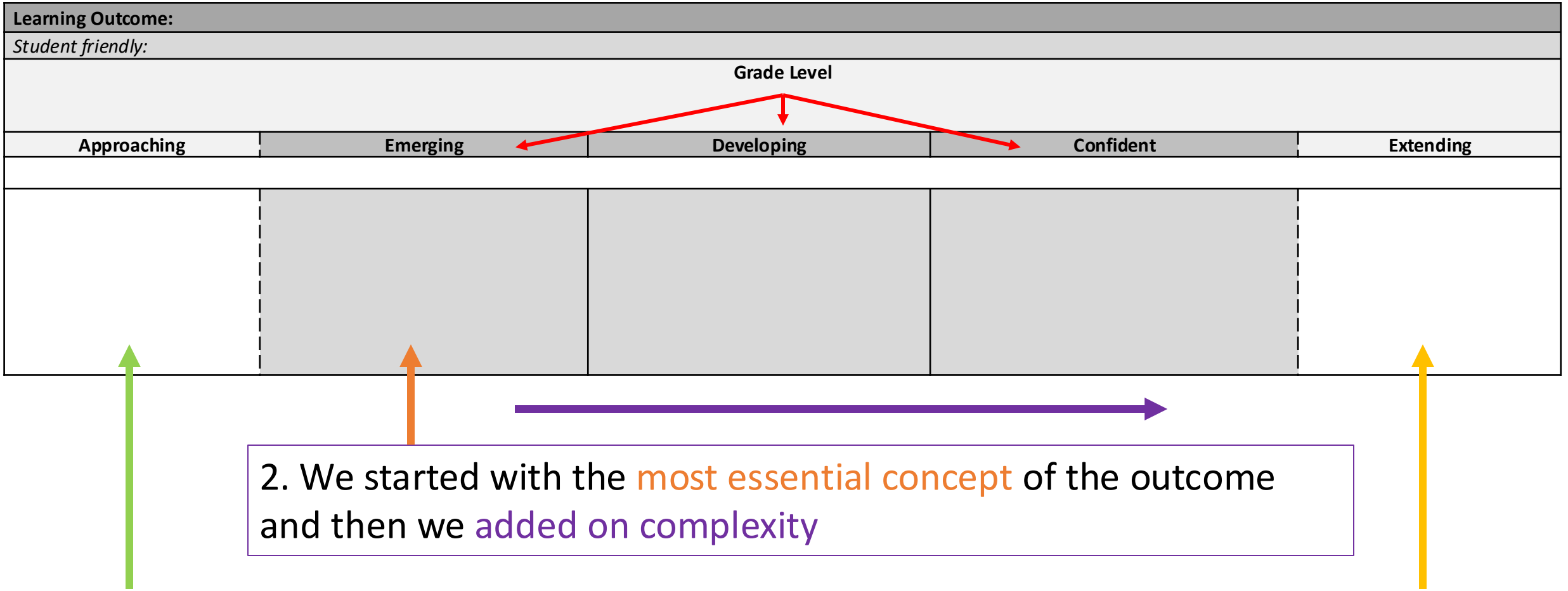
Planning Pyramid





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

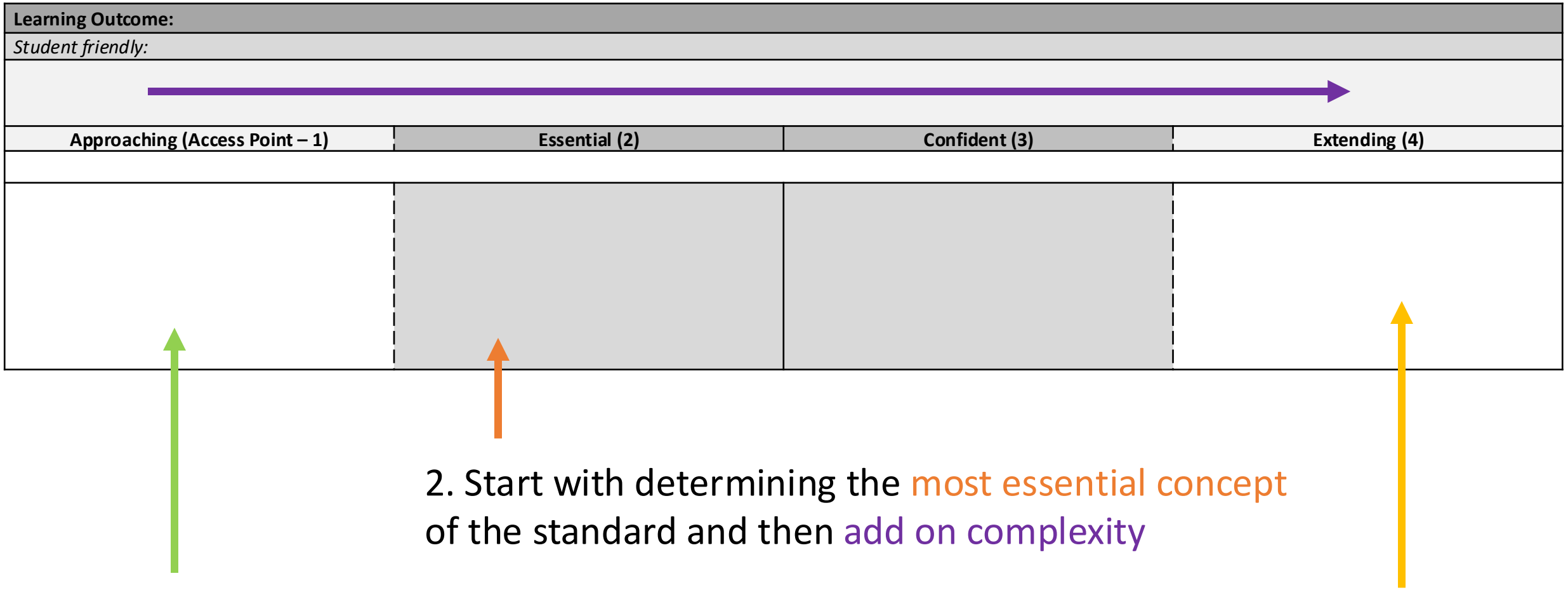
3. We extended the grade level scaffold to include an access point and challenge point

Additive Learning Continuum: Science

Knowledge goal: student knows the properties of familiar materials				
Student friendly: I know how to interact with objects and materials by using my senses by:				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
→				
• Showing (or 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

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

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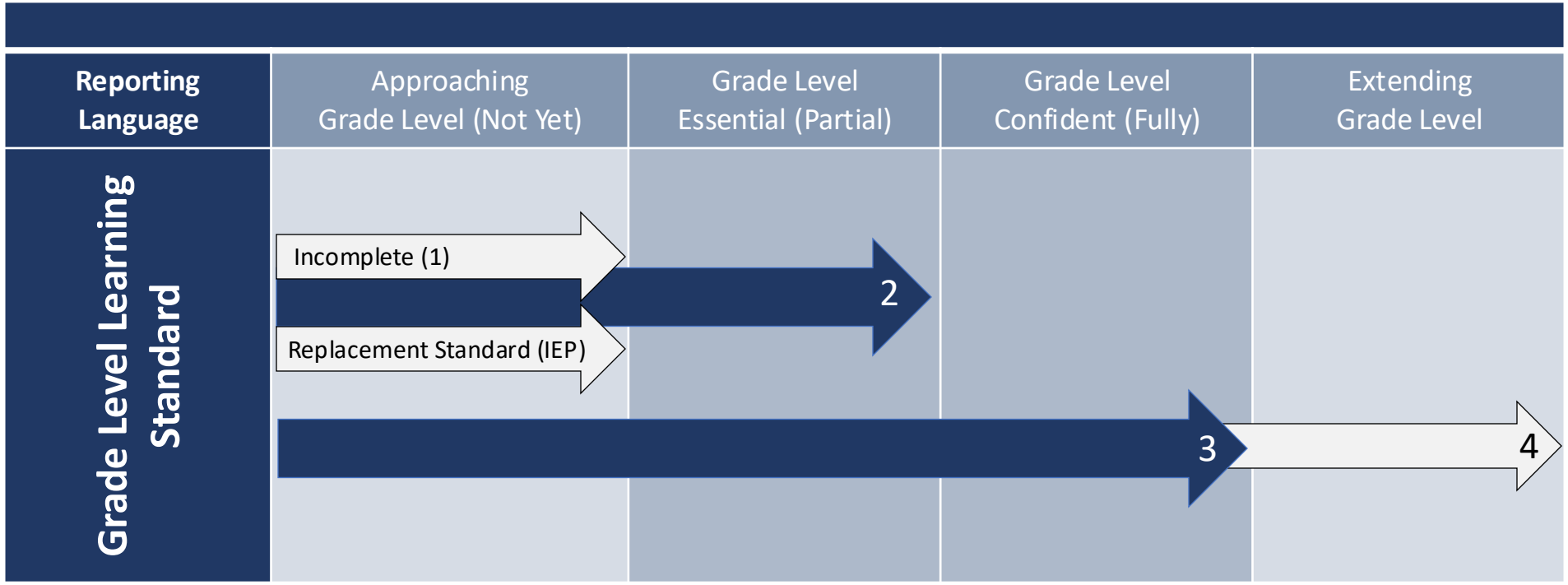
An Additive Continuum of Proficiency



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Backwards Design Using Arizona Science Curriculum

Grade: 2	**Subject Area: Science**	**Strand/Topic: Physical Science**	
Learning Standard: Students develop an understanding of observable properties of matter and how changes in energy (heating or cooling) can affect matter or materials		**Teacher Provocation Questions: What is matter? How does energy change matter?**	**Student Generated Questions**
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Learning Goals	**Possible Access Points** (accessible version of grade level)	**Curricular Language**	**Student Friendly Language**
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Additive Learning Continuum: Arizona Science 2

Learning Standard: Students develop an understanding of observable properties of matter and how changes in energy (heating or cooling) can affect matter or materials			
GUIDING QUESTION: **What is matter? How does energy change matter?**			
Approaching	**Essential**	**Confident**	**Extending**
• I know that everything is made of matter • I know that states of matter are solid, liquid, gas • I know that fall, push and pull are examples of forces	• I know that matter is made up of very tiny particles that are too small to see • I know that objects affect each other, even if they are far away from each other	• I know that force changes how an object moves • I know that the amount of energy in a closed system is always the same; I know that energy can be transferred	• I know how force influences an objects motions • I know why the total amount of energy is the same in a closed system
• I understand that using my senses can help me observe the world around me	• I understand that scientists make observations in the world and collect evidence to help them understand what is happening • I understand that evidence helps develop theories and models to explain what is happening	• I understand that science is used to solve problems and create new products for the world • I understand that science can lead to many conversations and questions about how it is used in both good (positive) and bad (negative)ways	• I understand that the scientific method is a framework for solving challenges in the world • I understand that science creates a range of discussion which requires critical reflection in how it influences decision making and policies
• I can observe, participate in activities to learn more about matter • I can show my thinking using evidence	• I can observe and collect evidence to learn more about matter; I can use my evidence to explain what I am learning • I can collect evidence to explain how heating and cooling matter can change matter	• I can gather and share information about how heat energy can change matter	• I can use molecular structures to explain how heat energy changes matter

Evidence of Learning: Choose your Challenge

Start Here

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Task: Backwards Design Unit Planning		**Time: Before the next session (Nov. 6, 2024)**	**Supports & Strategies**
I NEED to…	• Identify the learning standards/ sub standard in the unit you have chosen by looking at the curricular documents		• Choice of collaborative partner/group • Choice of curricular area to use • Choice of task challenge On Series Dashboard • Access to session handouts • Access to examples • Access to planning template
I MUST…	• Determine the most important and essential concept or ides in each standard • Add on another level of complexity		
I CAN…	• Extend for access • Extend for challenge		
I COULD…	• Practice translating the learning standards/ sub standards into student friendly learning statements using the stems (I know…, I can…, I understand…, or I am…)		
I can TRY to…	• Try to create another learning standard		

Shelley MOORE PH.D.

2024

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