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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

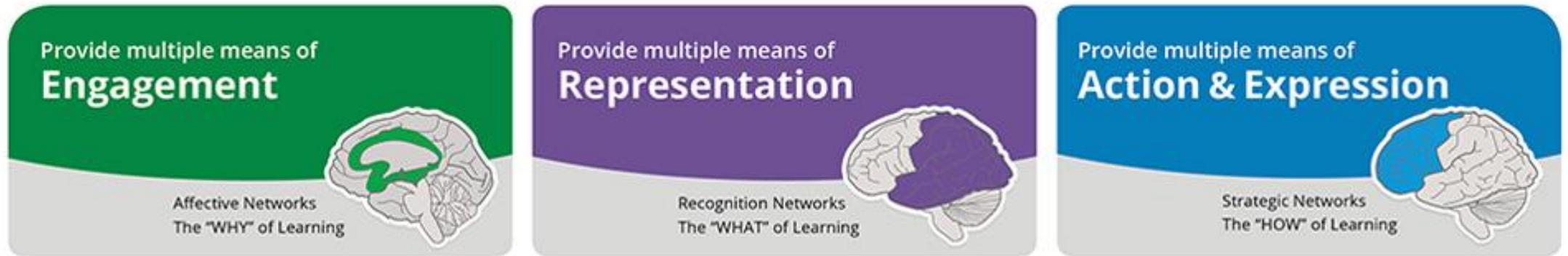
Session 3: Inclusive lesson design reflecting UDL

Session 4: Inclusive and standards based assessment

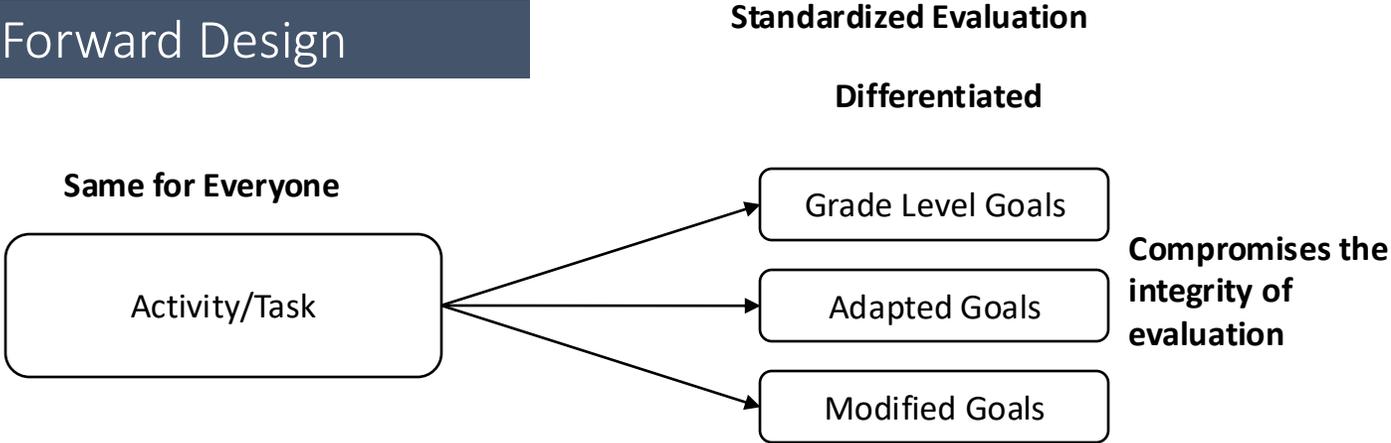
Thinking back

What are you trying?
What are you noticing?

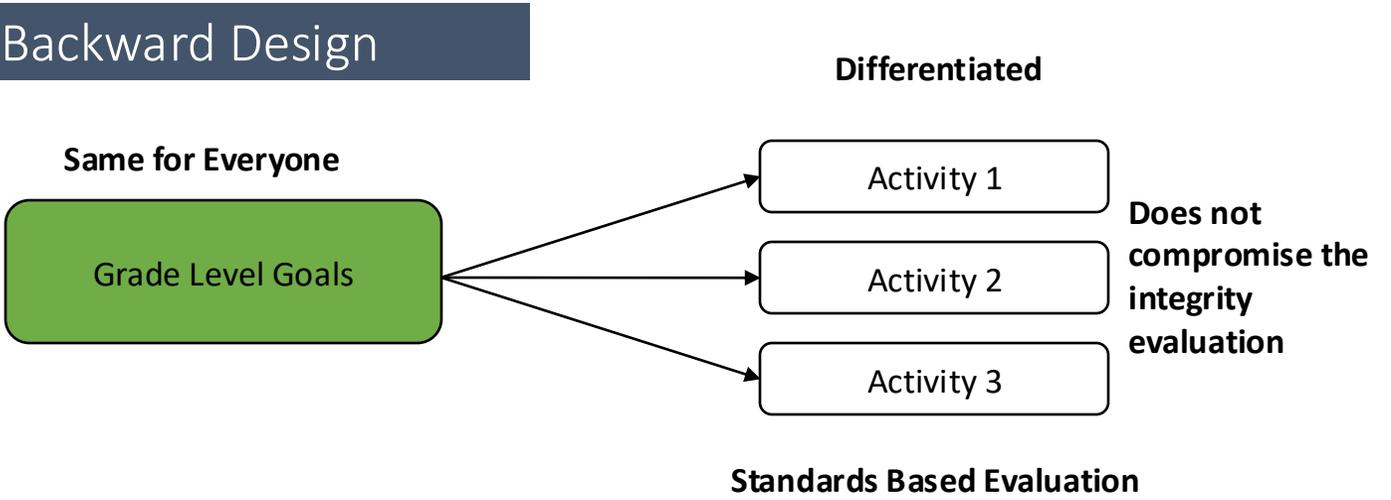
Universal Design for Learning: The Ramp for Learning



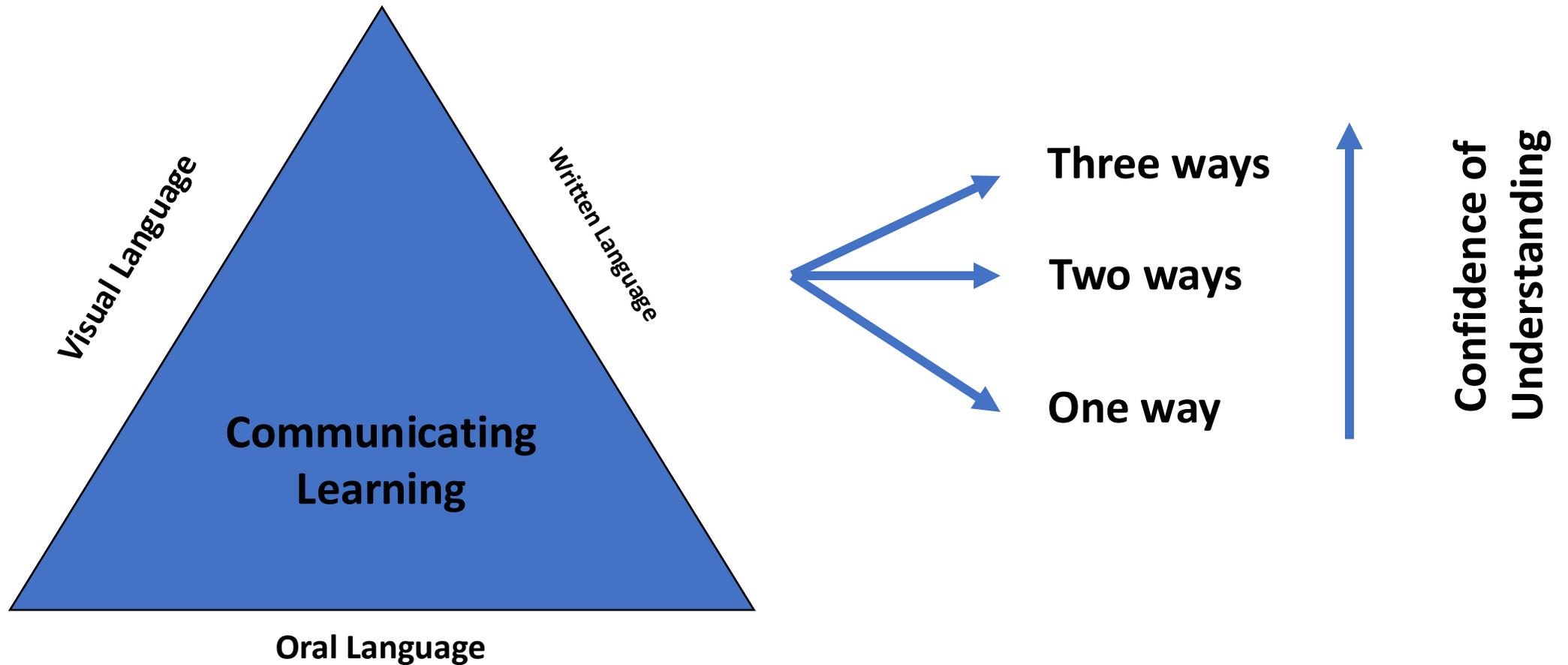
Forward Design



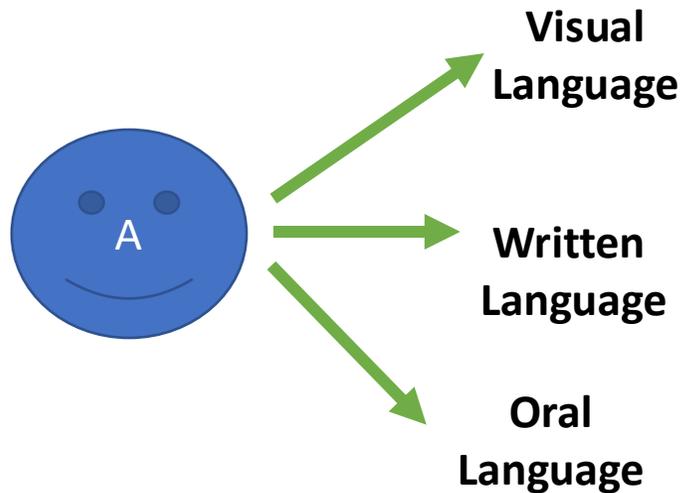
Backward Design



How do students show what they know?



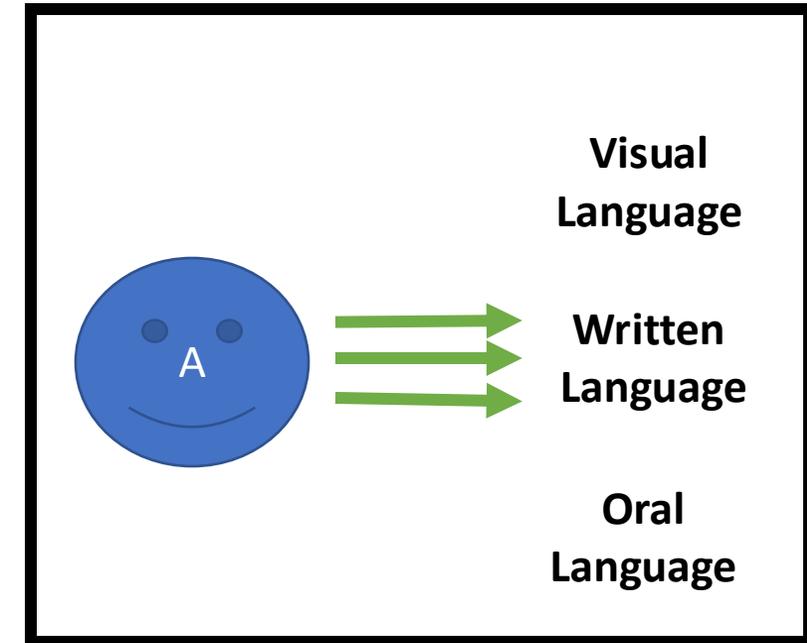
All Languages (in literacy) are Treated Equal!



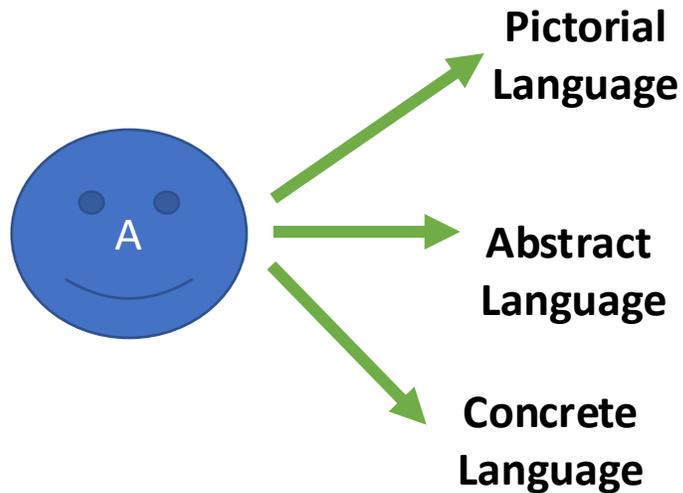
The **MORE WAYS** students can demonstrate learning, the more confident we are of meeting a goal

Instead of

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



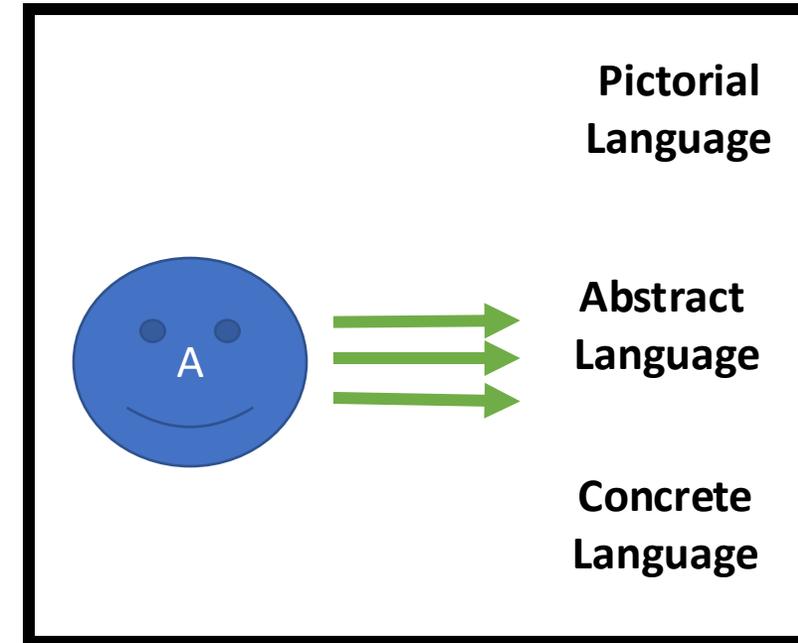
All Languages (in numeracy) are Treated Equal!



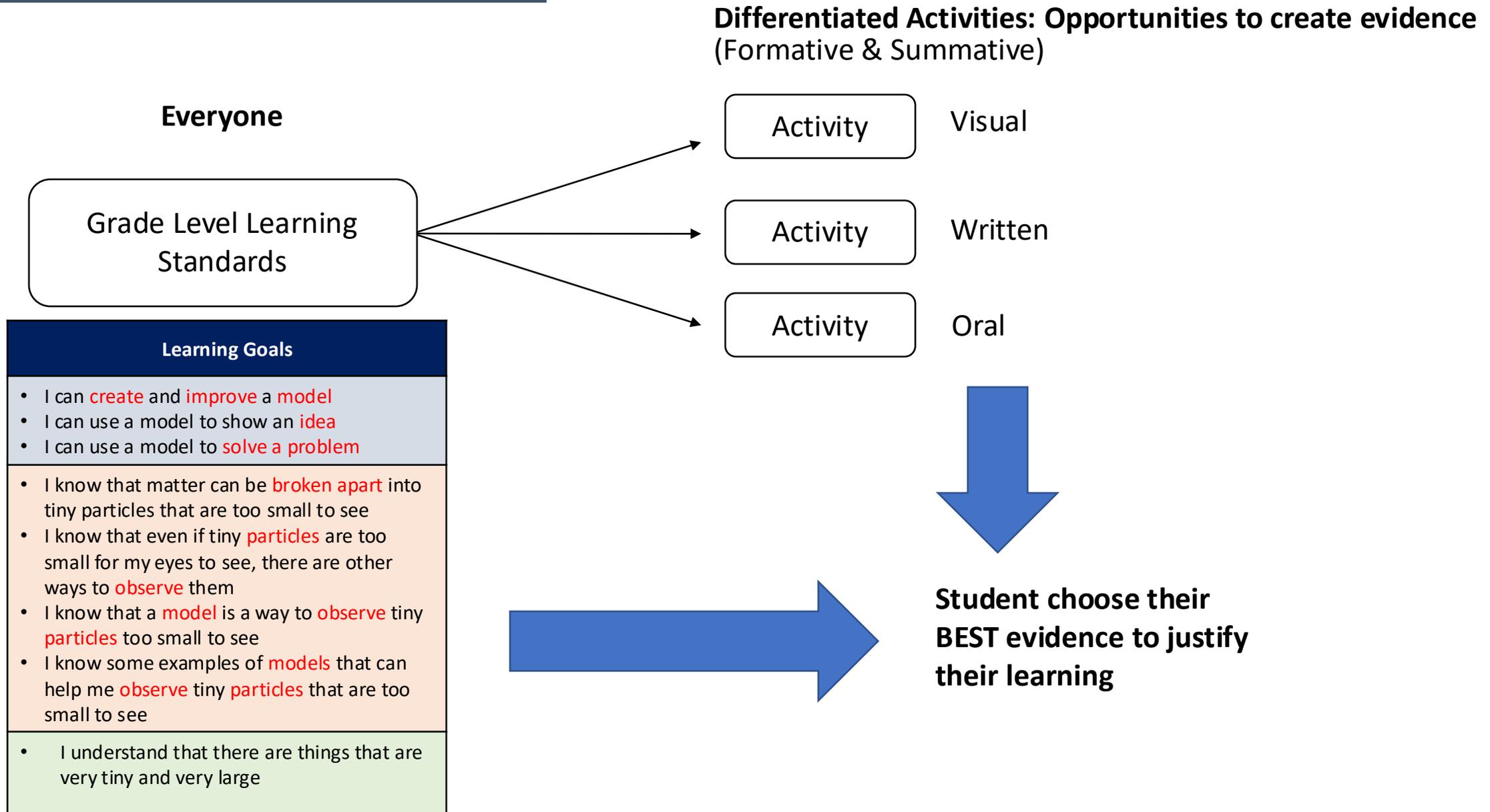
The **MORE WAYS** students can demonstrate learning, the more confident we are of meeting a goal

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Backward Design



Backward Design

Everyone

Grade Level Learning Standards

Learning Goals

- I can share what happened by using my senses (Science)
 - I can create art by playing and using different materials by myself and with others (Art)
 - I can talk about what I am learning (Science)
 - I can solve problems by using materials, shapes and objects (Math)
-
- I know how to interact with objects and materials by using my senses by (Science)
 - I know "how many" by using pictures and objects (Math)
 - I know how to use materials and objects to create art (Art)
-
- I can communicate

Differentiated Activities: Opportunities to create evidence
(Formative & Summative)

Activity

Visual (examining rocks, brick and stick house, science center)

Activity

Written (examining rocks, book – two rock sisters, cedar art drawing and labelling)

Activity

Oral (examining rocks, brick and stick house, science center)



Student choose their BEST evidence to justify their learning



| 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 |

| | | Summative Task Options: The Wonderful World of Tiny Particles! | | | |
|---|--|---|--|--|---|
| Foundations | Student Friendly Language | Visual | Written | Speaking | Combination |
| Science & Engineering Practices (skill) | I can make a model to help me understand an idea by: | Build a 3D model Use various craft materials such as clay, paper, or recycled objects to build a model that shows your understanding of invisible particles | Create a written analogy Paint a picture with world to explain your understanding of invisible particles | Put on a performance Use role play, dance, or skits to bring your understanding of invisible particles to life | Combine 2 or more of the previous options Mix and match ideas to show your understanding of invisible particles |
| Disciplinary Core Ideas (knowledge) | 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: | | | | |
| Crosscutting Concepts (understanding) | I understand that objects in the world can be very large and very small by: | | | | |



Possible Access Points

Grade Level Indicators of Success

Possible Challenge Points

How can we use objects to compare and measure?

- Student know that there are objects that are different sizes in my life
- Students know that size describes how big or small something is
- Students know the difference between words, pictures
- Students know the letters in their name/ first letters and sounds of familiar names and words
- Students know the difference between reading, writing and speaking

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

- Students know standard units of measurement
- Students know more complex language features, structures, and conventions including print awareness

- Students can show “more” or “less” when estimating familiar items
- Students can visualize and share their thinking about math concepts by using familiar and concrete objects and materials
- Students can attend to and participate in shared numeracy activities
- Students can attend to participate in shared literacy activities

Math (K) Curricular Competency

- Students can reason and analyze by estimating reasonably
- Students can understand and solve by visualizing to explore mathematical concepts
- Students can communicate and represent by representing mathematical ideas in concrete, pictorial and symbolic forms
- Students can connect and reflect by connecting mathematical concepts to each other and to other areas and personal interests

- Students can justify why an estimation is reasonable
- Student can visualize to explore more complex mathematical concepts
- Students can communicate mathematical ideas in any way and with more complex mathematical concepts
- Students can connect mathematical ideas to events in the world
- Students can explore more complex print, oral and visual text

ELA (K) Curricular Competency

- Students can comprehend and connect by exploring foundational concepts of print, oral and visual texts



How can we use objects to compare and measure?

Possible Access Points

- I know that there are **objects** that are different **sizes** in my life
- I know that **size** describes how **big** or **small** something is
- I know the difference between **words, pictures**
- I know the **letters** in my **name/ first letters** and **sounds** of familiar **names** and **words**
- I know the difference between **reading, writing** and **speaking**

- I can show “**more**” or “**less**” when **estimating** familiar items
- I can share my thinking about math by using **objects** and **materials**
- I can watch and play in **math** activities with my friends
- I can watch and play in **language arts** activities with my friends

Grade Level Indicators of Success

Math (K) Content

- I know that I can **measure** two **objects** by **comparing** them

ELA Content

I know that I can understand **language** by

- knowing the **names** of **letters** and **sounds**
- making **letters** in different ways
- knowing how **reading, writing,** and **speaking** are connected

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 in **math** to interesting things in my life and the world

ELA (K) Curricular Competency

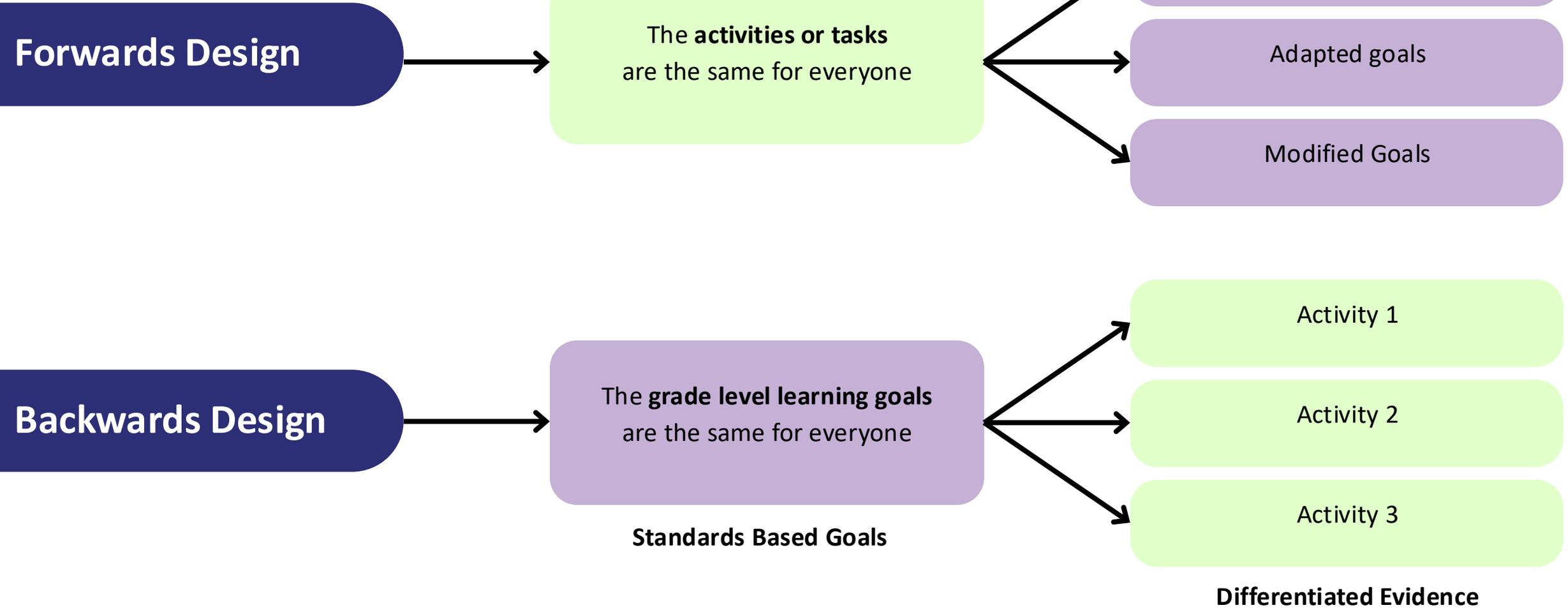
- I can understand different kinds of **text** by **exploring** it

Possible Challenge Points

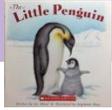
- I know **standard units** of **measurement**
- I know how **text features** and **text structures** can help me understand **text**

- I can **justify** my **estimation**
- I can **visualize** more complex mathematical concepts
- I can communicate mathematical ideas in any way
- I can connect mathematical ideas to events in the world
- I can explore more complex **print, oral** and **visual text**

Understanding by Design



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



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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
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ELA (K) Curricular Competency

- I can understand different kinds of text by exploring it

Learning
Activities and Tasks

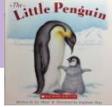
Differentiation of Evidence

Viewing and
showing

Listening and
speaking

Writing and
decoding

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



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- I can understand different kinds of text by exploring it

Learning Activities and Tasks

Anchor Text: Can You See Me?

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

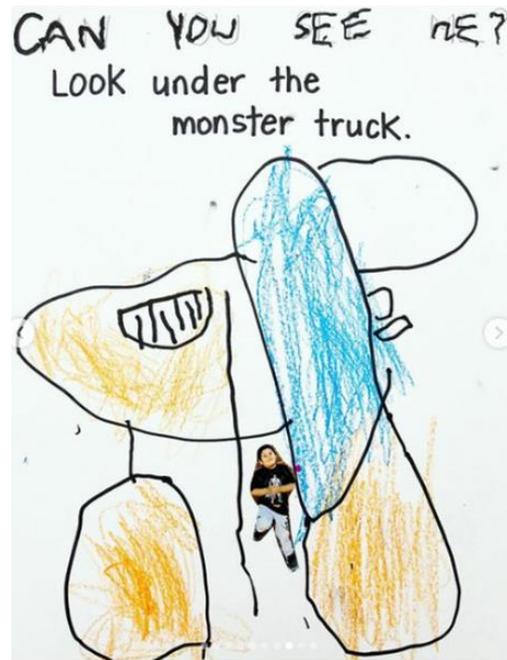
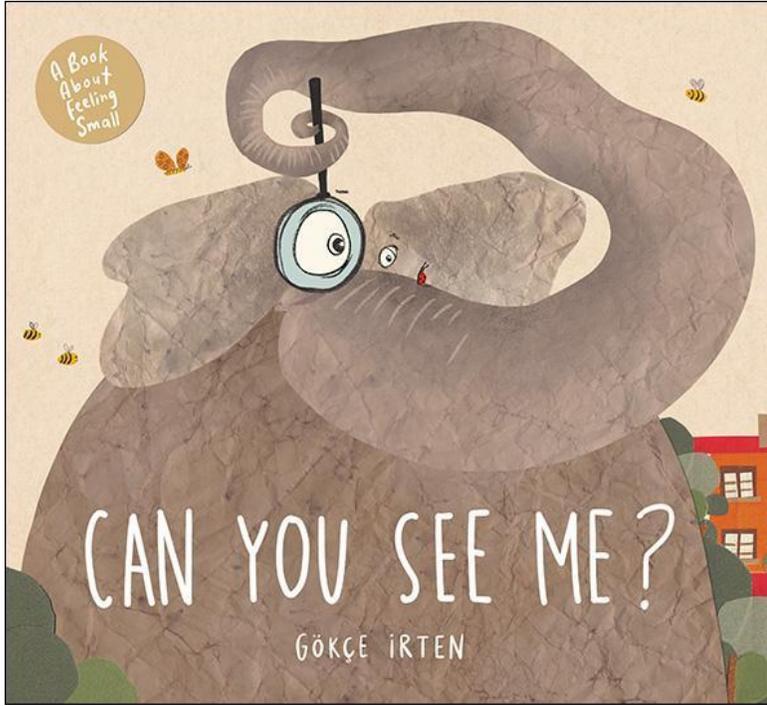
Differentiation of Evidence

viewing and showing

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writing and decoding





Project: Can you see me?

viewing and showing

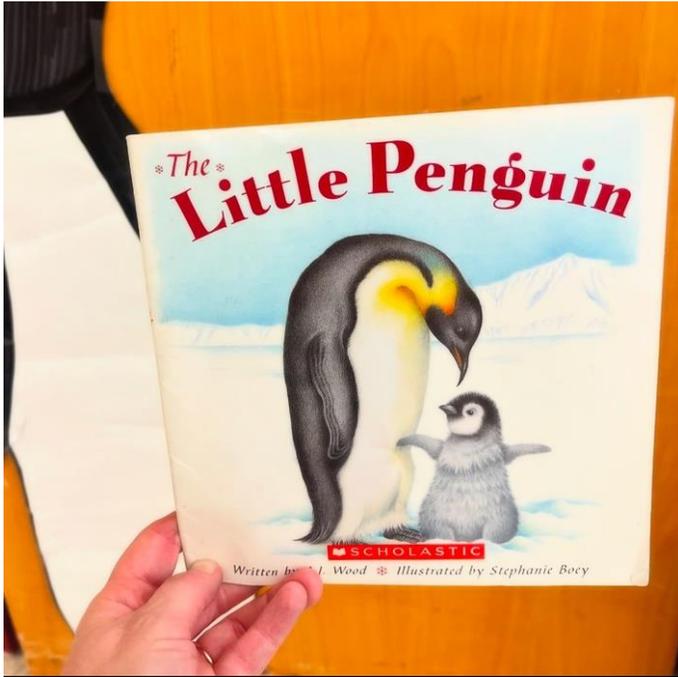


Listening and speaking



writing and decoding





Activity: What kind of box?

viewing and showing

Listening and speaking

writing and decoding



Dear Shelley,
Here is what I discovered:

A SMALL box can hold _____ child.

A MEDIUM box can hold _____ children.

A LARGE box can hold _____ children.

I think you should use a _____ box to ship the penguins.

ANOTHER TIP? _____

FROM _____

Dear Kindergarten,

Hello! I am a zoologist named Shelley and I need to ship 6 emperor penguins to a new zoo.

I heard you are BOXITECTS and ARCHITECTS and I thought you would be perfect to gather some information from.

I need you to do an experiment for me.

I heard that an emperor penguin is about the size of a kindergarten child. But I have no idea how big of a container I might need in order to send our 6 emperor penguins!

Can you experiment and explore with some boxes to ESTIMATE what size box I might need? If you could send some pictures and drawings that would be great!

Thank you!
Sincerely,
Shelley



How can we use objects to compare and measure?

Possible Access Points

- Student know that there are objects that are different sizes in my life
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- Students can show “more” or “less” when estimating familiar items
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ELA (K) Curricular Competency

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Possible Challenge Points

- Students know standard units of measurement
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- Students can justify why an estimation is reasonable
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Activity:

Content Learning Outcomes

Science: properties of familiar materials

Kid Friendly: I know how to **interact** with objects and materials by using my **senses**

Curricular Competency Learning Outcomes

Science: Planning and Conducting: making exploratory observations using senses

Kid Friendly: I can share what happens by using my senses

Evidence: drawings (product), photos (observations)

Unit Guiding Questions

How do I interact with different materials and objects?

How can I describe different materials and objects?

How can I be curious about, learn, and play using different materials and objects?

Learning Continuum: Science Content

Science (K) Content Goal: Properties of familiar materials

Student friendly: I know how to interact with objects and materials by using my senses

| Approaching | Emerging | Developing | Confident | Extending |
|---|--|---|--|---|
| <p>Showing (or matching) that I know what rocks, fabric, soil, wood, sand, plastic, paper, sponges, metal</p> | <p>Using colour & texture to describe objects and materials</p> <p>Describing rocks, fabric and soil</p> <p>Describing roots, bark, trunk and leaves</p> | <p>Using hardness and flexibility to describe objects and materials</p> <p>Describing wood, sand, plastic</p> | <p>Using absorbency to describe objects and materials</p> <p>Describing paper, sponges</p> <p>Describing berries (frozen), dyed fabric</p> | <p>Using lustre to describe objects and materials</p> <p>Describing metals</p> <p>Describing bones, fur</p> |

Unit Guiding Questions

How do I interact with different materials and objects?

How can I describe different materials and objects?

How can I be curious about, learn, and play using different materials and objects?

Learning Continuum: Science Content

Science (K) Curricular Competency Goal: Planning and conducting: making exploratory observations using senses

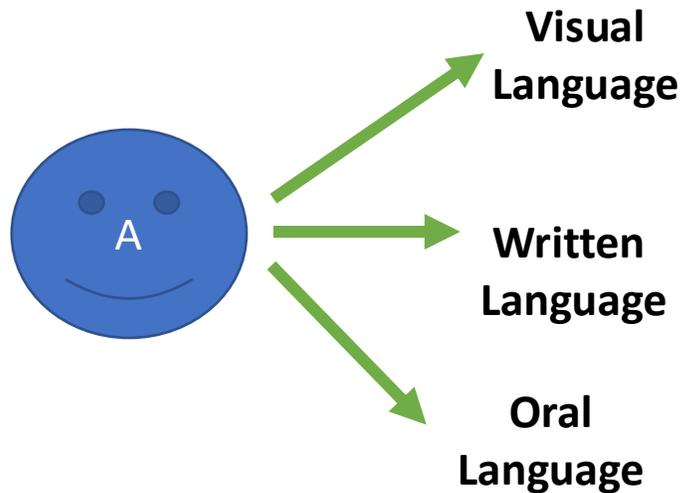
Student friendly: I can share what happens by using my senses

| Approaching | Emerging | Developing | Confident | Extending |
|--|---|---|---|--|
| I can look at different objects and materials I can play with different objects and materials | I can describe objects and materials based on what I see and feel | I can describe how objects and materials move | I can describe how different objects and materials interact with each other | I can explain why materials can effect the movement of an object |

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. | <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • 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 |

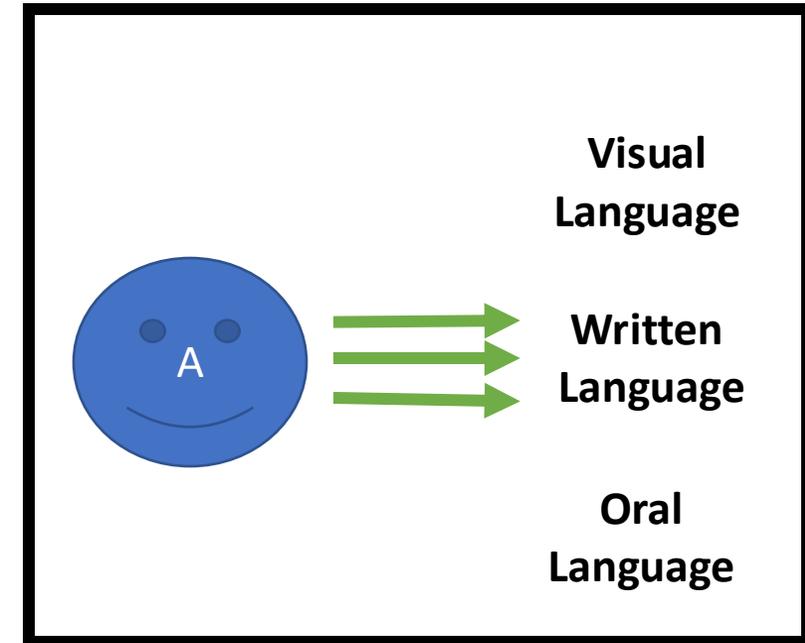
All Languages (in literacy) are Treated Equal!



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



Standardized vs. Standards Based Grading

Standardized vs. Standards Based Grading

Everyone is evaluated on the same **tasks**

Everyone is evaluated on the same **goals**

Standardized vs. Standards Based Grading

Everyone is evaluated on the same **tasks**



| Standardized Grade Book | | | | |
|-------------------------|----------|--------|--------|-----------|
| | Homework | Quiz 1 | Quiz 2 | Unit Test |
| Katie | 90% | 86% | 82% | 80% |
| Jamal | 60% | 75% | 88% | 70% |
| Sarah | 10% | 90% | 98% | 100% |
| Jessie | 100% | 50% | 60% | 54% |
| Javier | 75% | 30% | 78% | 80% |

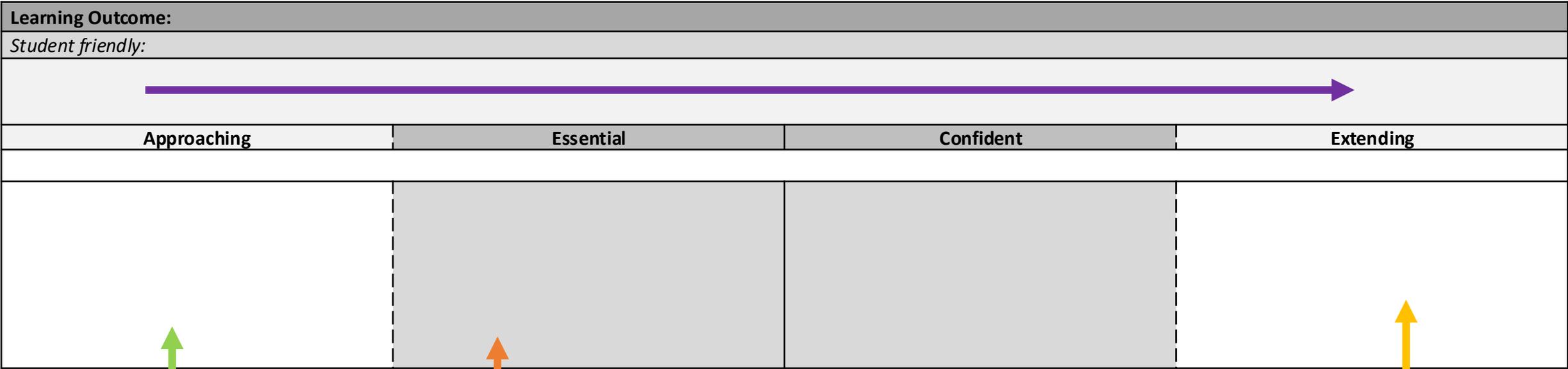
Everyone is evaluated on the same **goals**



| Standards-Based Grade Book | | | |
|----------------------------|--|-------------------------|-----------------------|
| | 5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen | | |
| | Science and Engineering Practices | Disciplinary Core Ideas | Crosscutting Concepts |
| Katie | 4 | 2 | 2 |
| Jamal | 2 | 4 | 2 |
| Sarah | 3 | 3 | 4 |
| Jessie | 2 | 2 | 2 |
| Javier | 2 | 3 | 3 |

Learning Continuums

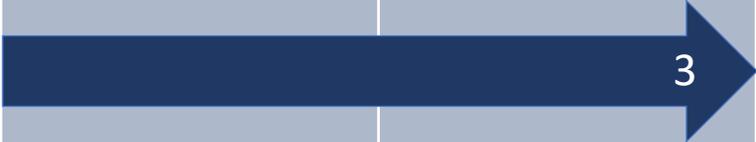
1. Choose a Learning Standard and translate it into student friendly language



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**

An Additive Continuum of Proficiency

| | Approaching Grade Level | Grade Level Developing | Grade Level Confident | Extending Grade Level |
|-------------------------------|--|--|---|--|
| Reporting Language | (Approaching) | Emerging | Developing | Extending |
| Grade Level Learning Standard |  Insufficient Evidence (IE) OR IEP Replacement Goal |  |  |  |
| | | | | |
| | | | | |
| | | | | |

Standards Based Grade Book

| Learning Standard/ Performance Expectation | | | | | | | | | | | | | Evaluation | | | | |
|--|------------------------------|------------------------|------------|-----------|------------------------------|------------------------|------------|-----------|------------------------------|------------------------|------------|-----------|------------|--------|---|--------------|---------|
| | | | | | | | | | | | | | Total | Out of | % | Letter Grade | 4-Point |
| 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 | 3 | 4 | IE/IEP | 2 | 3 | 4 | IE/IEP | 2 | 3 | 4 | | | | | |
| Student 1 (IEP) | | | | | | | | | | | | | | | | | |
| Student 2 | | | | | | | | | | | | | | | | | |
| Student 3 | | | | | | | | | | | | | | | | | |
| Student 4 | | | | | | | | | | | | | | | | | |
| Student 5 | | | | | | | | | | | | | | | | | |
| Student 6 | | | | | | | | | | | | | | | | | |

Backwards Design Planning

| | | |
|---|---|---|
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| 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. | <ul style="list-style-type: none"> • 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 |
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| 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 | | | | Total | Out of | % | Letter Grade | 4-Point |
| Possible Evidence of Learning | 3D Model, Written Analogy, Performance, Quiz Q#2, Model Building Experiment, lab report | | | | 3D Model, Written Analogy, Performance, Quiz Q#1,4,5, Graphic Organizer #1, lab report | | | | 3D Model, Written Analogy, Performance, Quiz Q#3,6,7, Class Discussion Reflection | | | | | | | | |
| 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 | 3 | 4 | IE/IEP | 2 | 3 | 4 | IE/IEP | 2 | 3 | 4 | | 12 | | | |
| Student 1 (IEP) | • | | | | • | | | | • | • | | | 3 | 3* | 100% | A* | 4* |
| Student 2 | • | • | | | • | • | | | • | • | | | 6 | 12 | 50% | D | 2 |
| 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 |
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| 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 – 50%

| 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 |
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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 |
|--|--|--|--|--|--|
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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 | |



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***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 |
|--|--|--|--|--|--|
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Student 4 – with evidence

9/12
75%
3.0

***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 |

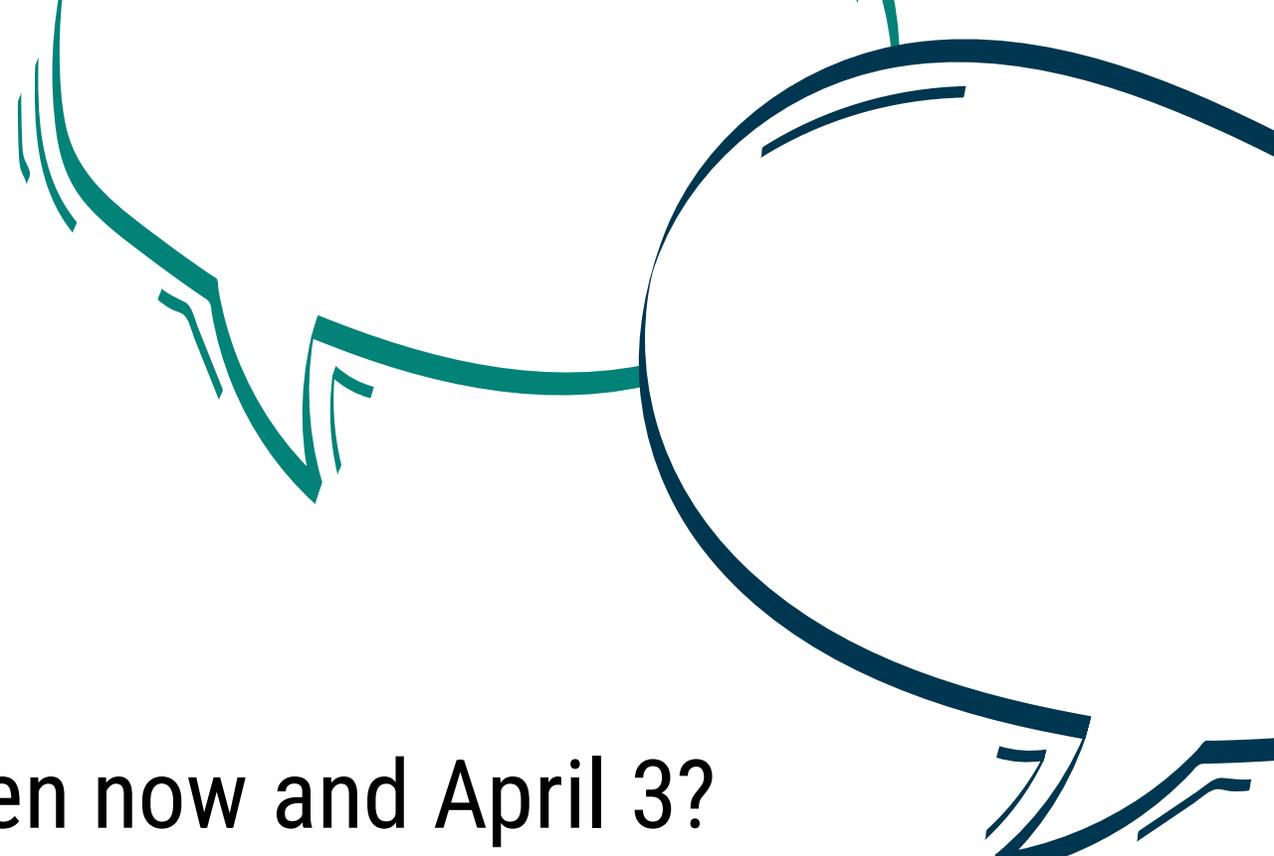
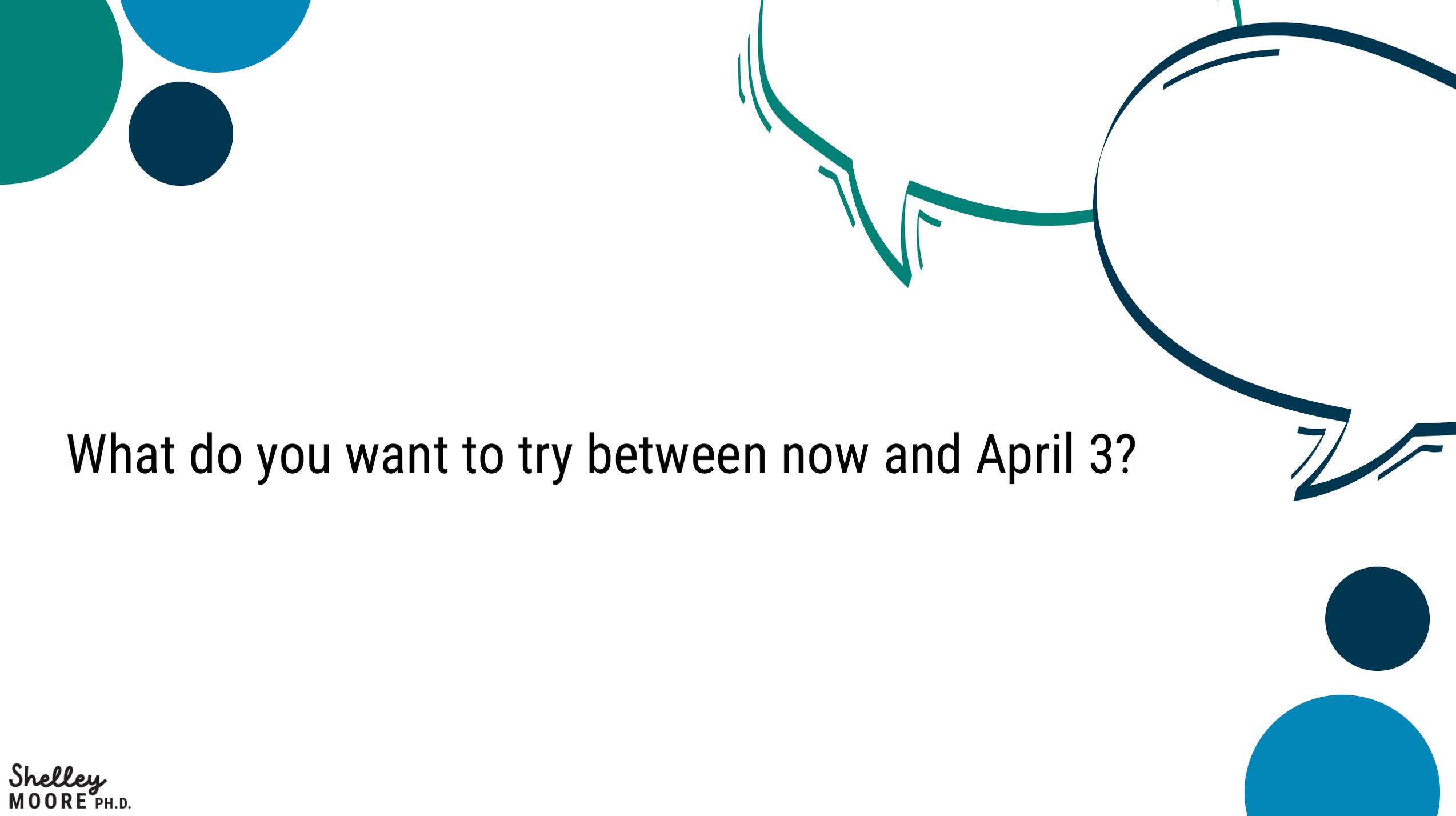


| Foundations | Student Friendly Language | Access Point | Essential | Confident | Extend |
|--|--|--|--|--|--|
| Science & Engineering Practices | I can make a model to help me understand an idea by: | following/ participating in creating a model | planning and creating a model | creating a model to 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 |
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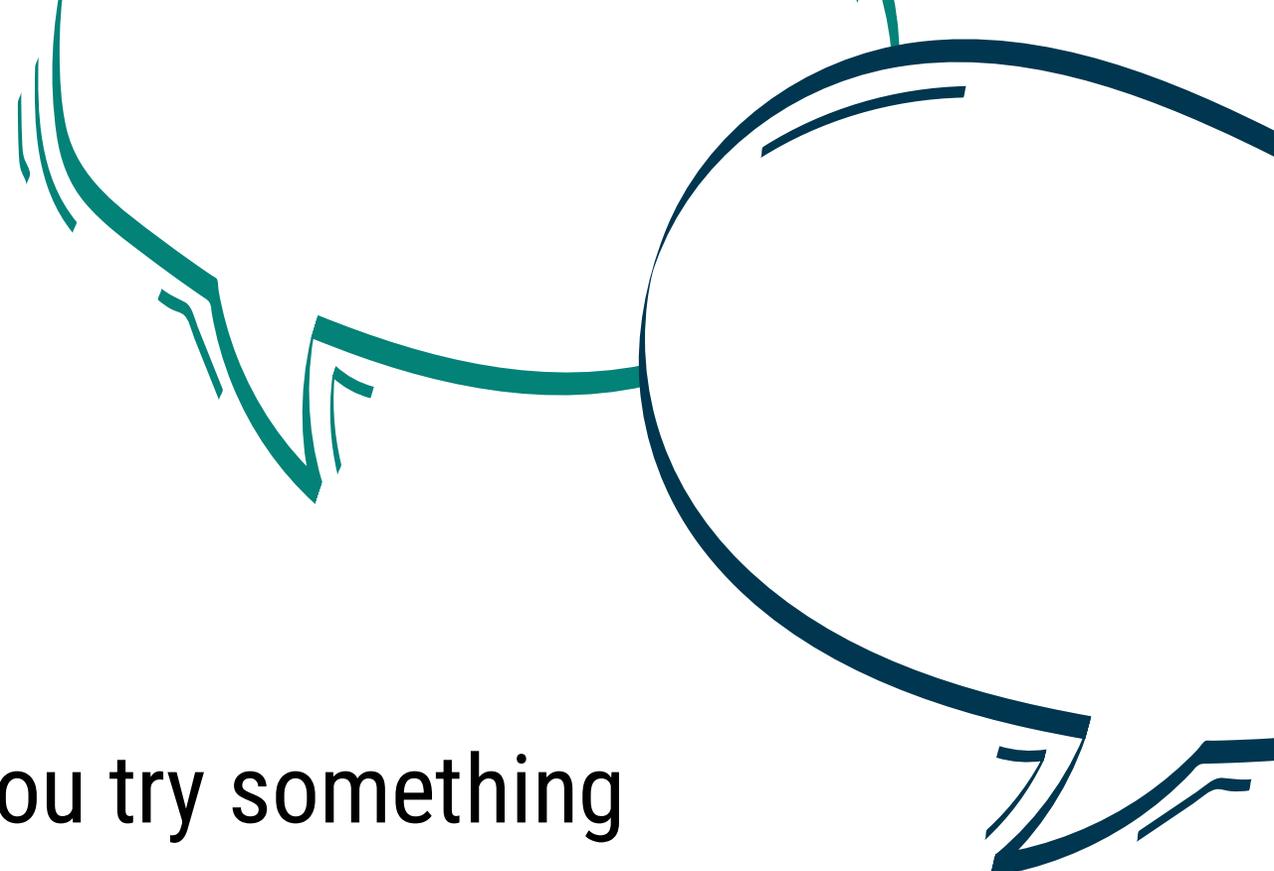
Student 5 – with evidence

9/12
75%
3.0

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



What do you want to try between now and April 3?



Homework

- Try something new!
- Notice what happens when you try something new? (in yourself, in your students)
- Bring back something to share (a story, an example, student evidence etc.)

Shelley
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