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f Dr. Shelley Moore

Welcome!

Our Plan Together

November 4, 2024: Kick Off - What is Inclusion?

November 4, 2024 : Session 1 - Getting to know students from a strength-based perspective

December 11, 2024: Session 2 - Making decisions to reduce barriers for ALL

January 15, 2024: Session 3 – Designing needs-based classroom support plans

February 5, 2024: Session 4 - Curricular Design Strategies: Backwards Design

February 26, 2024: Session 5 - Curricular Design Strategies: Lesson Design through a UDL lens

February 26, 2024: Session 6 - Inclusive Assessment

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Staying Connected

- What are you trying?
- What are you noticing?
- What are your questions?

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

CURRICULUM &
ASSESSMENT
DESIGN

Student choice of challenge
Adjustable Curriculum

Student choice of evidence
Adjustable Assessment

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

NEEDS BASED
DESIGN

Adjustable Supports & Strategies

Student choice of tools and actions

INSTRUCTIONAL
DESIGN

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

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

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2023

Grade:	Course/Subject Area:	Planning Team:	
Context for Learning:		**Unit Guiding Question(s):** **Teacher provocations:**	**Inquiry Guided Question(s):** **Student generated questions:**
Key Vocabulary:			
	Learning Goals **Curricular Language**		**Learning Goals** **Student Friendly Language**
What do students need to <u>understand</u>?			
What do students need to <u>know</u>?			
What do students need to <u>do</u>?			
Who do student need to <u>be</u>?			

Backwards Design Planning

Grade:	Subject Area: Science	Strand/Topic:	
Learning Standard:		Unit Guiding Question(s): Teacher provocations:	Student generated:
Key Vocabulary:			

Learning Goals	Curricular Language What do Students need to Know and Do?	Student Friendly Language
Science and Engineering Practices		
Disciplinary Core Ideas		
Crosscutting Concepts		

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 and/or solve a problem.	I understand that structures are made of many different components that are connected and have specific functions.

Additive and Asset-Based Learning Continuums

- Differentiated curriculum
- Shifts from "benchmark" to "window" of proficiency
- Task Neutral
- Same entry point for all/ multiple exit points
- Start from access, add on challenge
- Different from a 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.

Inclusive Education: It's not more work, it's different work!

Rubrics vs. Learning Continuum

	Essential	More complex	More complex
Grade Level Learning Standard			
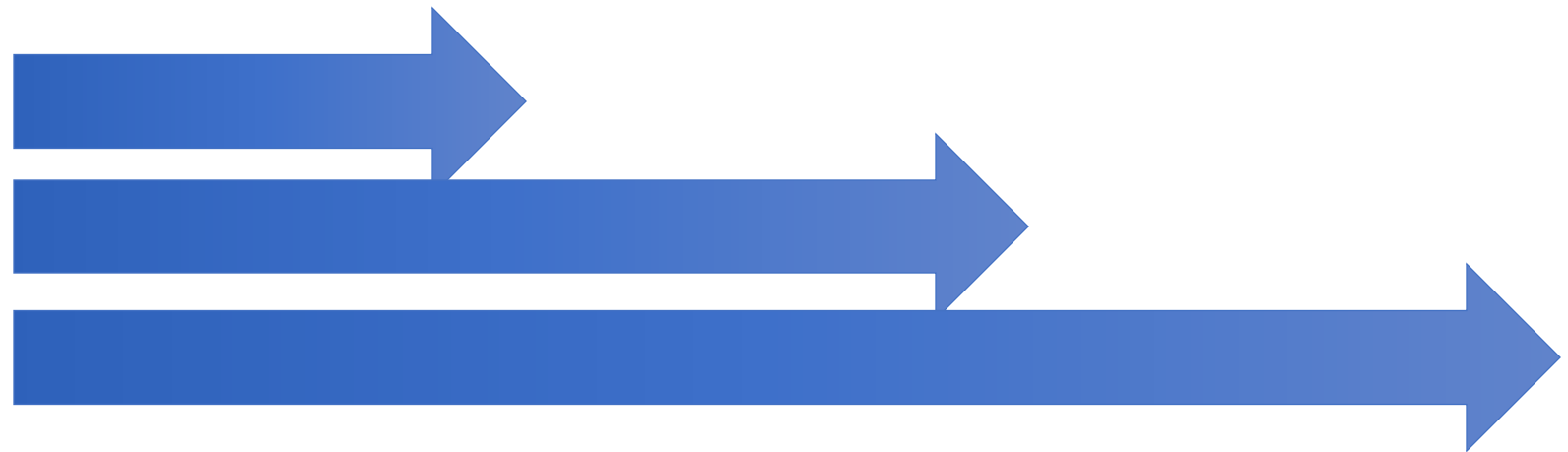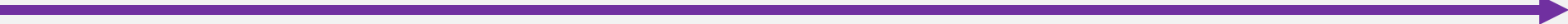
The Planning Pyramid: Differentiated Curriculum

Even More Complexity → FEW

More Complexity → MOST

Essential Concept → ALL
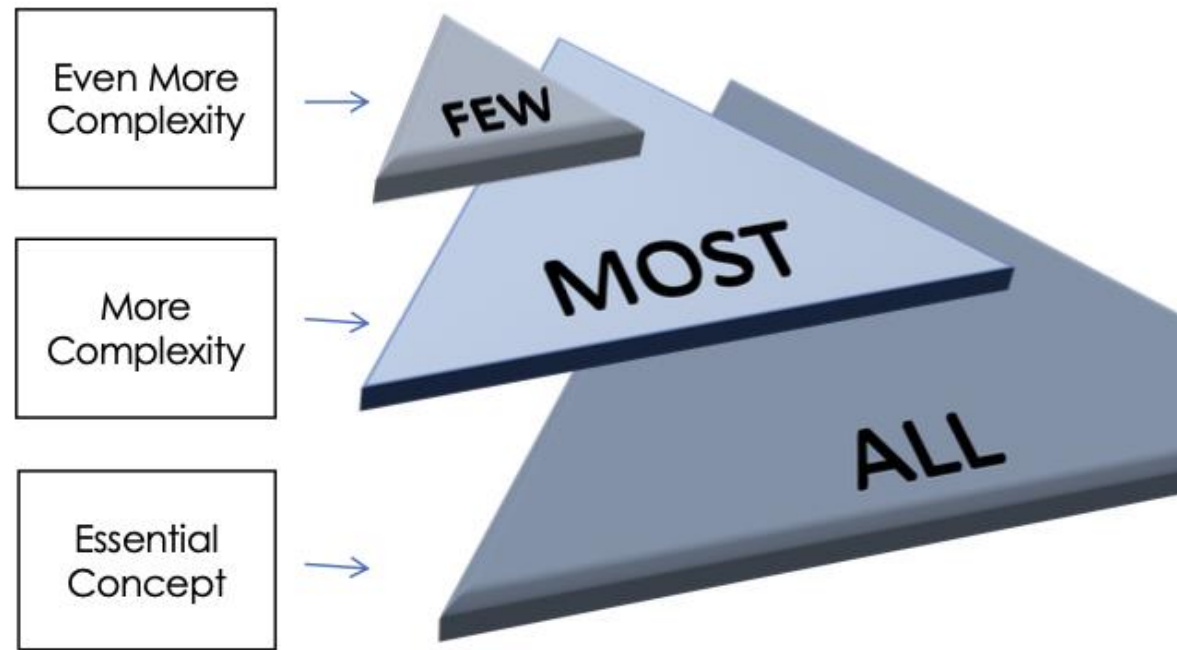
Start from access, build on challenge

Learning Continuums

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

Learning Outcome:			
Student friendly:			
→			
Approaching	Essential	Confident	Extending

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

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 and/or solve a problem.	I understand that structures are made of many different components that are connected and have specific functions.

Next Generation Science Standards (NGSS)

Subject Area: Science	Strand: Structure of DNA	Grade: 9

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	Guiding Unit Question: 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?

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

Foundations	Student Friendly Language	Access Point	Essential	Confident	Extend
Science & Engineering Practices (skill)	I can explain using evidence that there are theories and laws that describe the natural world	I know what a theory is I know what a law is I know what evidence is I know what the natural world is	I know the difference between scientific theories and laws I can explain how scientific theories and laws are used to make predictions about the natural world	I know examples of scientific theories and laws I can explain the role of evidence and how it supports scientific theories and laws	I know how scientific theories and laws are developed I can explain the limitations of specific scientific theories and laws
Disciplinary Core Ideas (knowledge)	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 know what a cell is I know the structure of a cell I know what I need to live	I know the major organ systems in the human body and the key functions they perform I know the basic structure and function of common cell types/ how cells work I know the role of DNA, genes and proteins in the structure and functions of cells	I know what cellular specialization is and how different cell types are adapted to carry out specific roles I know how the specialized structures and mechanisms of different cell types, including DNA, genes and proteins, enable them to perform their roles	I know how multicellular organisms rely on coordinated systems of specialized cells to sustain life I know how evolutionary adaptations have led to the development of specialized cell types and organ systems
Crosscutting Concepts (understanding)	I understand that structures are made of many different components that are connected and have specific functions.	I understand that there are different kinds of structures in my life and the world	I understand that structures have many components or individual parts that combine to form a larger structure	I understand that components in structures are interconnected and interdependence to support the overall function of a structure	I understand that each component in a larger structure has specific roles and functions
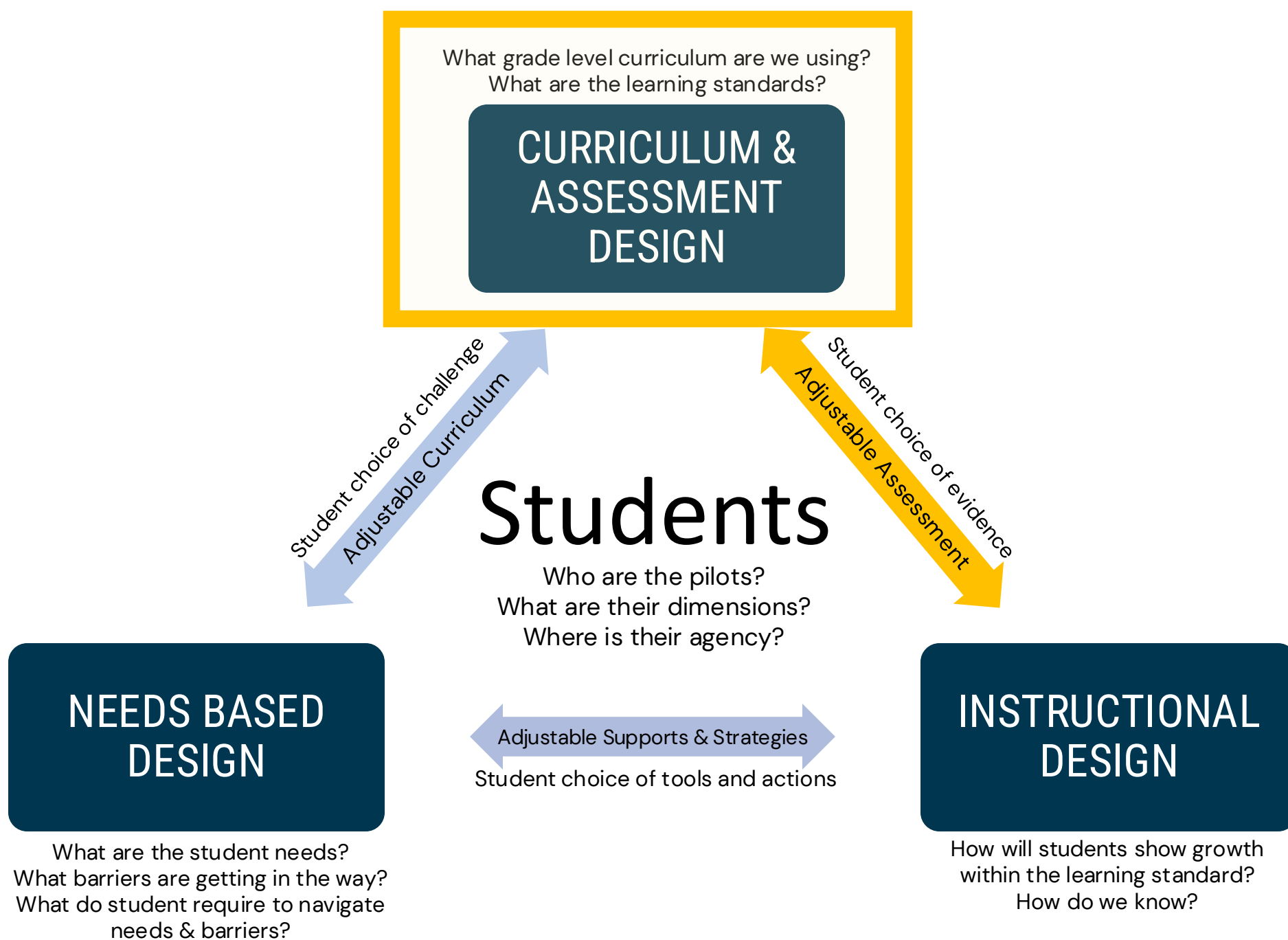
Backwards Design Planning

Grade:	Subject Area: Science	Strand/Topic:
Learning Standard:		**Unit Guiding Question(s):**

Key Vocabulary:

Learning Goals	Curricular Language What do Students need to Know and Do?	Student Friendly Language
Science and Engineering Practices		
Disciplinary Core Ideas		
Crosscutting Concepts		

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

Activity:

Evidence: drawings (product), photos (observations)

Content Learning Outcomes

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

Math: concrete or pictorial graphs as a visual tool
Kid Friendly: I know how to show "**how many**" using objects and pictures

Curricular Competency Learning Outcomes

Science: Planning and Conducting: making exploratory observations using senses
Kid Friendly: I can share what happened by using my senses

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 play with different materials and objects?
- How can I use different materials and objects to share stories about myself and my family?
- How can I choose specific materials and objects to represent my family?

Learning Continuum: Science Content

Content Goal: 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 Continuum: Math Content

Content Goal: concrete or pictorial graphs as a visual tool				
Student friendly: I know how to show "**how many**" using objects and pictures				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
→				
• I can count the objects or pictures.	• I can draw a desired number of objects.	• I can use symbols (digits) to indicate "how many." I can compare quantities by counting the objects.	• I can compare quantities by using objects and symbols. I can identify 'fewer' and 'more' than.	• I can compare quantities by using symbols. I can identify "fewer" and "more" by reading numbers.

Learning Continuum: Science Curricular Competency

Content Goal: Planning and conducting: making exploratory observations using senses				
Student friendly: I can share what happened by using my senses				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
→				
I can look at different objects and materials I can follow a model to move objects	• I can use properties of objects and materials to describe what I see and feel	• I can observe different objects interact with different materials and describe what I see	• I can compare how different objects move on different materials	• I can explain which materials and surfaces work better for certain objects to move

Performance Task 1: Listen to the Voices
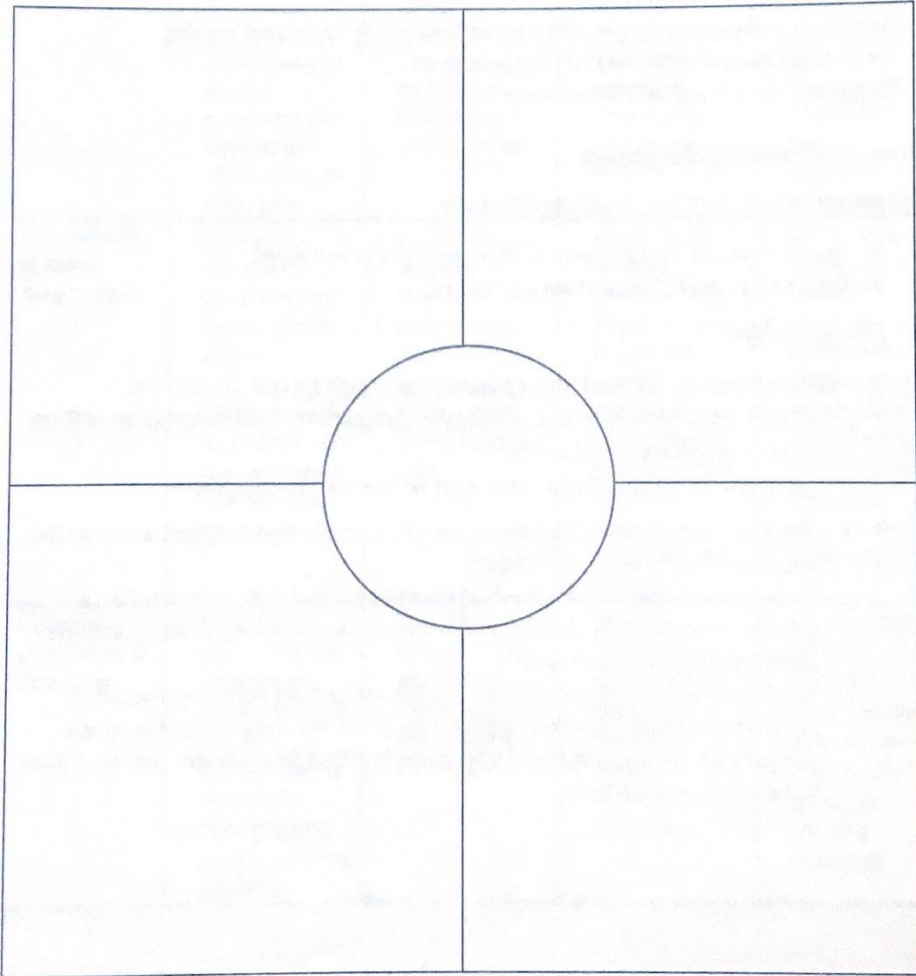
- Choose 4 new media texts from the options provided

- Considering the various artists, you watched and listened to, what are the different messages being shared?

- What connections can you make between them?

- How do the messages connect with First Peoples languages, cultures and traditions?

- How are these artists using their voices to share stories of who they are?

- Why might hip hop or spoken word be an effective way to talk about issues affecting First Peoples?

- Record your notes on the placemat

New media text options

- JB The First Lady performs at the Pipeline Resistance Café for Unist'ot'en Camp https://www.youtube.com/watch?v=UEAyDes1Llw
- JB The First Lady Still Here https://www.youtube.com/watch?v=wGTqXZrH374

- Andrew Dexel https://www.beatnation.org/andrew-dexel.html
- Sonny Assu http://nationtalk.ca/story/a-radical-mixing-by-sonny-assu-at-canada-gallery
- Supaman Why https://www.youtube.com/watch?v=OiVU-W9VT7Q

- Winona Linn Knock Off Native https://www.youtube.com/watch?v=i_zFOsd_pqA
- Zaccheus Jackson: Invicta https://www.youtube.com/watch?v=KW2EJHZo1a8
- Zaccheus Jackson: Of Wings https://www.youtube.com/watch?v=jKVkOmxdwxQ

- N'we Jinan Artist "Home to Me" https://www.youtube.com/watch?v=EgaYz8YWsO8
- N'we Jinan Artist "The Highway" https://www.youtube.com/watch?v=hG_9d260YeI
- N'we Jinan Artist "Hide and Seek" https://www.youtube.com/watch?v=ZV9AUQoqfAc

Performance Task 2: Social Commentary

- Create a digital multimedia commentary which reflects your understanding of Indigenous issues in the past, present and future

- You can directly respond to the artists or to the issues they are highlighting.

- Consider the perspective from which you are viewing the texts and respond to the text personally, creatively, and/or critically

EFP 11 Content Goal: new media functions, including community building and advocacy				
Student friendly: I know new media functions, including community building and advocacy				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I know what new media is and examples	I know the role of new media in modern communication I know how new media is used to build community	I know how new media is used for advocacy and social change efforts I know the importance of consent and credibility when using new media to build community	I know the importance of responsible digital citizenship in new media	I know how bias in new media can impact community, advocacy, and social justice efforts

EFP 11 Curricular Competency Goal: apply appropriate strategies in a variety of contexts to guide inquiry, extend thinking, and comprehend texts				
Student friendly: I can apply appropriate strategies in a variety of contexts to guide inquiry, extend thinking, and comprehend texts				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I can engage with text that is familiar or interesting to me and use my prior knowledge to try to understand	I can use different strategies to help me understand text by following a model	I can use different strategies to help me understand	I can use different strategies to help me extend my thinking and guide inquiry	I can choose effective strategies to use based on context

EFP 11 Curricular Competency Goal: respond to text in personal, creative, and critical ways				
Student friendly: I can respond to text in personal, creative, and critical ways				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I can understand a text and respond	I can connect to and respond to texts personally	I can respond to texts creatively	I can respond to texts critically	I can respond to diverse texts in ways that integrate personal connections, critical thought and creative performance

Name:	Date:	Unit Topic: Bio 20
Unit Guiding Questions		
I still need support	**Curricular Standards**	**I need some challenge**
	20-20–A1.1k I can explain the flow of energy through a biosphere	
	20–A1.2k I can explain how energy in a biosphere can be balance between both photosynthetic and chemosynthetic activities and cellular respiratory activities	
	20–A1.3k I can explain the structure of ecosystem trophic levels, using models such as food chains and food webs	
	20–A1.4s I can work collaboratively and communicate by presenting findings, so it makes sense to others	
	20–A1.1sts I can analyze evidence and provide explanations based upon scientific theories and concepts though scientific investigation	

Course: Bio 20	Student: H

General Learning Outcome: 20-A1.4s I can work collaboratively and communicate my findings by presenting so that it makes sense to others

Student Evidence

RESPONSE 1 - NAME: H

I agree with the question. I believe that rising Carbon Dioxide will benefit plants. Photosynthesis relies on energy, water and carbon dioxide. Carbon Dioxide being one of the most important. Therefore if there was more Carbon Dioxide in the world, then it could increase the growth of plants. It would also increase the time. The plants could grow faster.

Specific Learning Outcome:

Modeling Responses

20–A1.4s I can work **collaboratively** & **communicate** my findings by:
- presenting my findings so it makes sense to others (modes representation)

Approaching	Emerging	Developing	Confident	Extending
I know my assigned role and I complete the tasks assigned to my role within a group.	I can choose my role cooperatively based on a given template, based on the needs of the assignment and group. I am able to communicate overall findings/results clearly.	I can understand what needs to be done and carry out the steps to complete and communicate the tasks, with the support of guiding questions, cues and prompts. I can show synthesis of multiple sources of information.	I can work effectively in my group to synthesize our results into a clear and concise presentation/report.	I can work effectively in my group to synthesize, using classwork and my personal background knowledge, and our results into a clear and concise presentation/report.

Assessing Student Evidence

Course: Bio 20	Student: P

General Learning Outcome: 20-A1.4s I can work collaboratively and communicate my findings by presenting so that it makes sense to others

Student Evidence

RESPONSE 1 – NAME: P

I disagree that rising carbon dioxide levels can benefit plants and, in addition, other organisms. I say this because when CO_2 rises it can cause the warmth of the atmosphere, climate change. Climate change affects the conditions for the plants to grow and can cause damage to environments as plants can start dying. This can affect the whole dynamic of ecosystems as certain animals can't rely on the same resources for food. As well as certain plants, such as Poison Ivy, can have an increase in growth, but they can have negative health effects on humans that are allergic to them.

https://environment.co/how-does-global-warming-affect-plants/#:~:text=Climate%20change%20causes%20warmer%20summer.flower%20earlier%20in%20the%20season.&text=As%20precipitation%20decreases%2C%20flowers%20may%20bloom%20later%20in%20the%20season.

Specific Learning Outcome:

Modeling Responses

20–A1.4s I can work **collaboratively** & **communicate** my findings by:
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I know my assigned role and I complete the tasks assigned to my role within a group.	I can choose my role cooperatively based on a given template, based on the needs of the assignment and group. I am able to communicate overall findings/results clearly.	I can understand what needs to be done and carry out the steps to complete and communicate the tasks, with the support of guiding questions, cues and prompts. I can show synthesis of multiple sources of information.	I can work effectively in my group to synthesize our results into a clear and concise presentation/report.	I can work effectively in my group to synthesize, using classwork and my personal background knowledge, and our results into a clear and concise presentation/report.

Bio 20-1: Muscles Unit Test

Targeted Outcomes for this Task:

20-D4.2k - Students will know how muscles contract and that heat is generated in the muscles through contraction.				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I know moving my muscles can make me warm.	I know that muscles can only contract and this produces heat. I know that muscles use actin and myosin to contract and this type of work requires ATP which releases heat.	I can explain a muscle cramp referring to how actin and myosin bind and identify the cause of the cramp.	I know the relationship between actin, the myosin and the tropomyosin	I understand the impact of various substances (i.e. poisons) and how they impact muscle contraction and function.

20- 4.3s I can **analyze** and **interpret** by: • looking for patterns in my data to help me understand what is happening • connecting my data to other scenarios and contexts • coming up with some possible solutions or explanations for what is happening • organizing and displaying my data in ways that make sense to me				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I can make a logical decision when given choices, by using my background knowledge and observations.	I can identify patterns and trends in data and explain relationships among the variables.	I can interpret and connect my data to determine possible solutions or explanations for my investigation.	I can identify and evaluate potential applications of findings to different scenarios.	evaluate designs and prototypes in terms of function, reliability, safety, efficiency, use of materials and impact on the environment

20–4.4s I can **communicate** my findings by: • using SI units and Sig Digs • presenting my findings so it makes sense to others (modes representation)				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I/we don't give up when things get hard I/we can participate in a task without or without a group I/we share my thinking and ideas	I/we can understand what needs to be done, I know what the task is asking me/us to do I/we can communicate findings/results clearly I/we can use unit vocabulary when responding to tasks	I/we can choose my role based on the needs of the assignment and group I/we can follow the steps of a task I/we can use of multiple sources of information.	I can work to combine input and ideas from everyone in my group and create a clear presentation I/we can use multiple forms to present our findings (visual, oral, written)	I/we can connect our findings to multiple perspectives I/can ask follow up questions to understand the information

Task Question	Outcomes Targeted
Use these words to fill in the blanks in questions 1a-c below: contraction heat actin myosin warm/hot 1 a. I know that when I move my body I feels _____.	20-D4.2k (approaching) 20- 4.3s (approaching) 20–4.4s (approaching)
1b. Muscles are made up of _____ and _____. 1c. The movement between actin and myosin is done through _____ movement only, and a by-product of this movement produces ATP and _____.	20-D4.2k (emerging) 20- 4.3s (approaching) 20–4.4s (approaching)
2. After exercising heavily, athletes sometimes experience muscle cramps. Explain what is happening in the muscle when it is cramping ensuring you reference actin, myosin, and the specific cause of a cramp in your description.	20-D4.2k (developing) 20–4.4s (approaching/ emerging)

Grade 11 Biology Quiz

Bio 20-1: Muscles Unit Test

Targeted Outcomes for this Task:

20-D4.2k - Students will know how muscles contract and that heat is generated in the muscles through contraction.

| Approaching	Emerging	Developing	Confident	Extending
I know moving my muscles can make me warm.	I know that muscles can only contract and this produces heat. I know that muscles use actin and myosin to contract and this type of work requires ATP which releases heat.	I can explain a muscle cramp referring to how actin and myosin bind and identify the cause of the cramp.	I know the relationship between actin, the myosin and the tropomyosin	I understand the impact of various substances (i.e. poisons) and how they impact muscle contraction and function.

20- 4.3s I can **analyze** and **interpret** by:
- looking for patterns in my data to help me understand what is happening
- connecting my data to other scenarios and contexts
- coming up with some possible solutions or explanations for what is happening
- organizing and displaying my data in ways that make sense to me

| Approaching	Emerging	Developing	Confident	Extending
I can make a logical decision when given choices, by using my background knowledge and observations.	I can identify patterns and trends in data and explain relationships among the variables.	I can interpret and connect my data to determine possible solutions or explanations for my investigation.	I can identify and evaluate potential applications of findings to different scenarios.	evaluate designs and prototypes in terms of function, reliability, safety, efficiency, use of materials and impact on the environment

20–4.4s I can **communicate** my findings by:
- using SI units and Sig Digs
  - presenting my findings so it makes sense to others (modes representation)

Approaching	Emerging	Developing	Confident	Extending
I/we don't give up when things get hard I/we can participate in a task without or without a group I/we share my thinking and ideas	I/we can understand what needs to be done, I know what the task is asking me/us to do I/we can communicate findings/results clearly I/we can use unit vocabulary when responding to tasks	I/we can choose my role based on the needs of the assignment and group I/we can follow the steps of a task I/we can use of multiple sources of information.	I can work to combine input and ideas from everyone in my group and create a clear presentation I/we can use multiple forms to present our findings (visual, oral, written)	I/we can connect our findings to multiple perspectives I/can ask follow up questions to understand the information

5. Use the following additional information to answer the next two questions.

Additional experiments using injections of radioactive Ca^{2+} show that the ions are stored within the sacs of the sarcoplasmic reticulum in resting muscle tissue. When the tissue is stimulated to contract with electrodes, the radioactive Ca^{2+} ions are found among the actin and myosin filaments as shown below.
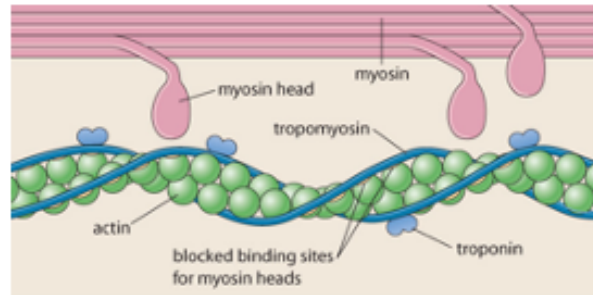
The muscle is at rest.
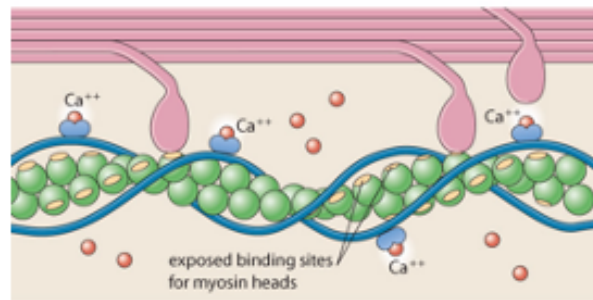
The muscle is contracting.

5a. Refer to diagram of the muscle at rest above, and explain what effect a lack of tropomyosin would have in muscle tissue

5b. The diagram of the muscle contracting shows the role of calcium ions in repositioning tropomyosin. Where are these ions stored when the muscle is at rest? What causes them to move among the actin and myosin filaments?

Grade 11 Biology Quiz

Bio 20-1: Muscles Unit Test

Targeted Outcomes for this Task:

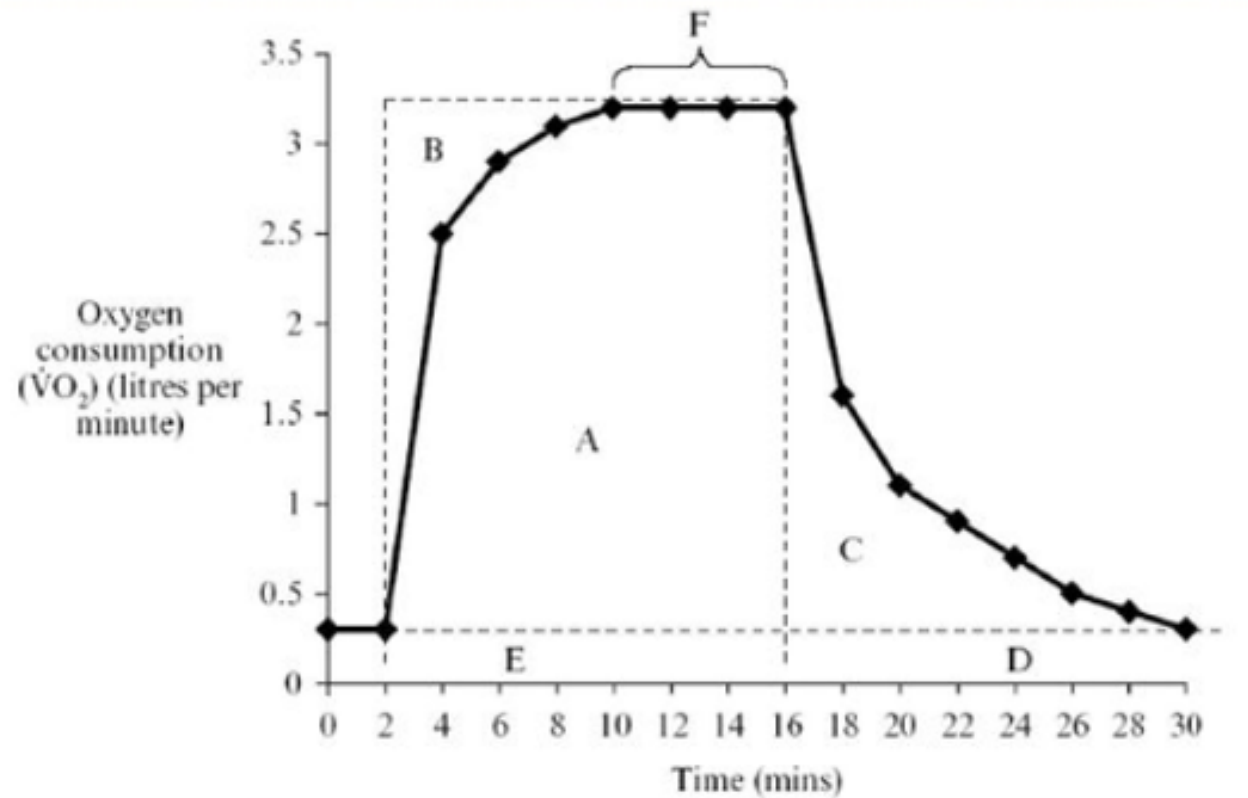| 20-D4.2k - Students will know how muscles contract and that heat is generated in the muscles through contraction.				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I know moving my muscles can make me warm.	I know that muscles can only contract and this produces heat. I know that muscles use actin and myosin to contract and this type of work requires ATP which releases heat.	I can explain a muscle cramp referring to how actin and myosin bind and identify the cause of the cramp.	I know the relationship between actin, the myosin and the tropomyosin	I understand the impact of various substances (i.e. poisons) and how they impact muscle contraction and function.

20- 4.3s I can **analyze** and **interpret** by:
- looking for patterns in my data to help me understand what is happening
- connecting my data to other scenarios and contexts
- coming up with some possible solutions or explanations for what is happening
- organizing and displaying my data in ways that make sense to me

Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I can make a logical decision when given choices, by using my background knowledge and observations.	I can identify patterns and trends in data and explain relationships among the variables.	I can interpret and connect my data to determine possible solutions or explanations for my investigation.	I can identify and evaluate potential applications of findings to different scenarios.	evaluate designs and prototypes in terms of function, reliability, safety, efficiency, use of materials and impact on the environment

20–4.4s I can **communicate** my findings by:
- using SI units and Sig Digs
  - presenting my findings so it makes sense to others (modes representation)

Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I/we don't give up when things get hard I/we can participate in a task without or without a group I/we share my thinking and ideas	I/we can understand what needs to be done, I know what the task is asking me/us to do I/we can communicate findings/results clearly I/we can use unit vocabulary when responding to tasks	I/we can choose my role based on the needs of the assignment and group I/we can follow the steps of a task I/we can use of multiple sources of information.	I can work to combine input and ideas from everyone in my group and create a clear presentation I/we can use multiple forms to present our findings (visual, oral, written)	I/we can connect our findings to multiple perspectives I/can ask follow up questions to understand the information

6. *Use the following information to answer the next two questions.*

The graph shows the oxygen consumption of a subject during a period of rest, exercise, and recovery.

5a.	Which letter (A-F) represents the oxygen deficit?	20-D4.2k (emerging)
b.	How long did the exercise last?	20-D4.2k (emerging)
c.	What is occurring during C?	20- 4.3s (emerging)

Grade 11 Biology Quiz

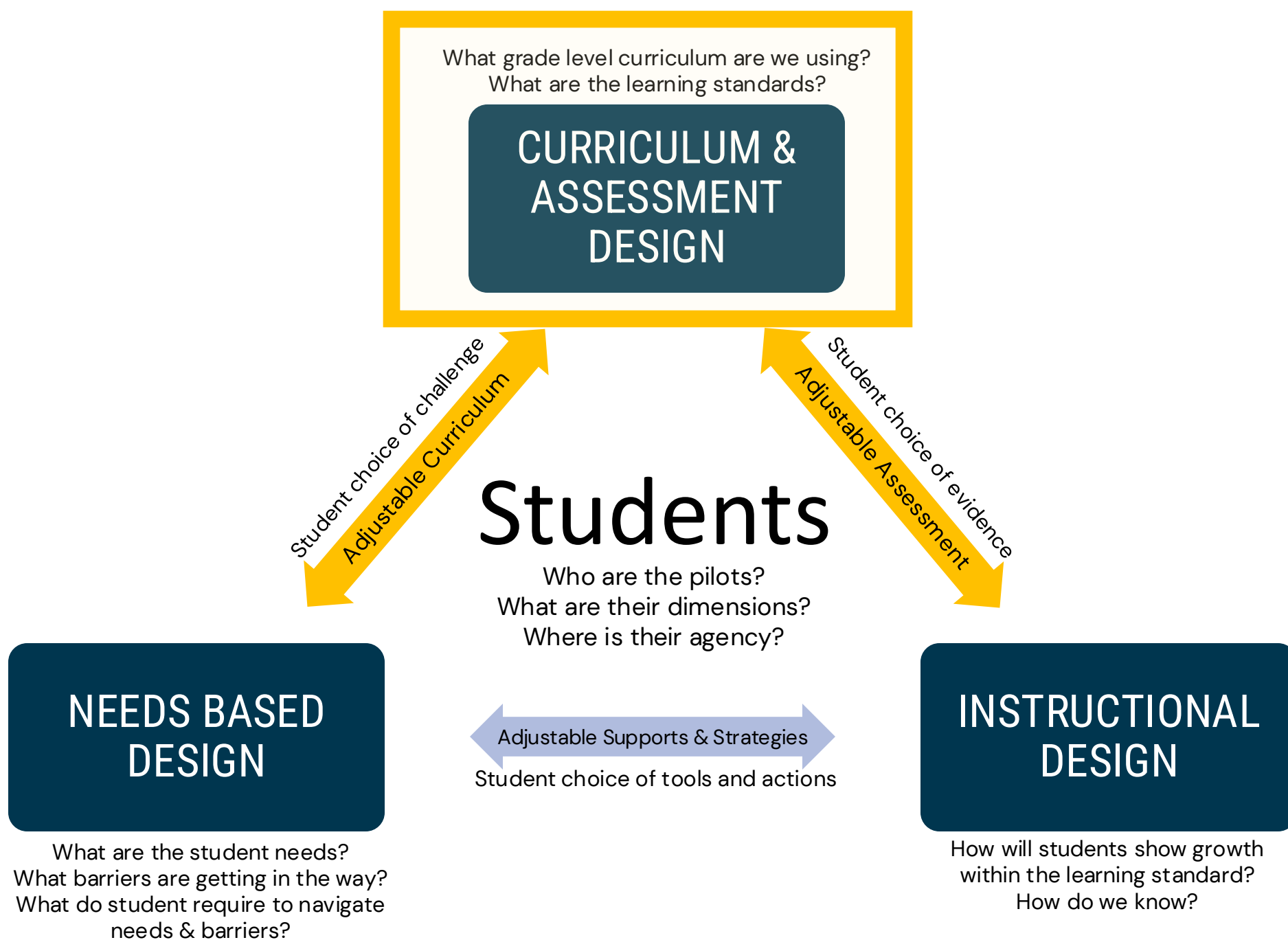**Bio 20-1: Muscles Unit Test**

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

CURRICULUM & ASSESSMENT DESIGN

Student choice of challenge
Adjustable Curriculum

Student choice of evidence
Adjustable Assessment

Students

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

NEEDS BASED DESIGN

Adjustable Supports & Strategies
Student choice of tools and actions

INSTRUCTIONAL DESIGN

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

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

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Tumwater School District

Tumwater, Washington

Peter G Schmidt Elementary School - Grade 5 - Science

Coaching Sessions (5 x 90 min sessions)					
	Session 1	**Session 2**	**Session 3**	**Session 4**	**Session 5**
What we did together in 90 min session	Getting to know learners - Class Review - Target Students - Needs Based Reflection	Making decision to support learning - Needs Based Support Plan	Designing Inclusive Learning Experiences - Backwards Design - Learning Continuums	Designing Inclusive Learning Experiences - UDL Lesson Design	- Assessing Student Learning - Sharing our learning
What teams did in between sessions	- Gather information from students	- Teach a needs-based strategy lesson	- Gather curricular resources	- Teach a lesson - Gather evidence	- Share the process with others

CURRICULUM & ASSESSMENT DESIGN

What grade level curriculum are we using?
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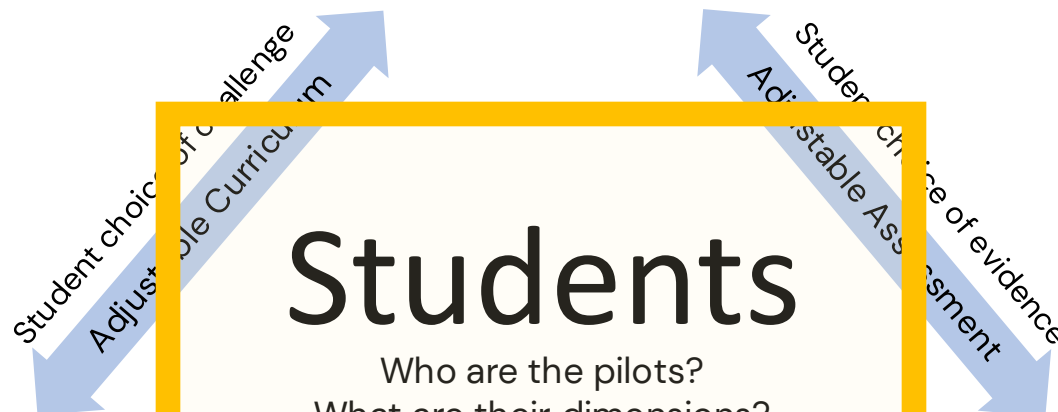
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How do we know?

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2023

Class Review: Gr 4/5	School Team: PJS Elementary	Date: Feb 2024

Class Dimensions

Class Identities:	Class Interests:	Classroom Strengths:	Classroom Stretches:
Families – half are in split families 2 families navigating cancer, 1 parent in rehab Grade – 4/5 combined Cultures: Kenyan, Caucasian, Japanese, Ethiopia, Hispanic, Pacific Islander, Religion: Christian, Language: English	Competition, trivia, puzzles, word games, brain teasers, riddles, working with friends, choice, being creative, stories and read aloud, art, service, kindergarten buddies	Creating, social, healthy competition, fair, protective, aware, helping others, working with others, leadership, being aware of others, allowing others to lead, socially awareness & responsible, understanding, strong academically overall (gr 4), reading, motivated intrinsically	Waiting, their turn, not always getting your way/ what you want, being aware that what is "easy" is not easy for everyone, being aware of diverse abilities, empathy and mindful of how what we say affects others, stamina, justifying their learning, deep thinking and sharing of their learning, too comfortable sometimes

Targeted Class Needs

Need: Anxiety/ Emotional Regulation	Need: Engagement/ Motivation	Need: Trauma/ Family Needs	Need: Literacy
GA, LB, JA, ES, KR, GS	**LB, JA, ES, NS**	**GA, LB, JA, ES, JK, LE**	**GA, MA, KR, TP, AB**

Collaborative Team Questions

E: How to support literacy needs? How do we make sure they are ready for middle school?

S: How do we teach them to manage their needs (anxiety etc.) so they are ready for middle school and have to navigate such a different context?

C: How to support students who are not participating and often not attending? How to engage and motivate without pushing too hard?

Collaborative Team Decisions:

What works well for this class?	What do we still want to try?	UDL Strategies to reduce barriers to representation
- Natural consequences, honesty & fairness, competition, roles & responsibilities as students, conversations	Strategies to increase self advocacy UDL Strategies to reduce barriers to engagement - Make learning relevant to students' lives - Scaffolding learning (access to challenge)	- Highlighting patterns in language systems - Using multi-media - Focus on building prior knowledge - Include processing tasks in lesson design UDL Strategies to reduce barriers to Expression - Guiding students through self assessment and goal setting - Model the use of supports and strategies

The Class Review – Brownlie, F & King, J, 2011   adapted by S. Moore, 2023

Coaching Session 1: Tumwater

School District: Tumwater SD		School: Peter J Schmidt Elementary	
Participant	Role	Target Class: Gr 4/5	Target Subject Area(s): Science 5
E. Crabtree	CT	Target Student(s): Gabby A – Autism, Oct 2023 – first included, decoding and writing strong, anxiety, difficulty talking to peers, musically talented, scripted language, pairs well with - Mason, Lorelei, motivated by James, needs access points Mason A – newly diagnosed, mild intellectual, loves fitting in, peers are motivators, likes adult attention, needs access points Lorelei B – needs academic support, gives up, some personal and family medical needs – lots of emotions, anxiety, withdraws, overwhelmed, loves animals, approaching grade level James A – attendance needs – family needs & trauma, medical needs, motivates Gabby, loves helping, task oriented, loves jobs, food, closer to grade level Elijah S – bullied at another school, very angry, always feeling like everything is his fault/everyone is against him, long time to build trust, event can snowball to feel overwhelmed, pairs well with Mason	
S. Wernke	ST		
C. Luce	PE		
K. Doughty	Principal		
S. Bentley	Psychology		
Ms. Gina	Para		

Classroom Support Planning: Collaborative Needs Based Reflection

Target Classroom: **Classroom Teacher(s):** **Support Teachers/Staff:** **Date:**

1. Look at the following areas of need as a team
2. Record needs for students who have IEPs (Individual education plan) and/or LSPs (learning support plan)
3. You can refer to individual assessments and recommendations as well as specialists to determine needs if useful
4. Record needs for students in class who do not have IEP or LSP
5. Look for clusters of need and reflect on community impact
6. Determine priority classroom needs to develop Classroom Support Plan

Areas of Need	Students who have this need (underline students who have <u>IEP/504</u>)	This need impacts the community and/or there is a cluster of students who have this need	This need can be managed over time and/or not critical	This is an individual need area and/or community does not need support in this area
Addiction				
Attendance/ Lateness	JA			x
Attention	JA, RM		x	
Anxiety/ Depression	GA, LB, JA, ES, KR, GS	x		
Bullying				
Communication (receptive)				
Communication (expressive)	GA, LB		x	
Eating/Food/Allergies	LB			x
Engagement/Motivation	LB, JA, ES, NS	x		
Executive Functioning	MA, LB, JA	x		
Family/Community/Identity	JA, ES, JK, LE	x		
Frustration/ Anger	JA, ES		x	
Greif/ Trauma	GA, LB, JA, ES, KK	x		
Gross/Fine Motor Skills	LB, BB			x
Intellectual Ability (access)	GA, MA		x	
Intellectual Ability (extend)	BW, IM, MB		x	

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Language				
Literacy (decoding)	MA, KR, TP, AD		x	
Literacy (understanding)	GA, MA, KR, TP, AD		x	
Literacy (written output)	MA, LB, KR, TP, AD		x	
Literacy (oral language/speaking)	GA		x	
Medical				
Memory				
Mental Health				
Numeracy	ES, KR			
Personal Care	GA			x
Personal Safety				
Physical/Mobility				
Self-Advocacy	LB			x
Self-Regulation (emotional)	GA, JA, ES	x		
Self-Regulation (behavioural)	ES	x		
Self-Regulation (learning)				
Self Esteem	LB, JA, ES	x		
Self-Harm/ Self Injurious Behaviour				
Sensory				
Social Skills	GA, LB, JA, ES	x		
Transitioning	JA, ES	x		
Other:				
Other:				

Priority Community Needs	Specialists/Individuals to connect to	Priority Individual Needs	Specialists/Individuals to connect to
Anxiety/ emotional self- Regulation	Counsellors – Jessica		
Family support/ trauma	Counsellors – Jessica, Community Schools - Diana		
Literacy	Title – Kori, Mica, Melissa		
Engagement/ Motivation	Sarah, Shelley, Jasmine, Kim		

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What grade level curriculum are we using?
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CURRICULUM & ASSESSMENT DESIGN

Student choice of challenge
Adjustable Curriculum

Student choice of evidence
Adjustable Assessment

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

NEEDS BASED DESIGN

Adjustable Supports & Strategies
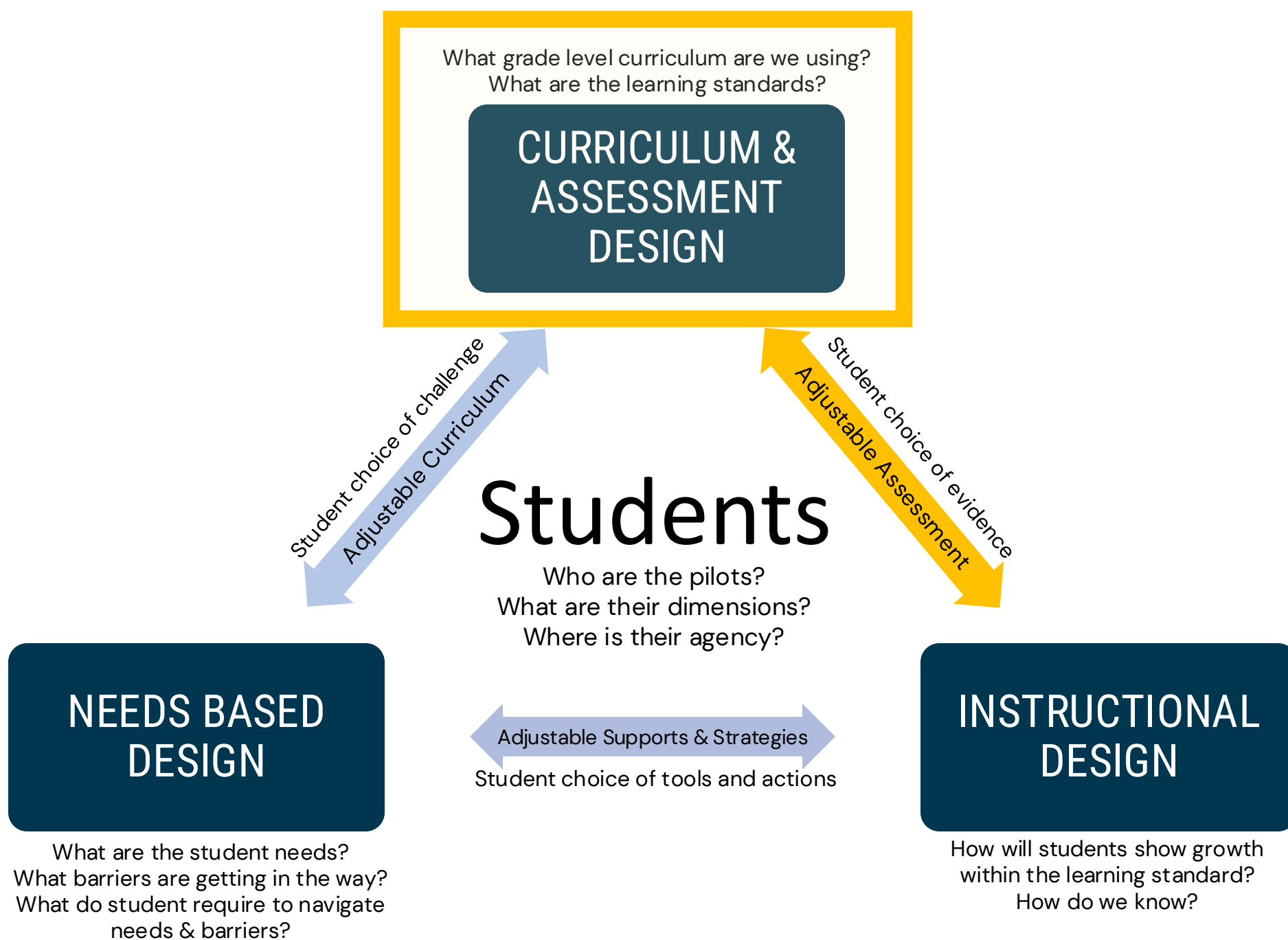Student choice of tools and actions

INSTRUCTIONAL DESIGN

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

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

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2023

Who needs the MOST support?

What supports & strategies are useful for ONE? (Individualized)
- Reading IEP
- 3/4 x week individual intervention with CT or parent volunteer (one on one)
- G (replacement literacy instruction - comprehension)

Essential

What supports & strategies are useful for SOME? (Choice for ALL)
- Title reading intervention (decoding) 4 x week
- (UDL strategies to help student choose)

Targeted

Students in Mind

What supports & strategies are useful for MOST/ALL?
- Access to grade level curriculum
- Fluency passage (at independent level) – at home
- Weekly read with parent volunteers
- Vocabulary support & practice (word ladders/activities/plexer)
- Classroom read aloud every day
- Library
- Different levels of text level for assessment
- Strategic intervention time
- WIN time

Universal

Need: anxiety/emotional self regulation

Students in Mind: GA, LB, JA, ES, KR, GS

Who needs the MOST support?

Essential

Targeted

Universal

Students in Mind

What supports & strategies are useful for ONE? (Individualized)
- Communication with school team (set up other places to go if needed)
- Individual debriefing
- Check in/ check out system (with resource)
- Built in time at The Nest in schedule
- G: Level of problem (1-5 and how to respond, reinforcement system)

What supports & strategies are useful for SOME? (Choice for ALL)
- Calming kit
- Take a break (check in)
- Sensory tools (e.g. fidgets, items from home)
- Choice to go The Nest

What supports & strategies are useful for MOST/ALL?
- Morning meeting, classroom conversations
- Mindful minutes – teaching a strategy
- Routines & structures
- Technology – all practice a strategy (e.g. 5 finger breathing)
- Lessons with counsellor (tools in toolbox)
- Classroom conversations (power of yet, Factor of fear)
- Trust when they need something
- Open communication with families (e.g. Dojo)
- Access to The Nest (SEL space)

Who needs the MOST challenge?

CURRICULUM & ASSESSMENT DESIGN

What grade level curriculum are we using?
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2023

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

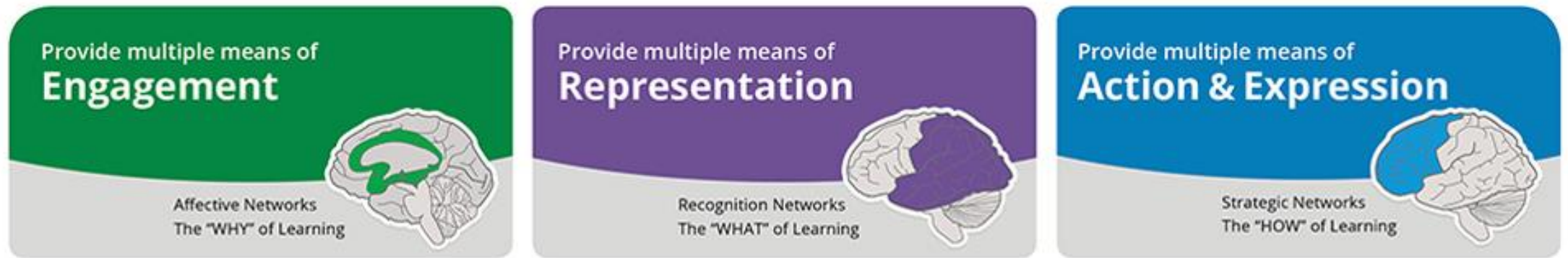| Learning Goals	Curricular Language What do Students need to Know and Do?	Student Friendly Language
Science and Engineering Practices (skills)	**Developing and Using Models** building and revising simple models and using models to represent events and design solutions. Use models to describe phenomena.	• 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

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

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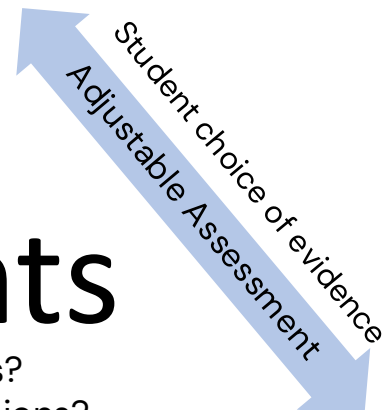
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Shelley
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2023

Universal Design for Learning: Lesson Design

Mini Lesson

Provide multiple means of
Engagement

Affective Networks
The "WHY" of Learning

Provide multiple means of
Representation

Recognition Networks
The "WHAT" of Learning

Provide multiple means of
Action & Expression

Strategic Networks
The "HOW" of Learning

Connecting Phase

Processing Phase

**Transforming &
Personalizing Phase**

Universal Design for Learning: The Ramp for Learning

Universal Design for Learning Guidelines

Provide multiple means of **Engagement** →	Provide multiple means of **Representation** →	Provide multiple means of **Action & Expression** →
Affective Networks The "WHY" of learning	Recognition Networks The "WHAT" of learning	Strategic Networks The "HOW" of learning

Access

Provide options for Recruiting Interest (7) →
- Optimize individual choice and autonomy (7.1) >
- Optimize relevance, value, and authenticity (7.2) >
- Minimize threats and distractions (7.3) >

Provide options for Perception (1) →
- Offer ways of customizing the display of information (1.1) >
- Offer alternatives for auditory information (1.2) >
- Offer alternatives for visual information (1.3) >

Provide options for Physical Action (4) →
- Vary the methods for response and navigation (4.1) >
- Optimize access to tools and assistive technologies (4.2) >

Build

Provide options for Sustaining Effort & Persistence (8) →
- Heighten salience of goals and objectives (8.1) >
- Vary demands and resources to optimize challenge (8.2) >
- Foster collaboration and community (8.3) >
- Increase mastery-oriented feedback (8.4) >

Provide options for Language & Symbols (2) →
- Clarify vocabulary and symbols (2.1) >
- Clarify syntax and structure (2.2) >
- Support decoding of text, mathematical notation, and symbols (2.3) >
- Promote understanding across languages (2.4) >
- Illustrate through multiple media (2.5) >

Provide options for Expression & Communication (5) →
- Use multiple media for communication (5.1) >
- Use multiple tools for construction and composition (5.2) >
- Build fluencies with graduated levels of support for practice and performance (5.3) >

Internalize

Provide options for Self Regulation (9) →
- Promote expectations and beliefs that optimize motivation (9.1) >
- Facilitate personal coping skills and strategies (9.2) >
- Develop self-assessment and reflection (9.3) >

Provide options for Comprehension (3) →
- Activate or supply background knowledge (3.1) >
- Highlight patterns, critical features, big ideas, and relationships (3.2) >
- Guide information processing and visualization (3.3) >
- Maximize transfer and generalization (3.4) >

Provide options for Executive Functions (6) →
- Guide appropriate goal-setting (6.1) >
- Support planning and strategy development (6.2) >
- Facilitate managing information and resources (6.3) >
- Enhance capacity for monitoring progress (6.4) >

Goal

Expert Learners who are...

Purposeful & Motivated	Resourceful & Knowledgeable	Strategic & Goal-Directed

Guiding Unit Question:

Lesson Goal(s):

Date

Connecting Activity:

Additional supports & strategies to ensure students meet the "ALL"

Mini Lesson:

Processing Task:

I need to…	I must…	I can…	I could…	I can try to…
Access	All	Most	Few	Challenge

Transforming & Personalizing Activity:

This is lesson creates evidence for:

UDL Lesson Planning Template

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Universal Design for Learning: The Ramp for Learning

Provide multiple means of
Engagement

Affective Networks
The "WHY" of Learning

Provide multiple means of
Representation

Recognition Networks
The "WHAT" of Learning

Provide multiple means of
Action & Expression

Strategic Networks
The "HOW" of Learning

Lesson in instructional resource

MATERIALS

Student
- 1 Science notebook*
- 1 Student Investigation Sheet 2A: *What Are the States of Matter?*
- 1 Pair of safety goggles*

Team of four students
- 1 Clear plastic container with lid, 24-oz
- 20 Marbles

Teacher
- 1 Student Investigation Sheet 2A: *What Are the States of Matter?* (Teacher's Version)
- 1 Balloon
- 1 Glass beaker (100 mL) filled with ice
- 1 Glass beaker (100 mL) filled two-thirds with water
- 3 Clear containers of different shapes, filled with equal volumes of water*
- 3 Clear plastic containers with lids, 24 oz
- 3 Colors of food coloring*
- 1 Graduated cylinder, 1,000 mL
- 1 Hot plate*
- 1 Modeling-clay lump (shape and size to resemble the small, rigid, solid object below)
- 1 Oven mitt*
- 1 Pair of safety goggles*
- 1 Resealable plastic bag, 1 gal*
- 1 Small, rigid, solid object* (e.g., a plastic toy car)
- 1 Thermometer
- Chart paper or whiteboard*
- Markers
- Markers*

*These materials are needed but not supplied.

1. Distribute a copy of Student Investigation Sheet 2A: *What Are the States of Matter?* to each student. As a brief review, instruct students to complete the first two rows of the chart individually. Ask students to share their responses.

2. Conduct Demonstration #1 where all students can observe. During the demonstration, allow students to ask questions to refine their understanding of these three states of matter.

   a. Solids: Display the toy car and the lump of modeling clay. Squeeze the lump of modeling clay to change its shape. Ask:
   - What did you observe when I squeezed each solid object? *(The clay changed shape, but the car did not.)*
   - Did the masses of these solid objects change? Did the volumes change? *(No, the mass and volume did not change. If students do not recognize this, you may wish to form the clay back into a ball, and measure the mass and volume of both the clay and the car in front of the class. Squeeze the clay again and remeasure to demonstrate there is no change in mass or volume.)*
   - Recall from the previous lesson that all matter is made of tiny building blocks called particles. If the volume or mass did not change, do you think the number of particles making up each object changed when the objects were squeezed? Explain your answer. *(No, because adding or removing particles would cause the object's volume or mass to change.)*

   b. Liquids: Display the three containers of colored water you prepared, and ask students to observe the volume of liquid in each container. Pour the water from the containers of different shapes into three identical clear plastic containers to demonstrate that the quantities of liquid have equal volume. Pour the water back into the original containers to demonstrate that the volume stays the same but the liquid takes the shape of the container. Ask:
   - What did you notice about the volume of each liquid? *(Students should notice that it looked like the volumes of the three liquids were different because the water levels were unequal, but when the liquids were poured into identical containers, it was obvious that they all had the same volume.)*
   - What can you conclude about the volume of a liquid and the shape of its container? *(A liquid takes the shape of its container, but its volume does not change when the size of the container is changed.)*

   c. Gases: Gently squeeze the balloon to demonstrate that the gas inside changes shape with the balloon. Do the same with the bag of air, and then open the seal to demonstrate that the air leaves the bag and disperses into the room. Ask:
   - What did you notice when I squeezed the balloon and the bag of air? *(The gas seemed to move around inside both the balloon and the bag.)*
   - How did the bag of air change when I opened it? Predict what happened to the gas inside. *(Students should predict that because the bag seemed to deflate when it was opened, the air left the bag.)*

3. Write the following statements on the board in a single column:
   - A material that has definite shape and volume.
   - A material that has definite volume but takes the shape of its container.
   - A material that has no definite shape or volume and can expand freely to fill a container of any size or shape.

   In a second column, write "solid," "liquid," and "gas." As a class, match each state of matter to one of the descriptions you wrote on the board. Instruct students to copy the descriptions into the first row of Student Investigation Sheet 2A.

> **Teaching Tip**
>
> Students may struggle to understand that solids like modeling clay have a definite shape. Explain that the modeling clay is malleable, or can change its shape, but that the individual particles that make up the modeling clay do not change in shape.

4. Explain that the next demonstration will utilize the same type of matter, water, in three different states. Students will observe phase changes, or the changes from one state of matter to another. Provide a pair of safety goggles for each student. Once you and the students have the goggles on, display the beaker of ice cubes and the beaker of water. Pour a little water from the water beaker into the beaker of ice and insert the thermometer. Measure the temperature of the ice water and record it on the board.

> **Teaching Tip**
>
> Dispel misconceptions that a material's temperature is increased only by extremes such as boiling or cooking. Bringing a glass of ice to room temperature is also an example of heating the material.

5. Place the beaker on a hot plate and begin to heat the ice water. Record the temperature every minute until all the ice has melted and the water is at a full boil. As the beaker heats up, ask students to observe what is happening and share their observations with the class. Students should notice that as the hot plate raises the temperature, the ice melts into water. The liquid water begins to boil, and some of the water turns into water vapor.

> **Teaching Tip**
>
> Exercise caution when using the hot plate. Do not touch or allow students to touch the hot plate. Also use caution when handling the beaker. Use an oven mitt or allow the beaker to cool completely before handling.

6. Turn off the hot plate and provide time for students to discuss what they observed in their groups. After some time, facilitate a class discussion using the following questions:
   - How did the water change during this demonstration? How many phase changes occurred? *(Students should be able to identify two state changes: Ice was heated until it became water. Water was boiled until it become water vapor.)*
   - What pattern do you notice with these phase changes? *(Both of the phase changes were the result of adding heat.)*
   - How can you make ice? *(Freeze water.)*

Lesson in instructional resource

Teaching Tip

Make sure students understand that heat energy was added to cause the phase changes they observed. Explain that when water is frozen, heat energy is removed from the system.

---

7. Discuss melting point, freezing point, and boiling point. Write the following definitions on the board. Direct students to copy each into their science notebooks.

a. A material's freezing point is the temperature at which it changes from a liquid to a solid. For water, this is 0°C (32°F).

b. A material's melting point is the temperature at which it changes from a solid to a liquid. For water, this is 0°C (32°F).

c. A material's boiling point is the temperature at which it changes from a liquid to a gas. For water, this is 100°C (212°F).

Encourage students to provide examples of phenomena related to these terms, such as creating popsicles, melting ice cream, or steaming soup.

8. Ask students if they observed any particles during the demonstration. Make sure students understand that particles are too small to be seen with the eye and require a powerful microscope to view. Ask:

- Think about the ice, water, and vapor. Are these materials made of the same particles? *(Yes)*

- Do you think the number of particles changed as the water changed state? *(Answers will vary. Explain that the number of particles did not change.)*

9. Distribute 20 marbles and a clear plastic container to each group. Instruct students to work in groups of four to develop a model to describe the movement and attraction of the particles in each state of matter. Provide the following rules for students:

- You must demonstrate how particles become more or less attracted while changing from a solid to a liquid to a gas.

- You may use the container or the surface of your desk to demonstrate each state of matter.

- You may demonstrate movement by shaking the container with the lid on or moving the marbles across your desk.

Teaching Tip

Instruct students to shake their containers quietly and to make sure the floor is clear of marbles at the end of the investigation. You may want to provide a shallow box if the desks are not flat.

---

10. Provide time for groups to develop their models. Allow students to struggle with the challenge before intervening, but use the following question to guide students toward an understanding particle behavior:

- Think about adding energy to something, like we added heat energy to ice and water. What typically happens when something has more energy? *(Objects with more energy tend to move faster than objects with less energy. Guide students to this conclusion by asking them to describe the behavior of a person who has a lot of energy.)*

11. Allow each group to share its model. Draw attention to similarities and differences among the models, but identify models that accurately show particles becoming less attracted and moving faster. Once all groups have shared, ask:

- What happens to particles' attraction and movement as energy is added to a system of matter? *(The particles become less attracted and move faster.)*

- Relate the models to the definitions of each state of matter. *(Students' models will vary, but they should be able to describe how their model represents the following: Solids keep their shape, so their particles are strongly attracted and do not move very much. Liquids maintain the same volume but can take the shape of their container, so their particles have less attraction and more movement. Gases have no definite shape or volume and can spread out, suggesting they are less attracted and move around the most.)*

12. Draw on the board a simple diagram of these particle arrangements. Use Figure 2.1 as a reference.
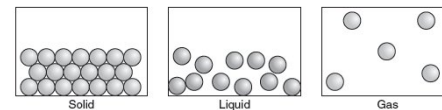
Figure 2.1: Particles are arranged differently in solids, liquids, and gases.

Guiding Unit Question:

Lesson Goal(s):

Date

Connecting Activity:

Supports

Mini Lesson:

Processing Tasks

I Need to…   I Must…   I Can…   I Could…

Access   All   Most   Few

Transforming & Personalizing Activity:

Guiding Unit Question: How can I use a model to help me understand that some matter is made up of particles that are too small to see?

Lesson Goal(s): I know that matter can be broken apart into tiny particles that are too small to see

Date

Connecting Activity: picture set
What do all these pictures have in common: states of matter

Additional supports & strategies to ensure all students meet the "ALL"
- Provide vocab list, sentence stems, options for verbal explanation

Mini Lesson: students watch a demonstration experiment (3 beakers)

Processing Tasks – graphic organizer connected to demonstration

I need to…	I must…	I can…	I could…	I can try to…
Watch a science demonstration

Draw what you observe and label it with vocab words | Label which beaker is solid, liquid, gas | Draw the arragement of particles in each state of matter | Show how the particles move in each drawing | Explain how particles break down in this experiment (E.g., What did we do to the matter) |
| Access | All | Most | Few | Challenge |

Transforming & Personalizing Activity: Exit Slip (post it notes or partner share)
What helped you to learn and feel successful today?

This is lesson creates evidence for: 5-PS1-1 (NGSS)

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

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

UDL Lesson Plan: Connect Phase

Universal Strategies	UDL Indicators Targeted	Support Needs Impacted	Students in Mind
Picture set	7.2, 8.3, 1.1, 1.2, 1.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 4.1, 5.1, 5.3	Attention, anxiety, communication, engagement/ motivation, executive functioning, intellectual ability, language, literacy, memory, self regulation, self esteem, social skills	GA, MA, LB, JA, ES, RM, NS, KR, TP, AD
Highlighting key words	2.1, 2.4, 3.1, 3.2, 3.4, 5.2	Communication, engagement/ motivation, executive functioning, intellectual ability, literacy, language, memory, self regulation, self esteem,	GA, LB, ES, NS
Student Friendly Learning Goal	8.1, 3.2, 3.4, 6.1, 6.4	Anxiety, communication, engagement/motivation, executive functioning, intellectual ability, literacy, memory, self regulation, self advocacy	GA, MA, LB, JA, ES, ES, KR, GS, MA

Describe what you see.
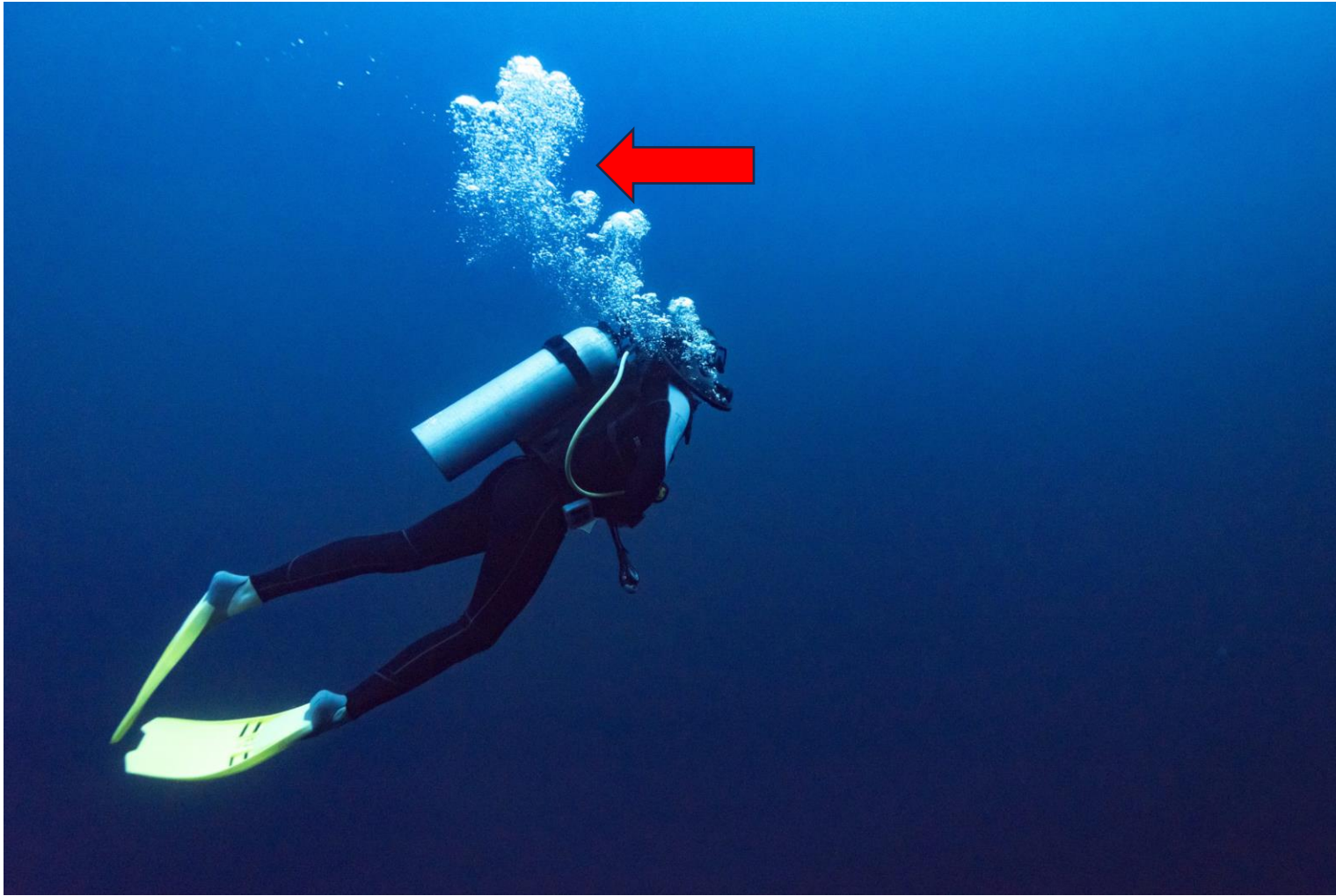
What do you notice?

Describe what you see.
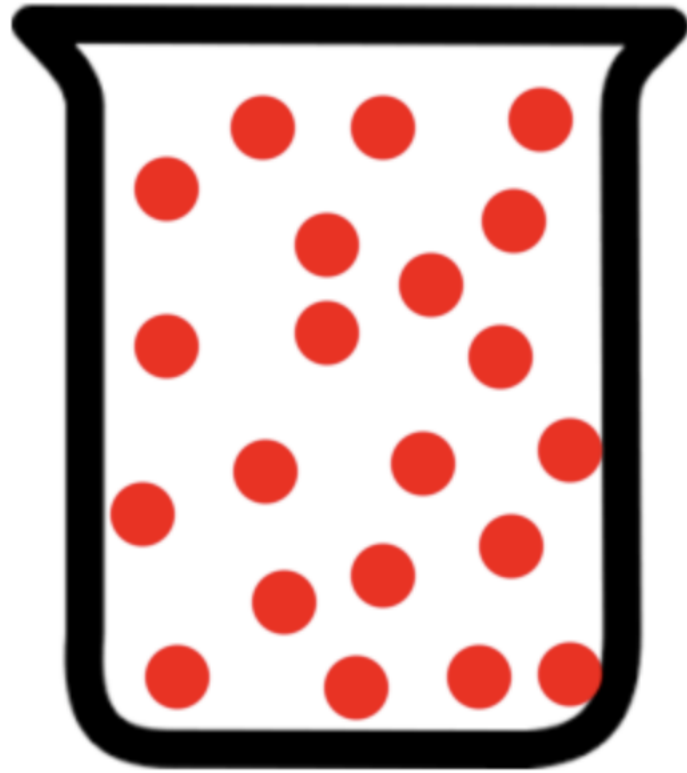
How does this image connect to the other image?

Describe what you see.

How is this image different or the same as the other images?

Describe what you see.

How is this image different or the same as the other images?

Describe what you see.
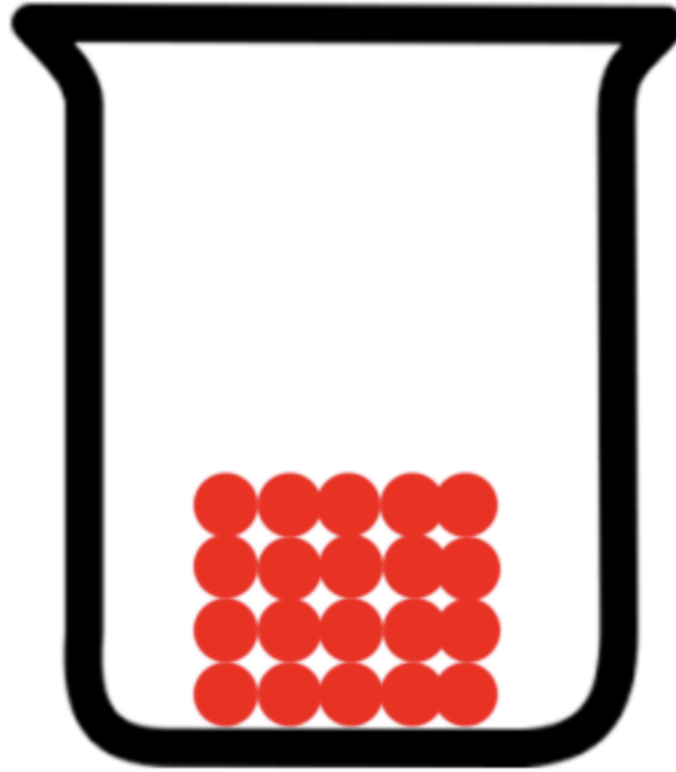
How is this image different or the same as the other images?

Describe what you see.

How is this image different or the same as the other images?

Describe what you see.

How is this image different or the same as the other images?

Describe what you see.
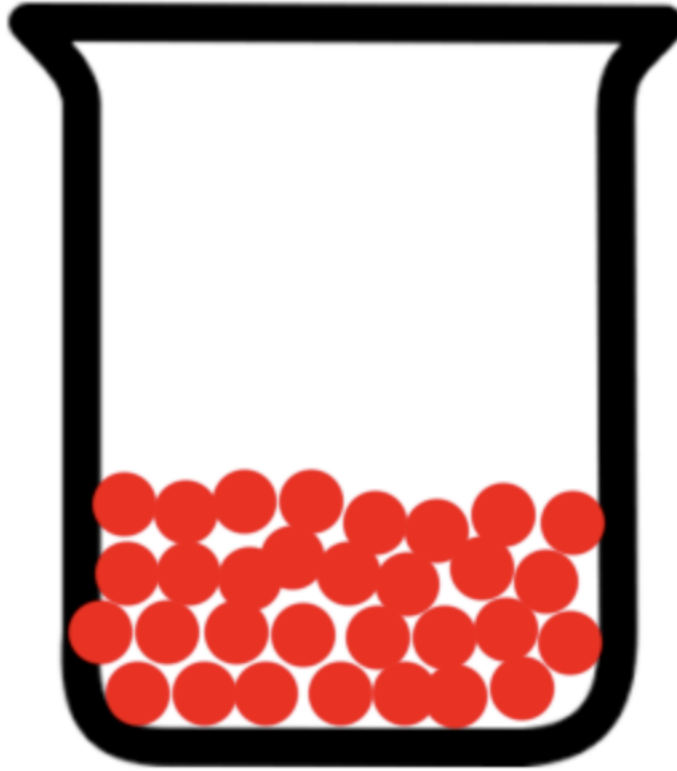
How is this image different or the same as the other images?

What do all these images have in common?
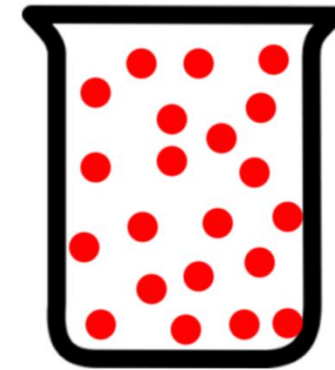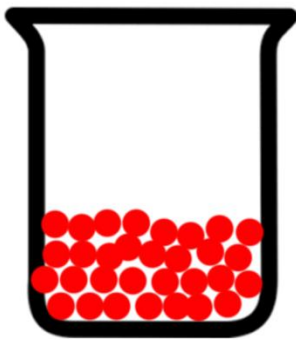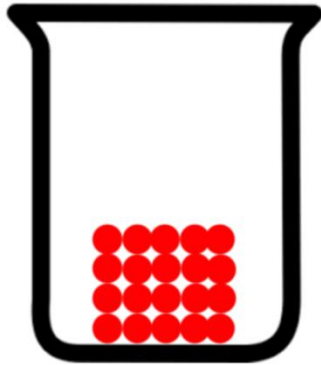
All the images are different
states of matter

SOLID

LIQUID

GAS

Our Learning Goal: I know that matter can be broken apart into tiny particles that are too small to see

SOLID

LIQUID

GAS

UDL Lesson Plan: Mini Lesson Phase

Universal Strategies	UDL Indicators Targeted	Support Needs Impacted	Students in Mind
Modelling (concrete learning)	1.1, 1.2, 1.3, 2.4, 3.1, 3.2, 3.3, 7.3	Attention, Communication, Engagement, Intellectual Ability, Literacy, Memory, Self Regulation,	JA, RM, LB, ES, NS, GA, MA, KR, TP, AD

UDL Lesson Plan: Processing Phase
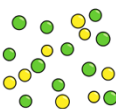
Universal Strategies	UDL Indicators Targeted	Support Needs Impacted	Students in Mind
Scaffolded Processing Task	7.1, 8.1, 8.2, 8.4, 9.1, 9.3, 4.1, 5.3, 6.1, 6.4, 3.1, 2.1, 3.2,	Attention, Anxiety, Engagement, Frustration, Intellectual Ability, Literacy, Self-Regulation, Self Esteem, Executive Functioning, Memory, Transitioning	JA, RM, GA, LB, ES, KR, GS, NS, MA, BW, IM, MB
MUST/ CAN/ COULD Task checklist	2.4, 2.1, 3.1, 3.2, 3.3, 7.1, 7.3, 8.1, 8.2, 8.4, 9.1, 9.2, 9.3, 5.3, 6.1, 6.3, 6.4	Attention, Anxiety, Engagement, Frustration, Intellectual Ability, Literacy, Self-Regulation, Self Esteem, Executive Functioning, Memory, Transitioning, Self Advocacy, Literacy	JA, RM, GA, LB, ES, KR, GS, NS, MA, BW, IM, MB, TP, AD
MUST/ CAN/ COULD graphic organizer	5.1, 5.3, 6.1, 6.2, 6.3, 6.4, 7.1, 8.1, 8.2, 8.4, 9.1, 9.3, 1.1, 2.1, 2.3, 2.4, 3.1, 3.2, 3.4	Attention, Anxiety, Communication, Engagement, Frustration, Intellectual Ability, Literacy, Self-Regulation, Self Esteem, Executive Functioning, Memory, Transitioning, Self Advocacy, Literacy	JA, RM, GA, LB, ES, KR, GS, NS, MA, BW, IM, MB, TP, AD
Vocab list	1.1, 1.2, 1.3, 2.1, 2.3, 2.4, 3.2, 4.1, 4.2, 5.2, 7.3,	Attention, Anxiety, Communication, Engagement, Frustration, Intellectual Ability, Language, Literacy, Memory, Self regulation, Self Esteem	JA, RM, GA, LB, ES, KR, GS, NS, MA, BW, IM, MB, TP, AD

Guiding Question: How can I use a model to help me understand that some matter is made up of particles that are too small to see?

Learning Goal: I know that matter can be broken apart into tiny particles that are too small to see

Task: Observe a science demonstration

Everyone starts together

Go as far as you can!

I NEED to:	• Watch the science demonstration • Create a diagram that shows the science demonstration that you watched	watch
I MUST:	• Label your diagram with vocabulary words	label
I CAN:	• For each state of matter, draw the tiny particles that are too small to see	draw
I COULD:	• Show on your drawing, how the tiny particles move	
I can TRY to:	• Using words and drawings, show what made the break down the tiny particles	

Graphic Organizer in instructional resources

What Are the States of Matter?

	Solid	Liquid	Gas
Definition			
Examples			
Description of arrangement of particles			
Drawing of arrangement of particles			

MUST/CAN/COULD Graphic Organizer

Guiding Question: How can I use a model to help me understand that some matter is made up of particles that are too small to see?

Learning Goal: I know that matter can be broken apart into tiny particles that are too small to see

Name:	Date:

Need: Watch the science demonstration. Create a diagram that shows the science demonstration that you watched.	Must: Label your diagram with vocabulary words: matter solid liquid gas beaker heat water ice steam

Guiding Question: How can I use a model to help me understand that some matter is made up of particles that are too small to see?

Learning Goal: I know that matter can be broken apart into tiny particles that are too small to see

Name:	Date:

Can: For each state of matter, draw the tiny particles that are too small to see Could: Show on your drawing, how the tiny particles move	Can Try: Using words and drawings, show what was used to make the tiny particles move _____ _____ _____

Vocab List

Guiding Question: How can I use a model to help me understand that some matter is made up of particles that are too small to see?

Learning Goal: I know that matter can be broken apart into tiny particles that are too small to see

---

Name:

Date:

Need: Watch the science demonstration. Create a diagram that shows the science demonstration that you watched.

Must: Label your diagram with vocabulary words:

matter

solid

liquid

gas

beaker

heat

water

ice

steam

This is activity is evidence for: 5-PS1-1 (NGSS)

Dr. Shelley Moore, 2024

Need/ Must

Guiding Question: How can I use a model to help me understand that some matter is made up of particles that are too small to see?

Learning Goal: I know that matter can be broken apart into tiny particles that are too small to see

---

Name:

Date:

Can: For each state of matter, draw the tiny particles that are too small to see

Could: Show on your drawing, how the tiny particles move

Can Try: Using words and drawings, show what was used to make the tiny particles move

_____

_____

_____

This is activity is evidence for: 5-PS1-1 (NGSS)

Dr. Shelley Moore, 2024

Can/Could/Try
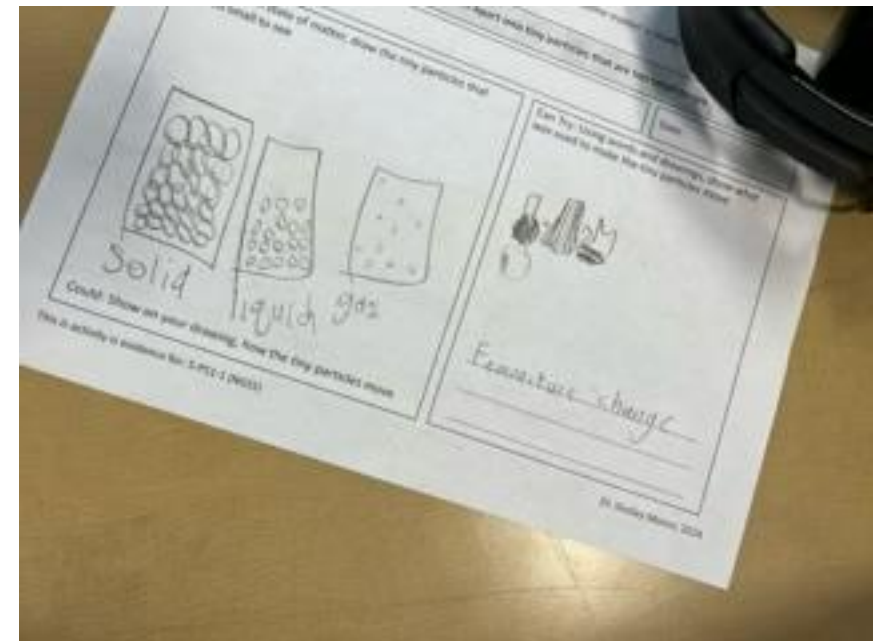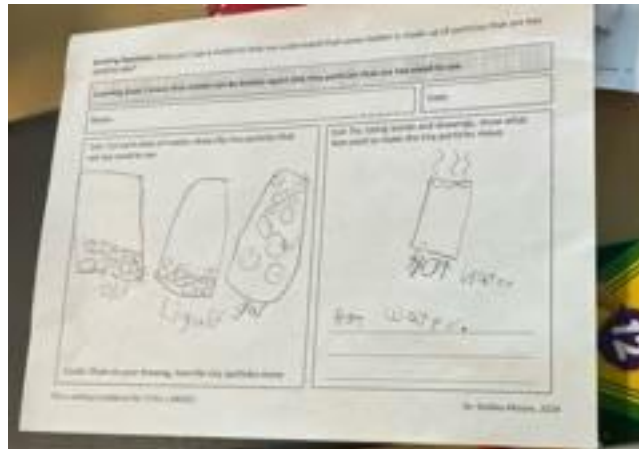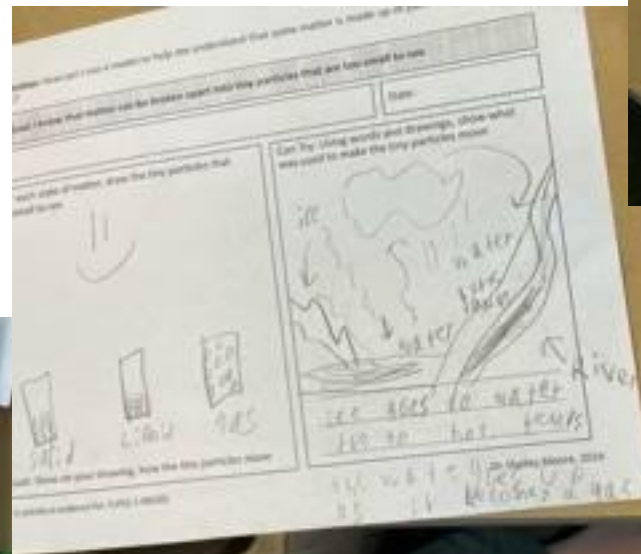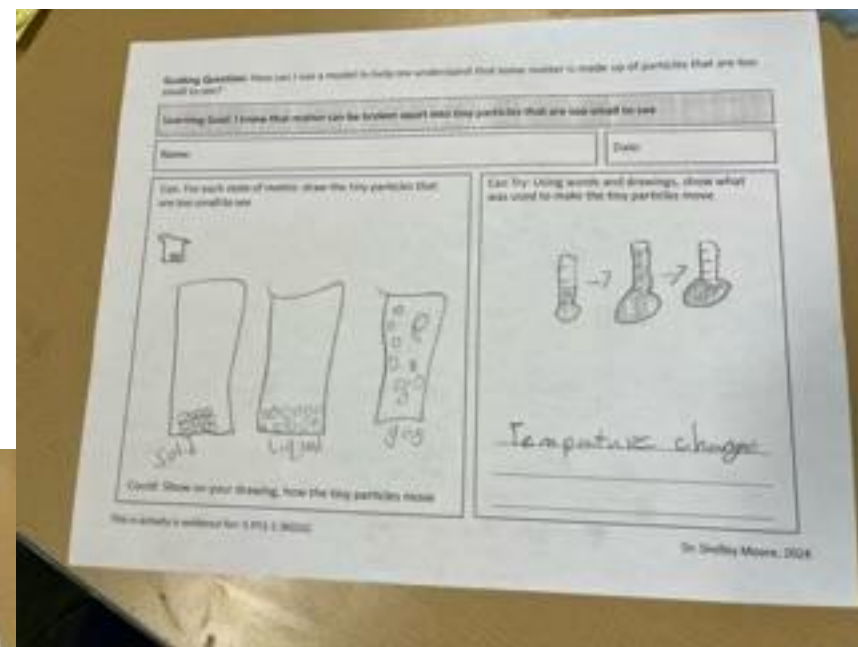
UDL Lesson Plan:
Transforming & Personalizing Phase

Universal Strategies	UDL Indicators Targeted	Support Needs Impacted	Students in Mind
Exit Slip Reflection	3.4, 6.4, 5.1, 9.3	Communication, Engagement, Intellectual Ability, Literacy, Self Regulation	JA, RM, GA, LB, ES, KR, GS, NS, MA, BW, IM, MB

Grade: 2	Subject Area: Science	Planning Team: Kim (CT2), Shelley, Jessica (PA), Raime (P), Kendra (DI)
Big Idea(s): Water is essential to all living things, and it cycles through the environment.	**Unit Guiding Question(s):** Why is water important to living things and the environment?	
Key Vocabulary: wetlands, stream, underground water, Indian Ocean, glacier, Arctic Ocean, river, dug out/ pond, Pacific Ocean, Earth, fresh water Lake, Atlantic Ocean, Southern Ocean, salt water		

	Learning Standard	Student Friendly Language
What do students need to know? Content	water sources including local watersheds	I know different kinds of water sources on the Earth
Content	local First People's knowledge of water: connection to other systems	I know the local Frist Peoples' understanding of water
What do students need to do? Curricular Competencies Questioning and predicting	Ask questions about familiar objects and events	I can ask question about things I am curious about
What do students need to do? Curricular Competencies Processing and analyzing data and information	Sort and classify data and information using drawings, pictographs and provided tables	I can sort organize my learning in different ways
What do students need to do? Curricular Competencies Communicating	Communicate observations and ideas using oral or written language, drawing, or role-play	I can share my learning and ideas in different ways
Who do student need to be? Core Competency Goals	**I am a critical thinker...**	

Grade: 2	Subject Area: Science	Planning Team: Kim (CT2), Shelley, Jessica (PA), Raime (P), Kendra (DI)

Big Idea(s): Water is essential to all living things, and it cycles through the environment.	**Unit Guiding Question(s):** Why is water important to living things and the environment?

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Who do student need to be? Core Competency Goals	I am a critical thinker...	

Content Goal: water sources including local watersheds				
Student friendly: I know different kinds of water sources on the Earth				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I know the difference between land and water on the Earth I know that Earth has salt water and fresh water	I know that water is a natural resource that is found in oceans, lakes, ponds, rivers, streams, wetlands, and glaciers	I know that freshwater habitats are found in rivers, ponds, lakes, and wetlands I know that saltwater habitats are found in oceans and seas	I know that much of Earth's fresh water is in the form of ice and snow at the north and south poles, found in glaciers, or stored underground (groundwater)	I know that clean fresh water has no taste, colour, or smell

Curricular Competency Goal: Processing and analyzing data and information Sort and classify data and information using drawings, pictographs and provided tables				
Student friendly: I can sort and organize information in different ways				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I can sort information into familiar categories using concrete familiar objects	I can sort information by a category or theme I can organize information visually by following a model	I can organize information visually with pictures and drawings I can organize information in a table by following a model	I can create a table or visual to organize information and data	I can organize data with multiple variables visually or on a table

Guiding Unit Question: Why is water important to living things and the environment?

Lesson Goal(s):
I know different kinds of water sources on the Earth
I can sort and organize information in different ways

Date

Connecting Activity: picture/word sort using unit vocabulary

Supports

- Visuals (JR, KM, JO)
- Graphic organizer (LP, IM, RE, JR, JO)
- Different levels of text (JR, LL)
- Pre teach vocab (KM, JO, JR)
- Hands on (J, KO)
- Step by step instructions (IM, RE, JR, KO)
- Options for challenge (SD)
- Accessible entry point (JR)
- Model to refer to(JR, KM, JO, LL) (writing)

Mini Lesson: Watch a video about the different kinds and sources of water

Processing Tasks: Modelling the building of a mind maps to organize different kinds and sources of water

I Need to...	I Must...	I Can...	I Could...	I Can Try to...
Find the water on a picture of the Earth Talk about where you see water in the world around you	Find out 2 different kinds of water in the world & add to mind map	Find examples of the 2 kinds of water and add to your mind map	Choose a habitat that is in water - Add examples of living things that live in there	Choose a different habitat Compare the habitats to each other
Access	All	Most	Few	Challenge

Transforming & Personalizing Activity:

Connect 1/Connect 2 – what did we learn about water today?

Content Goal: water sources including local watersheds				
Student friendly: I know different kinds of water sources on the Earth				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I know the difference between land and water on the Earth I know that Earth has salt water and fresh water	I know that water is a natural resource that is found in oceans, lakes, ponds, rivers, streams, wetlands, and glaciers	I know that freshwater habitats are found in rivers, ponds, lakes, and wetlands I know that saltwater habitats are found in oceans and seas	I know that much of Earth's fresh water is in the form of ice and snow at the north and south poles, found in glaciers, or stored underground (groundwater)	I know that clean fresh water has no taste, colour, or smell

Curricular Competency Goal: Processing and analyzing data and information Sort and classify data and information using drawings, pictographs and provided tables				
Student friendly: I can sort and organize information in different ways				
Approaching	**Emerging**	**Developing**	**Confident**	**Extending**
I can sort information into familiar categories using concrete familiar objects	I can sort information by a category or theme I can organize information visually by following a model	I can organize information visually with pictures and drawings I can organize information in a table by following a model	I can create a table or visual to organize information and data	I can organize data with multiple variables visually or on a table

The Lesson

Why is water important to living things and the environment?

Our Goals Today!

I know different kinds of water sources on the Earth

I can sort and organize information in different ways

Important Words

wetlands
stream
underground water
Indian Ocean
glacier
salt water
Arctic Ocean
river

dug out/ pond
Pacific Ocean
Earth
fresh water
lake
Atlantic Ocean
Southern Ocean

Connect Activity

Your job...

1. Cut out the boxes on the black line

2. Talk to your partner, are these words you know or words you don't know?

3. Sort the picture words into the boxes
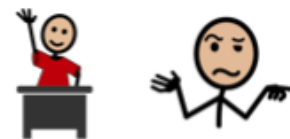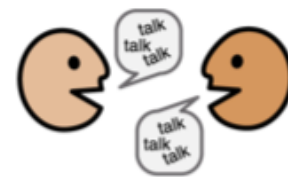
Connect Activity

I know these words!

I'm not sure about these words.

Connect Activity

Mini Lesson

Video

https://www.youtube.com/watch?v=bNWuQD7QHBc
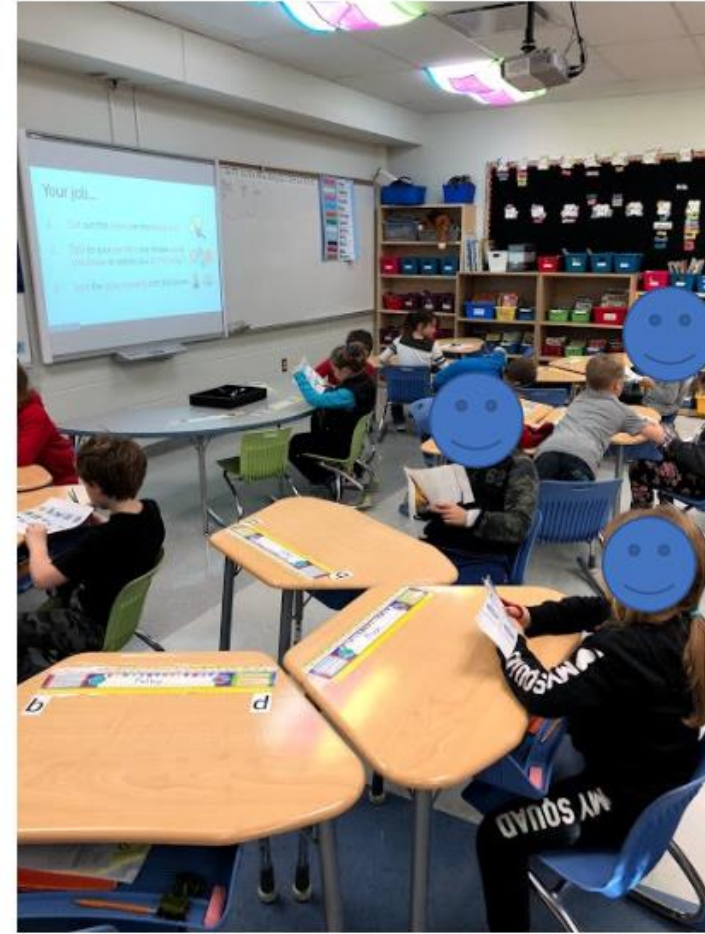
Processing Activity

What can we learn about water?
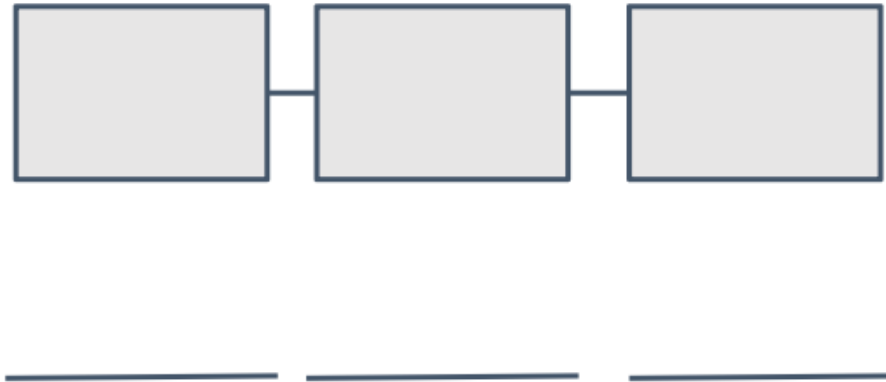
Template: Activity Scaffold

Processing Activity

I know different kinds of water sources on the Earth
I can sort and organize information in different ways

Start Together

Go as far as you can!

NEED	Find water on a picture of the Earth Figue out whiich part of the Earth is water and whiich is land?
MUST	Find the different kinds of water on the Earth Label the mind map with these two categories
CAN	Find the examples where to find the different kind of water on the Earth Sort the pictures on the mind map
COULD	Choose a habitat that is in water Sort & organize examples of living things that live on the mnid map
TRY	Choose another habitat that is in water Sort & organize examples of living things that live on the mnid map and compare th habitats
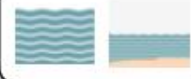
NEED

Find water on a picture of the Earth

Figue out whiich part of the Earth is water and whiich is land

MUST

Find the different kinds of water on the Earth

Sort on the mind map
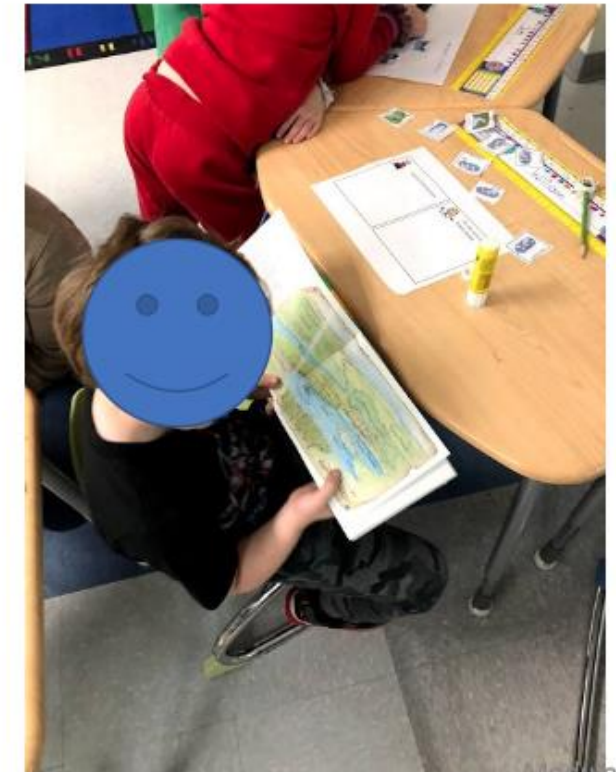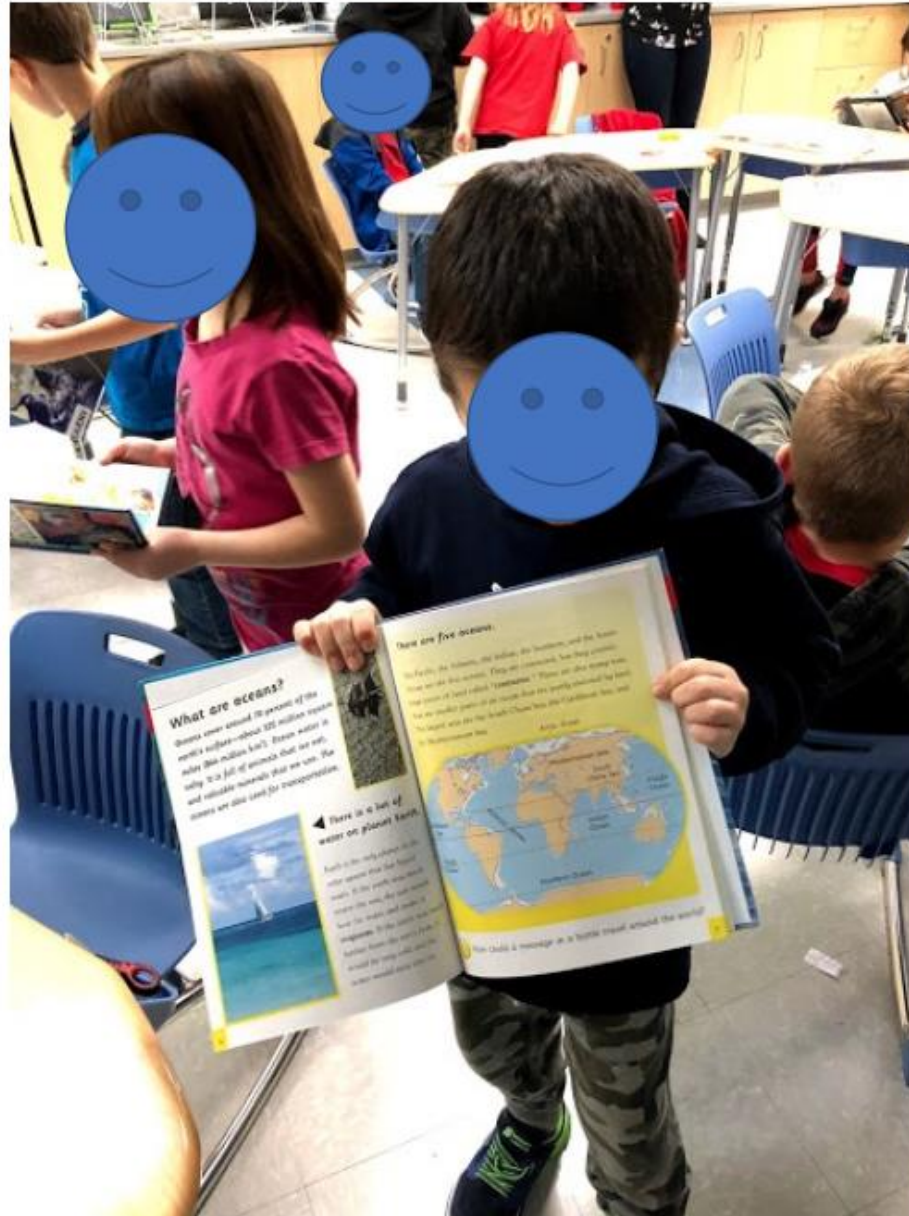
Find the **examples** where to find the different kind of **water** on the **Earth**
Sort the pictures on the mind map
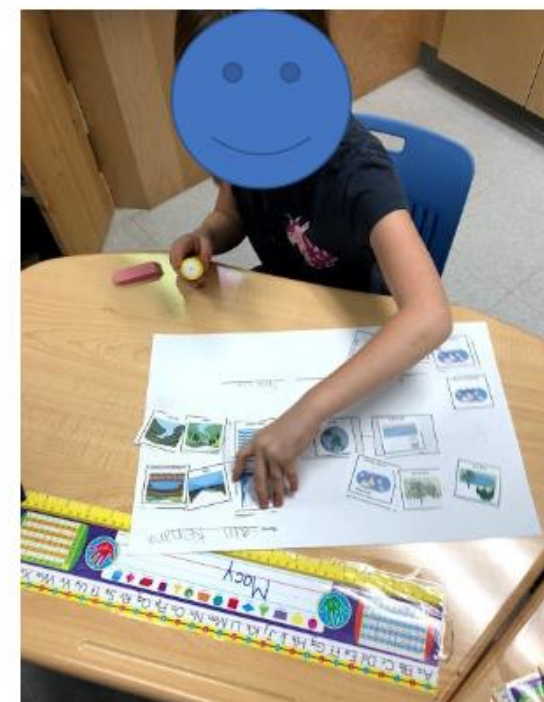
Transforming & Personalizing Activity

What did we learn about water?

1. Choose a word that you know!

2. Use the word to make a learning sentence

3. Use two words to make a learning sentence

Transforming & Personalizing Activity

Teacher Team UDL Guidelines Self-Assessment & Target Goal Planner   Date:
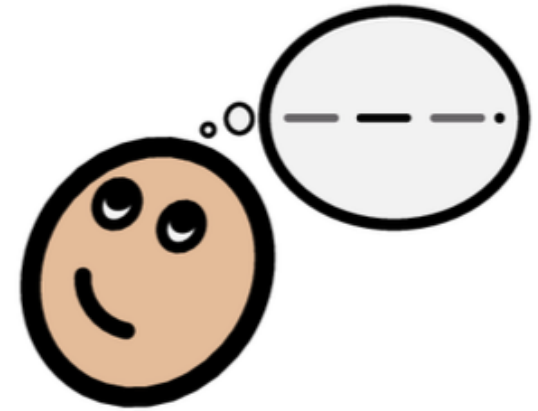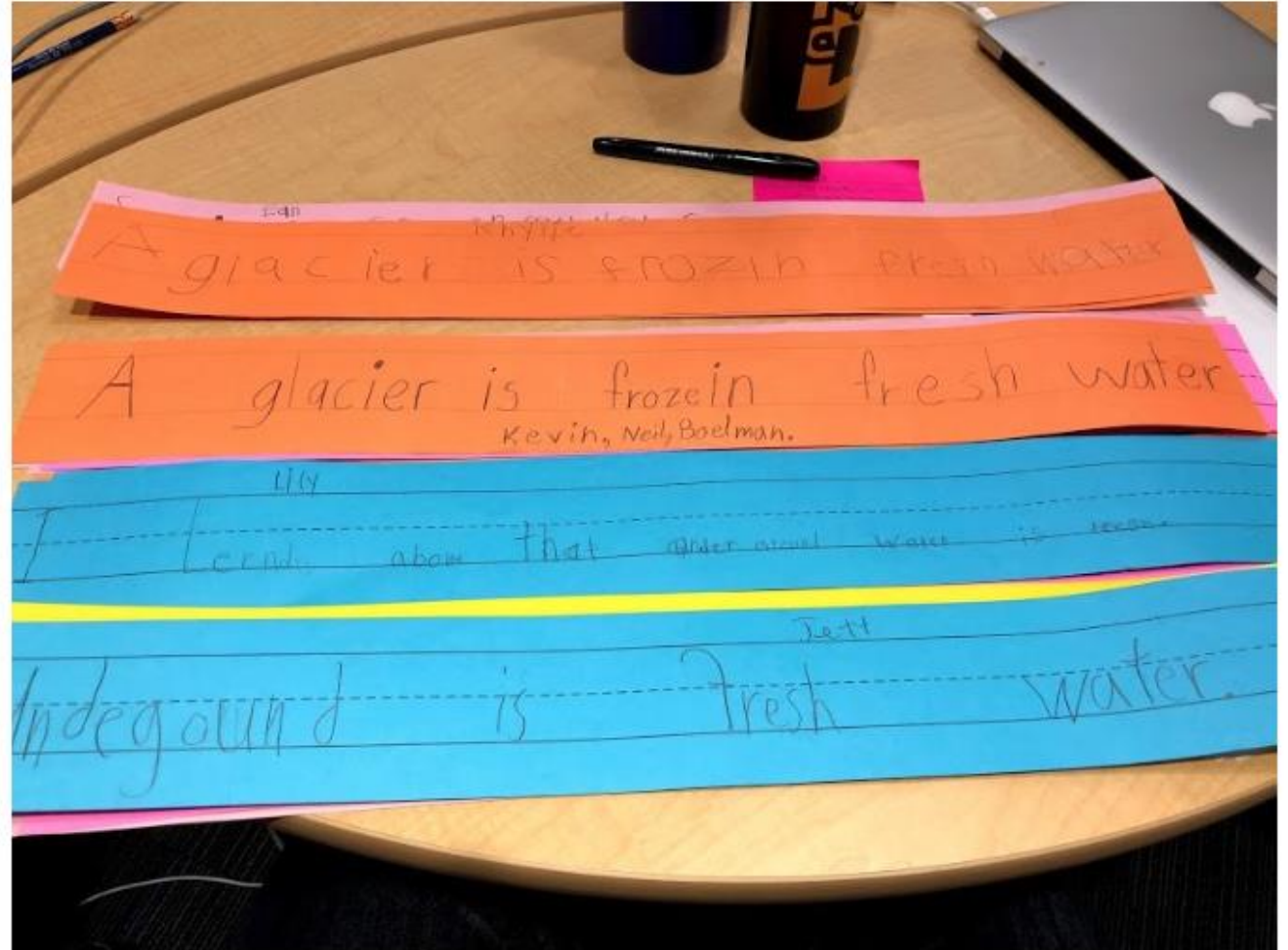
UDL Language: Engagement		Accessible Language		Teacher Team UDL Reflection & Self-Assessment		
UDL Guideline	**Providing Multiple Means of Engagement**	**Goal Area**	**Student Engagement**			
7	**Provide options for recruiting interest**	**Goal**	I can support students to be interested in what we are learning about by:	We can do this!	We want to keep working on this!	This is our next step!
7.1	• Optimizing individual choice and autonomy	Objective	• giving students choice and control over what they are learning about (e.g. content, examples used)	☐	☐	☐
7.2	• Optimizing relevance, value & authenticity	Objective	• making learning relevant to the student's lives and connecting it to real world problems that are important to the students	☐	☐	☐
7.3	• Minimize threats & distractions	Objective	• reducing distractions in the classroom and building a safe place for students to take risks	☐	☐	☐
8	**Providing options for sustaining Effort & Persistence**	**Goal**	I can support students to be motivated by:	We can do this!	We want to keep working on this!	This is our next step!
8.1	• Heighten Salience of goals and objectives	Objective	• clearly communicating learning goals/ intentions and why tasks and activities matter	☐	☐	☐
8.2	• Vary demands and resources to optimize challenge	Objective	• scaffolding learning by starting with accessibility and adding on challenge in goals and tasks	☐	☐	☐
8.3	• Foster collaboration and community	Objective	• building a community where learners work together by teaching collaboration and group work skills	☐	☐	☐
8.4	• Increase mastery-oriented feedback	Objective	• providing ongoing formative feedback that is relevant, clear, accessible and timely	☐	☐	☐
9	**Provide options for Self-Regulation**	**Goal**	I can support learners to effective at coping and engaging successfully with the learning environment by:	We can do this!	We want to keep working on this!	This is our next step!
9.1	• Promote expectations and beliefs that optimize motivation	Objective	• helping students set learning goals that build confidence and help them take ownership of their learning	☐	☐	☐
9.2	• Facilitate personal coping skills and strategies	Objective	• teaching how to manage emotional responses & about healthy emotional responses and interactions	☐	☐	☐
9.3	• Develop self-assessment and reflection	Objective	• by helping students to increase their awareness of how they are progressing towards their goal & how to learn from their mistakes	☐	☐	☐

Our UDL Team Target Goal is:

UDL Guidelines – Engagement, CAST 2019   adapted by Shelley Moore, 2019

Teacher Team UDL Guidelines Self-Assessment & Target Goal Planner

Date:

UDL Language: Representation			Accessible Language		Teacher Team UDL Reflection & Self-Assessment		
UDL Guideline	Providing Multiple Means of Representation	Goal Area	Sharing "what" students are learning				
1	Provide options for perception	Goal	We can present new information to students so that they understand it by:		We can do this!	We want to keep working on this!	This is our next step!
1.1	• Offer ways of customizing the display of information	Objective	• Sharing information in formats that are flexible		☐	☐	☐
1.2	• Offer alternatives for auditory information	Objective	• Utilizing modalities that compliment auditory information (visuals, tactile, movements etc.)		☐	☐	☐
1.3	• Offer alternatives for visual information	Objective	• Utilizing modalities that compliment visual information (descriptions, objects, auditory clues, reader)		☐	☐	☐
2	Providing options for language and symbols	Goal	We can share different options/ examples of language and symbols to support student understanding by:		We can do this!	We want to keep working on this!	This is our next step!
2.1	• Clarify vocabulary and symbols	Objective	• Pre-teaching important vocabulary, symbols, numbers labels in many ways (written, oral, visual examples)		☐	☐	☐
2.2	• Clarify syntax and structure	Objective	• Highlighting and teaching patterns and properties in systems (e.g. grammar, notation, taxonomies, equations etc.)		☐	☐	☐
2.3	• Support decoding of text, mathematical notation and symbols	Objective	• Teaching and using supports and strategies for students to understand written text, mathematical notation and symbol use (unless the goal is de-coding ability)		☐	☐	☐
2.4	• Promote understanding across languages	Objective	• Teaching and using translators, descriptions, movement & visuals to support understanding in unfamiliar and multiple languages		☐	☐	☐
2.5	• Illustrate through multi media	Objective	• Using multi-media to support understanding (videos, graphics, activities)		☐	☐	☐

UDL Language: Expression			Accessible Language		Teacher Team UDL Reflection & Self-Assessment		
UDL Guideline	**Providing Multiple Means of Action & Expression**	**Goal Area**	**Sharing and representing new information for student learning**				
4	Providing options for physical action	Goal	We can provide options for students to communicate using tools and assistive technology by:		We can do this!	We want to keep working on this!	This is our next step!
4.1	• Vary the methods for response and navigation	Objective	• providing tools/ assistive technologies to support motor skills to interact with instructional materials (i.e. alternatives to pencil/paper)		☐	☐	☐
4.2	• Optimize access to tools and assistive technologies	Objective	• providing support and teaching how to use tools effectively (i.e. teaching how to use tools/assistive technologies as supports)		☐	☐	☐
5	Provide options for expression and communication	Goal	We can provide options for students to show what they know & communicate their learning by:		We can do this!	We want to keep working on this!	This is our next step!
5.1	• Use multi-media for communication	Objective	• teaching new formats to develop a wider range of expression using multimedia and materials (oral/visual/written) (concrete/pictoral/abstract)		☐	☐	☐
5.2	• Use media tools for construction and composition	Objective	• offering supports and strategies for students to create written output (word prediction, text-to-speech, mapping tools, sentence starters etc.)		☐	☐	☐
5.3	• Build fluencies with graduated levels of support of support for practice and performance	Objective	• supporting increasing fluency by offering scaffolded options of challenge and supports to increase independence		☐	☐	☐
6	Provide options for executive functions	Goal	We can provide options for students to know and set goals and make decisions about what supports they need to meet the goals by:		We can do this!	We want to keep working on this!	This is our next step!
6.1	• Guide appropriate goals setting	Objective	• guiding students through reflection, self-assessment and goal setting with curricular and core competencies		☐	☐	☐
6.2	• Support planning and strategy development	Objective	• modelling how to use supports and strategies and empowering students to make individual decisions about what they need to meet goals		☐	☐	☐
6.3	• Enhance managing information and resources	Objective	• teaching students to organize their evidence of learning and determine their best examples of learning		☐	☐	☐
6.4	• Enhance capacity for monitoring progress	Objective	• using assessment checklists, learning maps, one-point rubrics and student work samples to provide feedback to students and model self-assessment				

Our UDL Team Target Goal is:

Break Out Groups

- What do you notice about this example?
- What do you wonder about this example?
- What is useful about his example?

Grade 8 Humanities

Grade: 8	Subject Area(s): Humanities	Planning Team:	
Big Idea: Questioning what we hear, read, and view contributes to our ability to be educated and engaged citizens.		**Unit Guiding Question(s):** As an active citizen, how can I educate myself about important social justice topics? As an active citizen, how can I educate others about important social justice topics?	
	Curricular Language	**Student Friendly Language**	**Possible Lesson Activities & Assessment Tasks**
Content Goal	oral language features and strategies	I know strategies to help me be a confident speaker I know how to use speaking strategies to help communicate my thinking	• Watch different TED talks to co-create criteria and determine strategies of a confident speaker (looks like, sounds like, feels like) • Students perform a TED talk about a social justice topic meaningful to them using oral language strategies
Content Goal	elements of visual and graphic texts	I know strategies to help me use visuals to share my thinking I know how to use visuals and graphics to help communicate my thinking	• Watch different TED talks to co-create criteria and determine how speakers use visuals to share their message (looks like, sounds like, feels like) • Students perform a TED talk about a social justice topic meaningful to them visual strategies
Curricular Competency Goal: Comprehend and connect (reading, listening, viewing)	Construct meaningful personal connections between self, text, and world	I can make connections between myself, texts and the world	• Watch TED talks that reflects a social justice topic reflective of the world and connects to them personally
	Synthesize ideas from a variety of sources to build understanding	I can find patterns between ideas from a different sources and texts to build understanding	• Research for their own TED talk includes multiple sourcesand texts and their talk includes ideas that connect sourcees together
Curricular Competency Goal: Create and communicate (writing, speaking, representing)	Use writing and design processes to plan, develop, and create engaging and meaningful literary and informational texts for a variety of purposes and audiences	I can use writing to plan, develop, and create engaging and meaningful oral texts for an audience	• Co creating criteria using graphic organizers • Create a speech or plan a speech using writing about a social justice topic important to them • Practice speech including feedback and self assessment • Hold TED talk event speech with an audiences
	Assess and refine texts to improve their clarity, effectiveness, and impact according to purpose, audience, and message	I can reflect on feedback and revise my writing and speaking so it makes sense, and communicates my message in an effective way	• Using co created criteria, reflect on feedback and self assess to improve and practice TED talk for final event • Practice speech in front of different audiences and audience sizes

Guiding Unit Question: As an active citizen, how can I educate myself about important social justice topics? As an active citizen, how can I educate others about important social justice topics?

Lesson Goal(s):
I know strategies to help me be a confident speaker
I know strategies to help me use visuals to share my thinking

Date

Connecting Activity: discussion and pre teaching of new vocabulary

Mini Lesson: Watch a TED talk, look for what the speaker does to be a confident

Processing Tasks: Co-construct criteria (what do confident speakers look like and sound like, what does it feel like to watch them)

I Need to…	I Must…	I Can…	I Could…	I Can Try to…
Choose a Ted Talk and watch it. Figure out what the the speaker's message is	List what the speaker does to keep you engaged. What does it look like, sound like feel like?	Follow the same process with another TED talk and compare the speakers	Give feedback to one of the speakers on what they do well, and one thing that you think they could improve on	Respond to one of the TED talks with a connection, a question or an opinion about their message

Transforming & Personalizing Activity: Exit slip – If you were going to make a POWERFUL Ted Talk, what are something you would do? What would be a topic you would talk about?

Supports & Strategies

- Proximity to N, scribe, strategic group members, check in, reassurance, redirection to prompts, task break down,
- Strategic locations, groups of 2 or 3, translated videos,
- Visuals, vocab review,
- Modeling, interesting ted talk,
- Pre teach vocabulary
- power point/ document camera
- Interesting ted talks
- Youth speakers
- Not too long videos
- About relevant issues

As an active citizen, how can I educate myself about important social justice topics?

As an active citizen, how can I educate others about important social justice topics?

Goals for Today:

I know strategies to help me be a confident speaker

I know strategies to help me use visuals to share my thinking

Learning Goals	I know strategies to help me be a confident speaker
	I know strategies to help me use visuals to share my thinking

Start here!

Go as far as you can

I NEED to
- choose a QR code, watch the TED talk
- notice what the message of this TED talk is

I MUST
- notice what this TED talk LOOKS like
- notice what this TED talk SOUNDS like
- notice what this TED talk FEELS like

I CAN
- analyze another QR code and compare speakers

I COULD
- offer some feedback to the TED speaker

I CAN TRY TO
- make a connection, question or opinion about the Ted Talk

Supports & Strategies Available

- Choice to work alone or in pairs
- Choice of Ted Talk
- Subtitles/translations available
- One person can be the writer
- One person can be the speaker
- Choice of Challenge
- Choice of where to go (hallway, next door, classroom)

Shelley Moore, Lake Trail Middle, 2018

What strategies do TED talk speakers use to share their thinking and help them feel confident?
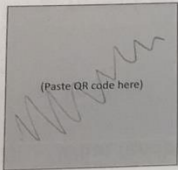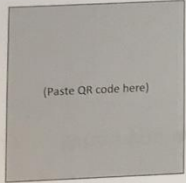
Title of TED Talk	What is the message?	What does the Speaker look like?	What does the speaker sound like?	What are you feeling when you watch the speaker?
Under the Table [QR Code]				
   QR Code				

TED Talks   Names of group members: _____

Title	What is the **message** of this TED Talk?	What does this TED talk **look** like?	What does this TED talk **sound** like?	What does this TED talk **feel** like?
Under the Table (Paste QR code here)	Inclusive Education — students in all classroom — everyone can learn	Red dot → stay in one place Dressed up Formal — stage lighting — but room was dark gestures pictures/visuals Colours — red not a script	funny jokes not just read conversational natural some "umms" are ok story	passionate inspiring knowledgable connected
(Paste QR code here)				

| Learning Goals | I know strategies to help me be a confident speaker

I know strategies to help me use visuals to share my thinking |

Start here!

Go as far as you can

I NEED to
- choose a QR code, watch the TED talk
- notice what the message of this TED talk is

I MUST
- notice what this TED talk LOOKS like
- notice what this TED talk SOUNDS like
- notice what this TED talk FEELS like

I CAN
- analyze another QR code and compare speakers

I COULD
- offer some feedback to the TED speaker

I CAN TRY TO
- make a connection, question or opinion about the Ted Talk

Supports & Strategies Available

- Choice to work alone or in pairs
- Choice of Ted Talk
- Subtitles/translations available
- One person can be the writer
- One person can be the speaker
- Choice of Challenge
- Choice of where to go (hallway, next door, classroom)

Shelley Moore, Lake Trail Middle, 2018

TED Talks

Names of group members: ████████████████████████

Title	What is the **message** of this TED Talk?	What does this TED talk **look** like?	What does this TED talk **sound** like?	What does this TED talk **feel** like?
Overcoming hopelessness Overcoming hopelessness [QR code]	- Everyone Matters and life special -	- No Arms & legs -	- Sad	- Depressed
_____ [Paste QR code here]				

TED Talks

Names of group members: ████████████████████

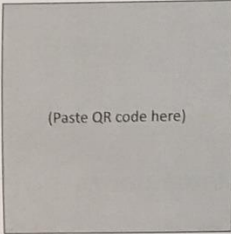| Title	What is the **message** of this TED Talk?	What does this TED talk **look** like?	What does this TED talk **sound** like?	What does this TED talk **feel** like?
The unexpected face of homelessness	- She bought the homeless guy a shoes and she didn't know the homeless stole the shoes" - she talked about how homeless she was and she didn't have many friends. - Never judge people by there cover	- The screen in the back was quote says "I bought him those shoes because he didn't have any" - Showing a bunch picture	- She sounds really confident to what shes talking - it's sounds like she knows what she's doing	- She makes you feel so inspired - it made you somewhat emotional - never judge people by there cover
Rethink before you type				

TED Talks

Names of group members: ██████████████████████

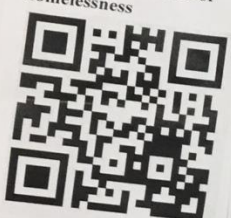| Title	What is the **message** of this TED Talk?	What does this TED talk **look** like?	What does this TED talk **sound** like?	What does this TED talk **feel** like?
Overcoming Hopelessness Overcoming hopelessness [QR code] (Paste QR code here)	-Always be hopefull even if other people tell you bad things or discouraging things -Everyone has value	-Dark -On a table -no limbs -screen behind him	-inspiring -emotional -Powerfull -Brave -Loud -strong -alone	-inspiring -emotional -Powerfel -Sad -like you are the only one there
 (Paste QR code here)				

TED Talks   Names of group members: _____

Title	What is the **message** of this TED Talk?	What does this TED talk **look** like?	What does this TED talk **sound** like?	What does this TED talk **feel** like?
_____ Rethink before you type [QR code]	Rethink about what you say How we need to think what we say, what we do, or post	Visuals young relevant red dot Presentable Dark room easy to focus	young Smart Calming Clapping Cheering Clearly speaking	inspiring astonishing life changing upsetting
_____ (Paste QR code here)				

TED Talks

Names of group members: ████████████████

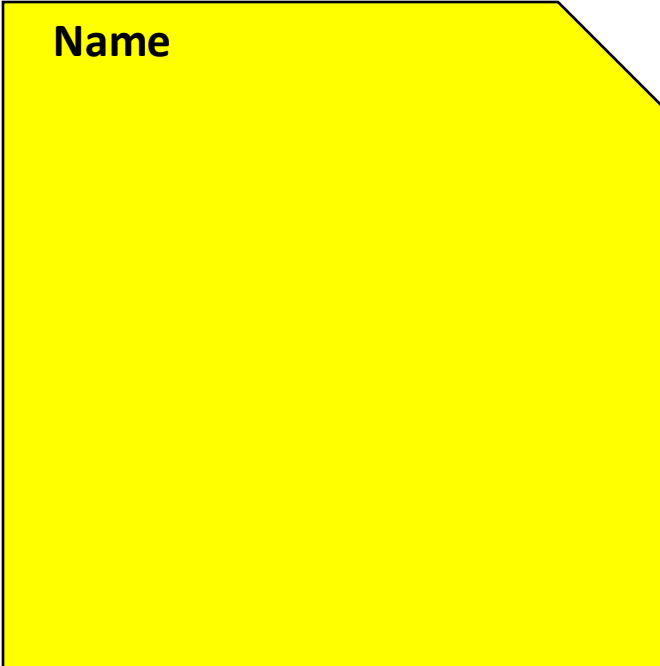| Title	What is the **message** of this TED Talk?	What does this TED talk **look** like?	What does this TED talk **sound** like?	What does this TED talk **feel** like?
The unexpected face of homelessness	The message of this TED talk is that if we keep imagining the stereotypical homeless person how many youths will reach out with this problem. -you are more than what you own -home and family is important -I have a home	Rough living -Logo -pictures -colourful -successful -fancy,proffessional -confident -TED	-she has an accent -clean -confident	-Feels -believed in herself -stage fright -nervous -tired
The unexpected face of homelessness (QR code) (Paste QR code here)				

TED Talks

Names of group members: ████████████████████████

Title	What is the **message** of this TED Talk?	What does this TED talk **look** like?	What does this TED talk **sound** like?	What does this TED talk **feel** like?
Over coming Hopelessness **Overcoming hopelessness** [QR code]	◦ Dont look down on yourself. • Stay hopeful. • Dont let your looks discourage you. • There are no limits, even if you're different looking, cultured or gender.	A 29 yr old with no limbs. He leaned and walked around. Dark settings. He was on a table.	Australian He sounded like Thor A focused/quiet audience.	Hopeful Deep/heartfelt He has the background, experience/knowledge.
(Paste QR code here)				

Exit Slip – Choose one

1. If you were going to make a POWERFUL Ted Talk, what are some things you would do?

2. What would be a topic you would talk about?

Name

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?