Valley City State University Teaching for Learning (TLC) Template

General Information	
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UNIT OVERVIEW	
Unit Title	Forces and Interactions
Content Area	Science
Grade Level	Third Grade
TLC Requirements	
PLAN—Planning Instruction and Asses	ssment
Purpose: Describe your plans for t ability to select, adapt, design, and content as well as develop academi	he learning segment and explain how they are appropriate for the students and content you are teaching. Demonstrate your organize curriculum, instruction, and assessment to help diverse students learn and meet the standards for the curriculum c language related to that content. (InTASC #7 Planning for Instruction)
A. Unit Foundation	
1. Unit Summary	(connects with Rubric 1 in Planning)
participating in engaging activities to learn pull. The students will take a pre-assessme post-assessment on day five of the unit to questioning will be used to monitor studen provide ongoing feedback to the students.	is and interactions through nanos-on learning experiences, creating diagrams, acting out vocabulary terms and concepts, and in the content. Students will learn about balanced forces, unbalanced forces, and the difference between the forces, push and ent on day one of the unit to assess their prior knowledge of the concepts before instruction begins. The students will take a evaluate their academic growth throughout the unit. Formative assessments such as exit slips, T-charts, hand signals, and it learning and academic progress throughout instruction. Formative assessments will also be used to modify instruction and
2. Standards to be met (List and write out.	Identify source: National standards, state standards, core standards, etc.) (connects with Rubric 1 in Planning)
NGSS Grade 3, Physical Science, PS2.A: For • Each force acts on one particular net force on the object. (3-PS2-1)	rces and Motion object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero
NGSS Grade 3, Physical Science, PS2.B: Typ • Objects in contact exert forces or	bes of Interactions n each other. (3-PS2-1)
NGSS Grade 3, Physical Science, 3-PS2-1: M Plan and conduct an investigation	Notion and Stablitiy: Forces and Interactions n to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
3. Objectives/Learning outcomes (based o	n above standards) (connects with Rubric 1 in Planning)
Lesson #1 Students will be able to define that Students will be able to recognize a Students will be able to explain that Students will be able to differentiate 	t a force is a push or a pull on an object. that every force has a strength and a direction. at every time an object moves, a force is acting on it. te between a push and a pull on an object

- Students will be able to define balanced force, net force, and gravity.
- Students will be able to recognize that objects in contact exert forces on each other.

Lesson #3

- Students will be able to match vocabulary words with their definitions.
- Students will be able to define unbalanced forces.
- Students will be able to draw diagrams to represent balanced and unbalanced forces.

Lesson #4

- Students will be able to identify balanced and unbalanced forces in real-world scenarios.
- Students will be able to recognize that forces can change an object's speed or direction.

Lesson #5

- Students will be able to identify vocabulary terms using keywords and actions given by their classmates.
- Students will be able to complete the post-assessment.

4. Academic Language to be emphasized (List and define in student-friendly terms) (connects with Rubric 4 in Planning)

- Force \rightarrow A push or a pull on an object. Every force has a strength and a direction.
- Push \rightarrow Moving an object away from you.
- Pull \rightarrow Moving an object towards you.
- Balanced Force \rightarrow Forces that do not cause an object to move because they are equal in size and opposite in direction.
- Net Force \rightarrow Overall forces acting on an object. Found by adding together the forces acting on the object.
- Gravity \rightarrow A force that pulls objects toward the center of the earth.
- Strength \rightarrow Quantity of a force (strong force = a lot of strength, weak force = very little strength)
- Direction \rightarrow The course in which an object moves.
- Unbalanced Forces \rightarrow A force that causes a change in motion because there are unequal forces acting on the object.

5. Unit questions

a. Essential "overarching" or "big idea" questions	(connects with Rubric 1 in Planning)
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- What is a force?
- What are the two things that a force has?
- What is the difference between a push and a pull?
- What is the difference between a balanced force and an unbalanced force?
- What is net force?
- What are two ways that forces can change an object's motion?

b. Questions for students (developed using Bloom's taxonomy, Kaplan's icons for depth and complexity, English Learner Oral Language Questioning Techniques, etc.) for all levels of thinking (connects with Rubric 4 in Planning)

Lesson #1

- I will state the questions listed on the pre-assessment that the students will answer individually.
- Have you ever pushed a shopping cart?
- Have you ever pulled a wagon?
- Turn and talk with your neighbor about how these two scenarios are alike and different.
- What made the chair move?
- What direction did the chair move?
- How could the chair move toward the whiteboard?

- How could the chair move toward the desks?
- Is there another way I can make the chair move without <u>pushing</u> it?
- Does anyone know what it is called when a person applies a push or a pull on an object?
- How did you change your direction?
- What changed when you pulled your object with a stronger strength?
- Is there any way to move an object without using a force?
- Do you think you can move an object without using a force? Turn and talk with your neighbor.
- What is a force? Turn and talk with your neighbor.
- Ware the two things that every force has?
- Raise your hand if you can demonstrate a push for the class.
- Raise your hand if you can demonstrate a pull for the class.
- What real-world examples of push and pull did you see in the video?

- How would you define the word push? Turn and talk with a partner and define the word push.
- Think to yourself. How would you define the word pull? Turn and talk with a partner and define the word pull.
- What is this image showing? A push or a pull? Think to yourself to decide.
- Give me a thumbs up if you and your partner thought the same force was happening.
- Think to yourself, based on what we learned about forces, what would a balanced force mean?
- What is happening in this picture?
- Are there any forces acting on the boards in the top picture?
- What force is pulling the boards down?
- What force is pushing up on the boards?
- From what we just read, are there forces acting on an object even when it is still?
- As we are standing on the floor, are there any forces acting on us?
- What is the net force of this scenario? Turn and talk with a partner.
- What should you take out?"
- How confident do you feel with the concepts of push, pull, balanced forces, and net force? Please place a 5 in the air if you feel confident, place a 4 or a 3 in the air if you are starting to understand the concepts, and place a 2 or a 1 in the air if you would like more time spent working on these concepts or if you have questions about the concepts.

Lesson #3

- Explain to a partner what a force is.
- Explain to a partner what the definitions of a push and a pull are.
- Talk with a partner about the similarities of a push and a pull.
- Explain to a partner what gravity does to objects.
- Explain to a partner what the net force of an object is.
- Demonstrate with a partner a balanced force.
- What do you think happens when forces are not balanced? Turn and talk with a partner.
- Raise your hand if you would like to read this first paragraph about unbalanced forces
- Raise your hand if you would like to read the next two paragraphs about unbalanced forces."
- From what we just read, what happens when the forces acting on an object go from balanced to unbalanced?"
- What does it mean to say that the forces acting on an object are unbalanced?"
- What happens to the rope when both teams pull in opposite directions with the same amount of force?"
- What would the net force be? Remember the net force is the total of all the forces acting on an object."
- How can the forces on this rope become unbalanced?"
- "What would be the net force of this balanced forces diagram. Turn and talk with a partner."

- How could we draw a diagram to represent unbalanced forces?
- Would the net force still be zero?"
- How could we switch the diagram to represent that the other direction is the stronger force?"
- "What should you take out?"

- Before we start, will someone explain what a balanced force is?
- Give me a thumbs up or a thumbs down if you agree with _____ explanation of a balanced force.
- Will another student explain to the class what an unbalanced force is?
- Give me a thumbs up or a thumbs down if you agree with _____ explanation of an unbalanced force.
- Raise your hand if you would like to read page 10 to the class?
- Raise your hand if you would like to read page 11 to the class?
- How is the player on page 10 applying an unbalanced force to the ball?
- How is the ball's speed changing as it contacts the player's foot?
- How is the ball's direction changing as it contacts the player's foot?
- Right now, what two forces are being exerted on the ball?
- Is the ball is moving?
- What would the net force be of this balanced force?
- Is this a balanced or unbalanced force?
- How could I change the speed and direction of the force I exert on the ball?

Lesson #5

- Does anyone have any questions before we begin?
- Every force has a _____ and a _____ ?
- In what ways can forces change an objects motion? Hint: there are 2 ways.
- Who would like to come up to the whiteboard and draw a diagram for a balanced force?
- Who would like to come up to the whiteboard and draw a diagram for an unbalanced force?
- What should you get out?
- I will state the questions listed on the post-assessment that the students will answer individually.

B. Context for learning

(all of section B connects with Rubric 2 in Planning)

1. Complete the context for learning form (Appendix A)



a. Describe what students know, what they can do, what they are learning to do (e.g., prior knowledge, key skills, developmental levels).

The students have not been taught about forces and interactions in third grade, therefore I will need to find out what their prior knowledge is before I begin instruction. Their prior knowledge may have formed in past school years or from past experiences outside of school. Administering a pre-assessment will give me valuable information about what the students know and what they do not know. The students have heard the terms force, push, pull, and gravity, but may not be able to define them. The students know how to push and pull objects, but they will learn that there are forces acting on the object as it moves. The students might be unaware that there are forces acting on objects when they are still, so instruction will take place to teach them about that concept. Students will also learn how to draw diagrams to represent balanced and unbalanced forces. The students will learn through demonstrations and hands-on learning experiences that every force has a strength and a direction and that forces can change an object's speed and direction. The students will learn that the net force is the overall force acting on the object.

b. Describe your students' language development, including abilities to understand and produce oral and written language in English.

All 23 students can speak and write the English language. One student has a language-based learning disability. In whole group settings, the paraprofessional will often scribe for the student. Individually, the student needs an extended amount of time while writing. One student receives speech services. This student's pronunciation of letter sounds has increased tremendously after starting with speech services. The student can produce words orally but encounters difficulties producing some letter sounds. By the end of the third grade, all students are expected to be able to write three paragraphs about one topic. The students have been building their writing strategies by writing opinion and informative pieces using reasons and facts to support the topic. The students have been working on rephrasing information from a source to avoid plagiarism. Most students are reading at or above grade level. The students can recount details from written text. The students have been working on building their comprehension strategies as the North Dakota State Assessments are approaching. The students have been learning to write in cursive throughout the third grade. Although it is not required to write in cursive for assignments, some students choose to do so.

c. Describe students' social and emotional development (e.g., relationships with each other; abilities in self expression, collaboration, etc.).

This is a friendly and active class and the students get along very well. The students are finding out what individual traits they have that make them unique. The environment of the classroom is very welcoming. This is recognized as soon as the students enter the classroom and they greeted by the teachers. Every day during morning meeting the students greet one another with a wave. The students are then invited to share their weekend plans, exciting news, or what they have coming up. As the students share one by one, the audience is quiet and attentive towards the student sharing. On Fridays, the students are allowed to bring an item for show-and-tell. This builds their self-expression as they must share the item and explain why it is meaningful to them. Every so often during morning meeting, the students get a plastic shape. There are plates in the center of the circle with emotions written in the middle of the plate. When it is their turn, they place their shape on the paper plate with the emotion that they are feeling. They must then verbalize to the class why they are feeling the way that they are. This is a very open class and they are truthful and express how they are feeling that day. This activity builds sympathy toward one another and allows the students to recognize that their classmates come to school with different emotions than them.

The students in this class are very encouraging and kind to one another. They clap and cheer when a student answers a question correctly, is identified for good behavior, or is presented with an award. The students are very good at making sure everyone is included. If the students are instructed to find a partner or form groups, everyone has a partner or a group in a matter of seconds. Many students are excellent problem solvers, so when there is someone without a partner they collaborate and form a group of three or switch partners to make it work. In this class, there is a bit of separation between the girls and the boys. At recess or during snack, the boys can be seen playing and talking together, while the girls can be seen playing and talking together. But during instruction, there is not much separation between the girls and the boys. They form partners and discuss with one another. The students also work well in groups as they collaborate with their peers. If groups are planned beforehand, students may be separated from one another because they may distract one another. The students are not separated from one another because they do not work well together.

d. Describe family/community/cultural assets (e.g., cultural norms, student interests, relevant experiences and resources).

Most of the students come from middle-class two-parent families. There are four students in the class that come from low-income households. Most of the students live in houses and some live in apartments. Most of the students live with both of their parents, some live with one parent, some live with step-parents, and one lives with their grandparents. Most students come from families with siblings. Some students come from families with step-siblings and half-siblings. A few students are the only child in their family. Parental involvement is shown through a 100% turnout rate for conferences, classroom support for parties, signing the student's planners every day, and tracking minutes spent reading at home to hit the monthly goal. Seven students receive Federal School Lunch Assistance. The students are very interested in sports and music. The most involved sports are hockey, football, soccer, gymnastics, and taekwondo. The students are also rehearsing for a musical coming up later in the month. The students often rehearse their lines for the musical to one another. The students also like completing arts and crafts projects, creating dances at recess, playing legos, coloring, reading, and playing word games such as hangman. The students like to share weekend plans, highlights from past trips and vacations, and news about their families. The students are currently completing a research project about their cultural background. They are intrigued to learn where their classmate's ancestors are from, as some of the student's parents were born in another country.

e. Describe subgroups and individual requiring differentiated instruction (SPED, Title 1, ELL, Gifted and Talented, etc.).

Five students are identified as gifted and talented and leave the classroom daily to receive services. To challenge the gifted and talented students, I will ask higher-level thinking questions, implement leadership skills, and modify by having the students complete a different task. I will also utilize turn and talks so I can observe their conversations and ask more challenging questions that stimulate their thinking and enhance curiosity. One student has a speech impairment and receives speech services during the school day. I will have more one-on-one conversations with this student and make sure they are comfortable and confident to talk in a group setting. Two students have language impairments and they receive services during the school day. I will make my directions clear and ensure that all written tasks are not wordy and laborious. Five students receive reading tutoring services. I will ensure that all text is large enough for students to view while being projected on the screen. I will also read the directions and each question on the pre-assessment, post-assessment, exit-slips, and T-chart. Two students have paraprofessional support. There is one paraprofessional that is in the classroom from 8:20 a.m to 10:50 a.m. and another paraprofessional in the classroom from 12:45 p.m. to 2:30 p.m. I will be in constant communication with the afternoon paraprofessional about the unit and what is to come. I will have materials ready and explained to the paraprofessional before the lesson begins. I will visit with the paraprofessional throughout the lessons to ensure that the student is understanding the content and following along. I will also be available for both the students and the paraprofessionals to ask questions before, throughout, and after the lessons.

3. Describe how this knowledge influenced your planning.

a. Describe how this knowledge influenced your choice of strategies to engage all students.

Knowing that this class is full of energy and enjoys hands-on learning experiences greatly influenced my choice of instructional strategies. Their personalities and learning preferences influenced me to create lessons that included manipulatives and games. I planned for most instruction to take place while the students are at the rug. This is where their concentration levels are the highest. The students tend to get fidgety if they are seated at one spot for too long. This being so, I planned for movement during the lessons by having the students travel from the rug to areas around the room, and eventually to their desks. To ensure that students have confidence while completing a task independently, I will follow the gradual release of responsibility model. I will use the I do, we do, you do framework to introduce a new topic. The lesson will start with me teaching and explaining a topic, collaborating with students about it, then releasing the students to complete the learning independently. Another strategy that works well to get every student's attention is using inflection in my voice while I teach. Talking quietly gets the students listening closely and talking with enthusiasm gets the students excited to learn.

b. Describe how this knowledge influenced your choice of strategies for scaffolding academic language. (Rubric 4 in Planning)

Knowing that all of the students in this class can write (with the assistance of a paraprofessional for one student) I decided to create a T-chart for students to record the definitions of the vocabulary terms introduced throughout the unit. I will introduce new vocabulary terms daily throughout the unit. At the end of every lesson, I will place a T-chart under the projector, instruct the students to discuss the new vocabulary words, and then write the definitions together. I will keep the T-chart under the projector for the students to copy from. After writing the definitions, I will allow the students to add illustrations, words, or phrases to the definition if they think it will help them remember the term.

I chose to introduce small groups of vocabulary words at a time. I chose to use this strategy because I do not want to overwhelm the students with multiple terms and definitions at once. I planned for every lesson to start with a vocabulary review. I planned to make the review activities engaging by using games, manipulatives, and flashcards. To scaffold the academic language in this unit, I planned to have students interact with the terms through demonstrations and actions. Having the students interact with the terms and concepts is a great way for the students to learn the content.

c. Describe how this knowledge influenced your choice of activities for differentiating instruction.

I plan to discuss each lesson with the paraprofessional before the lesson begins. I will explain what we will be doing and at what points of the lesson the student may need guidance or assistance. As for the activities, I plan on implementing turn and talks so I can reach all students. As the students are conversing with one another, I can talk with students who need an additional prompt to get their thinking started. I can also restate the question with simple student-friendly terms. Turn and talks also allow me to observe conversations and ask higher-level thinking questions to challenge the students. This class has a wide array of learning levels, so I also plan to implement games where I have control of the questions being asked. I will meet the learning needs of my higher students by asking them questions that challenge their thinking. Being in control of the questions also allows me to meet the learning needs of my lower students. I will match their learning level by asking them questions I know they can solve, while still challenging their thinking. I will also pair the students up by learning levels when they play the buzzer-beater game. This allows me to choose vocabulary words with either complex or simple definitions, depending on their learning level. Implementing movement into the lesson benefits kinesthetic learners. I will read the directions, questions, and answers of the pre and post-assessments to the students. This is beneficial to students with learning disabilities, students who are auditory learners, and students that benefit from concentrating on one question at a time.

C. Instructional Technology and Materials to be used in Unit	(Section C connects with Rubric 1 in Planning)
a. Technology to be used by the teacher (hardware, software, websites, etc.)	
 Computer Projector Document Camera 	
b. Technology to be used by the students (hardware, software, websites, etc	.)
Students will not be using technology during this unit. This choice was made because	of the short time allotted for instruction in this content area

c. Materials and supplies

Lesson #1

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera
- Science Folders
- Exploring Science, Grade 3, Teachers Guide
- 24 Pre-Assessments
- 23 Privacy Folders
- Hardcover Textbook
- 24 T-Charts
- 1 Guided T-Chart
- YouTube Video: (2:32-3:25) <u>https://www.youtube.com/watch?v=mEg5GOVpUIE</u>

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera
- Science Folders
- White Board
- Push/Pull Flash Cards
 - o Source: Teachers Pay Teachers, Number Two Pencils, Force & Motion: Push & Pull Sorting Cards
 - o <u>https://www.teacherspayteachers.com/FreeDownload/Force-Motion-Push-Pull-Sorting-Cards-421544</u>
- Exploring Science, Grade 3, Student Textbook
- Classroom Set of Name Sticks
- 24 T-Charts
- 1 Guided T-Chart
- 23 Sticky Notes
- Exit Slip Questions
- Exit Slip Sticky Note Model

Lesson #3

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera
- Science Folders
- White Board
- Dry Erase Marker
- Buzzer
- Classroom Set of Name Sticks

- Eraser
- Exploring Science, Grade 3, Student Textbook
- Slates
- Markers
- 24 T-Charts
- 1 Guided T-Chart

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera
- Balanced and Unbalanced Flash Cards
- White Board
- List of Balanced and Unbalanced Scenarios
 - o Teachers Pay Teachers, Educate, Communicate, Collaborate, Balanced/Unbalanced Forces
 - o <u>https://www.teacherspayteachers.com/FreeDownload/BalancedUnbalanced-Forces-3554852</u>
- Exploring Science, Grade 3, Student Textbook
- Ball
- 24 Exit Slips
- 24 T-Charts
- 1 Guided T-Chart
- Exit ticket
 - Clipart: http://cliparts.co/cliparts/zcX/eRy/zcXeRygdi.png

Lesson #5

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera
- T-Chart
- Name Sticks
- Headbands
- White Board
- Marker
- 23 Privacy Folders
- 24 Post-Assessments

d. Other resources

Bell, R. L., Butler, M. B., Trundle, K. C., Lederman, J. S. (2015). *Exploring Science Teacher's Guide*. National Geographic Learning, Cengage Learning. Bell, R. L., Butler, M. B., Trundle, K. C., Lederman, J. S. (2015). *Exploring Science*. National Geographic Learning, Cengage Learning.

D. Assessment Tools and Criteria	(all of Section D connects with Rubric 3 in Planning)

1. Explain your thought process for planning a post-assessment, a pre-assessment, and at least one formative assessment within the learning segment.

I created the pre and post-assessments after constructing my lessons to ensure that the students would be tested on material that was explicitly taught throughout the unit. I decided to create the same assessment for both the pre and post-assessment. By doing so, I will be able to evaluate the student's academic growth from the pre-assessment to the post-assessment. Assessing the pre-assessment will give me information about the student's prior knowledge about the content. The pre and post-assessment consist of matching, multiple-choice, drawing diagrams, and fill in the blank questions. These assessments test vocabulary terms and concepts that will be taught throughout the unit.

I decided to include multiple forms of formative assessments to monitor student learning, provide feedback, and modify instruction. I will use on the spot formative assessments such as thumbs up or thumbs down, fist of five, observations, questioning, and discussions to get a quick evaluation of student comprehension. To provide feedback for these assessments, I will ask the students why they gave a thumbs down, ask for questions, and clarify any confusion the students may have. I will provide time for feedback to ensure that the students comprehend the content before moving on. I will distribute a T-chart to every student that we will use to record definitions of vocabulary terms throughout the unit. I will informally assess what students have learned during the lesson by having them converse with classmates about the definition before we write it down as a class.

I created three exit slips that I will use to monitor student learning after lesson #2, lesson #3, and lesson #4. To evaluate student learning after lesson #2, I will distribute a sticky note to each student. I will place a sticky note under the projector and demonstrate where they should write their name and how they should place the numbers 1-5 down the left side of the sticky note. I will place a sheet of paper under the projector that has five questions. I will tell the students to place the answer to each question on their sticky note. This formative assessment will allow me to assess what the students learned throughout the lesson. Analyzing the exit slips will allow me to evaluate what questions the students got incorrectly. I will discuss the exit slip with the students before the next lesson to answer questions and clarify confusion.

To evaluate student learning after lesson #3, I will have the students complete an exit slip. During today's lesson, the students will learn how to draw diagrams to represent balanced and unbalanced forces. The two questions on the exit slip require the students to draw a diagram for a balanced and unbalanced force. This is an important formative assessment because the students will be instructed to draw these same diagrams on the post-assessment. Analyzing the student's diagrams will give me information on what the students learned throughout the lesson. I will provide feedback to the students who drew incorrect diagrams. If five or more students draw incorrect diagrams, I will teach a mini-lesson on how to draw the diagrams before the next lesson begins. To revisit the diagrams once more, we will have a whole group review before the post-assessment where the students will practice drawing the diagrams.

The last formative assessment I plan to administer is an exit slip that has the students evaluate their learning and confidence level going into the post-assessment. The students will compare their feelings to a stoplight, red being confused, yellow having questions, and green feeling confident. The second part of the exit slip requires the students to answer one question regarding the content that was covered during the lesson. This exit slip gives me valuable information about how the students rate their confidence and knowledge of the unit. The exit slip also shows me what the students learned throughout the lesson. This exit slip will determine how much time is spent reviewing this concept before the post-assessment.

2. Provide samples of the assessments you will use.

a. Sample pre-assessments

9. In what ways can forces change an objects motion? Name: A. Distance or Magnitude C. Height FORCES AND INTERACTIONS B. Length D. Speed or Direction Directions: Look at each picture. Determine if the picture is showing a push or a pull. Directions: Match the word to its definition. Write the letter of the Then circle the best answer. definition on the blank by the word. A. A force that pulls objects toward the center 1. ____ Push of the earth. 2. Pull B. Moving an object toward you. Force 13. Nail and C. A push or a pull on an object. 10. Tug-of-War 11. Rollerblading 12. Baseball Hammer Gravity A. Push A. Push A. Push A. Push D. Moving an object away from you. B. Pull B. Pull B. Pull B. Pull Directions: Read each question. Then circle the best answer. 1 point for drawing the line and placing a dot in the center. Read the directions. 5. Every force has a and a . 1 point for using correct **arrows** to represent the forces. C. Magnitude and a length A. Location and a height 14. Draw a diagram of **balanced forces.** Draw a line to show a rope and place a dot in the B. Strength and a direction D. Purpose and a route center to mark where the middle of the rope is. Use arrows to represent the forces. 6. What is the term for the overall forces acting on an object? A. Absolute Force C. Net Force 15. Draw a diagram of unbalanced forces. Draw a line to show a rope and place a dot in B. Full Force D. Rapid Force the center to mark where the middle of the rope is. Use arrows to represent the forces. 7. Forces that do not cause an object to move because they are equal in strength and opposite in direction. A. Balanced Forces C. Unbalanced Forces Directions: Read the sentence. Determine if it is an example of a balanced or unbalanced B. Natural Forces D. Static Forces force. Write balanced or unbalanced on the line. 8. Forces that cause a change of motion because there are unequal forces acting on 16. Arm wrestling someone the same strength as you. the object. 17. A soccer player kicking a ball. C. Unbalanced Forces A. Balanced Forces B. Natural Forces D. Static Forces 18. A book sitting on your dining room table.

D. Sample for mative assessment	b.	Sampl	le f	ormative	assessments
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Forces and Interactions T-chart. One student will receive the modified T-chart pictured on the right.

Name: _____

FORCES AND INTERACTIONS

Word	Definition
Force	Every force has a and a
Push	
Pull	
Balanced Force	
Net Force	
Unbalanced Forces	
Gravity	

Name:_____

FORCES AND INTERACTIONS

Word	Definition	
Force	A or a on an ob	oject.
Force	Every force has a and a	
Push	Move an object from you.	
Pull	Move an object you.	
Balanced	Forces that do not cause an object to move because the	hey are
Force	equal in and opposite in	
Net Force	forces acting on an object	
Unbalanced	A force that causes a change in becau	se there
Forces	are forces acting on the obje	ect
Gravity	A force that objects toward the cent	er of the

This exit slip requires the students to draw diagrams of balanced forces and unbalanced forces.

Name:

1.) Draw a diagram of **balanced forces**. Draw a line to show a rope and place a dot in the center to mark where the middle of the rope is. Use arrows to represent the forces. 2.) Draw a diagram of **unbalanced forces**. Draw a line to show a rope and place a dot in the center to mark where the middle of the rope is. Use arrows to represent the forces.

This warmup activity requires students to differentiate between scenarios that describe a balanced or unbalanced force. The students will complete this with a partner. One partner will hold the card labeled balanced, and the other partner will hold the card labeled unbalanced.

Today we learned about balanced and unbalanced forces. Please write the word balanced or unbalanced depending on the example.	Relevand
sides and the object does not move. 1. Arm wrestling someone with the same strength as you. <u>balaned</u>	Duiunceu
2. Opening your front door in the middle of a wind storm <u>unbalanced</u>	
3. A person standing on the ground <u>balanced</u>	
4. Flying a kite in the wind <u>unbalanced</u>	
5. A book sitting on your dining room table <u>balanced</u>	Inhalanced
5. A soccer player kicking a soccer ball <u>unbalanced</u>	andanticu
A football player tackling the announcer <u>unbalanced</u>	
A golf club hitting a golf ball	
The cones in front parking lot of Bargan Arts	
D. A tree trunk floating in the water	

This exit slip requires the students to evaluate their confidence level of the content. The students will also answer a question that was taught during the lesson.

Name:						
	<u>d</u> = I am confu ready for t	used and not the test.				
	Yellow = I think I am ready for the test, but I still have questions.					
<u>Green</u> = I understand, and I am ready for the test.						
Circle how you feel:						
Red Yellow Green						
In what ways can forces change an objects motion? Circle answer.						
1. Distance or Length	2. Height or Range	3. Speed or Direction				

These questions will be displayed under the projector and the students will record their answers on a sticky note. This exit slip requires the students to label the first three pictures as a push or a pull. Then the students must identify what vocabulary word matches the given definition.



Name:	_	9. In what ways c	an forces change an obj	ects motion?	
FORCES AND I	NTERACTIONS	A. Distance B. Length	e or Magnitude	C. Height D. Speed or Directio	n
<u>Directions:</u> Match the word to its defin definition on the blank by t	tion. Write the letter of the he word.	Directions: Look at each Then circle the best ans	n picture. Determine if tl wer.	ne picture is showing a p	oush or a pull.
1 Push A. A force of the e 2 Pull B. Moving 3 Force C. A push e	hat pulls objects toward the center arth. an object toward you. or a pull on an object.	10. Tug-of-War	11. Rollerblading	12. Baseball	13. Nail and Hammer
4 Gravity D. Moving	an object away from you.	A. Push	A. Push	A. Push	A. Push
5. Every force has a and a A. Location and a height B. Strength and a direction	C. Magnitude and a length D. Purpose and a route	Read the directions. 14. Draw a diagram of ba center to mark where the	<u>1 point</u> for drawing t <u>1 point</u> for using corn alanced forces. Draw a li e middle of the rope is.	ne line and placing a do rect arrows to represent ne to show a rope and p Use arrows to represent	t in the center. the forces. lace a dot in the the forces.
6. What is the term for the overall forces act	ng on an object?			u a line to show a rone a	
A. Absolute ForceB. Full Force7. Forces that do not cause an object to mo and opposite in direction.	D. Rapid Force /e because they are equal in strength	15. Draw a diagram of t the center to mark whe	unbalanced forces. Drav re the middle of the rop	e is. Use arrows to repre	nd place a dot i esent the forces.
 A. Absolute Force B. Full Force 7. Forces that do not cause an object to mo and opposite in direction. A. Balanced Forces B. Natural Forces 	D. Rapid Force /e because they are equal in strength C. Unbalanced Forces D. Static Forces	15. Draw a diagram of u the center to mark when <u>Directions:</u> Read the ser force. Write balanced or	Inbalanced forces. Drav re the middle of the rop ntence. Determine if it is unbalanced on the line.	e is. Use arrows to repre	nd place a dot i sent the forces. ed or unbalance
 A. Absolute Force B. Full Force 7. Forces that do not cause an object to mo and opposite in direction. A. Balanced Forces B. Natural Forces 8. Forces that cause a change of motion be the object. 	 D. Rapid Force ve because they are equal in strength C. Unbalanced Forces D. Static Forces cause there are unequal forces acting on 	 15. Draw a diagram of u the center to mark when <u>Directions:</u> Read the ser force. Write balanced or 16. Arm wrestling some 	Inbalanced forces. Drav re the middle of the rop ntence. Determine if it is unbalanced on the line. one the same strength a	s an example of a balanc	nd place a dot ii esent the forces. ed or unbalance

3. Describe how you will use formal and informal assessments in order to monitor growth and provide feedback for students toward meeting the objectives.

I will use formal assessments to monitor the student's academic growth. I will record and compare the student's pre and post-assessment scores. Comparing the student's pre-assessment scores to their post-assessment scores will give me data about their academic achievement throughout the unit. These assessments were made from the lessons, standards, and objectives. The post-assessment will measure whether or not the students have met the standards and objectives after instruction has taken place. After the post-assessments have been graded and recorded, I will hand back the pre and post-assessments to the students. This will allow the students to see their academic growth. I will write success feedback on the student's assessments by acknowledging an increase in their score or identifying their academic growth throughout the unit. I will provide-next step feedback by writing comments next to the questions that the students answered incorrectly on their post-assessments.

Analyzing the data and the questions consistently scored incorrectly will allow me to tailor my instruction by spending more time covering specific areas when I teach this unit again.

I will use informal assessments such as exit-slips, turn and talks, questioning, observations, vocabulary review activities, and hand signals to monitor growth and provide feedback. I will provide feedback on all exit slips. This feedback will include success feedback, which will point out something that stands out, and next-step feedback, which will give the student something to work on. Turn and talks, questioning, and observations allow me to gauge the student's level of understanding as they interact with the content. Vocabulary review activities allow me to assess what the students learned and remembered from the prior lessons. Using the fist of five hand signal is an effective way for the students to evaluate their learning. If students hold up a low number (1-3), I will ask what questions they have and if they would like me to explain or demonstrate a topic.

4. Describe any modifications or accommodations you have planned in the assessment tools to allow students with specific needs to demonstrate their learning.

Modification – A change to the content or material.

- Two students will receive a pre-assessment and a post-assessment with one of the multiple-choice options crossed out.
- One student will receive an outlined T-chart with words missing to guide them as they write the definitions of the vocabulary terms.

Accommodation – A change to the environment and procedures.

- I will provide additional time for two students as they complete the assessments and exit slips.
- One student will receive assistance from a paraprofessional during the pre-assessment and post-assessment. The paraprofessional may scribe for the student during the assessments.
- I will monitor the classroom and assist students if confusion becomes apparent during the assessments and exit slips. I will clarify the directions and guide the student's thinking without giving them the answer.
- After completing the post-it exit slip, I will give one student the image cards. They will be able to analyze them close-up and talk with the paraprofessional about what the image is showing.

E. Classroom Management Considerations						(su	pports R	ubric 6	in Implementation Section)	
4		1	1	.1			6.1.1			

1. Detail the management strategies and procedures that will support the implementation of this unit.

Classroom management is an immense component of planning to create a successful unit. I plan to use several methods of classroom management to create a safe learning environment for the students.

As for the classroom arrangement aspect of classroom management, I plan to use a seating chart and the students are expected to sit in their assigned seats. This seating arrangement is created by considering what students work well together and what students need to be separated due to distracting one another. The students who get distracted easily will be seated in the front of the classroom to eliminate potential distractions. The students who are in and out of the classroom frequently will be seated close to the door, so their exits and entrances are quick and not disrupt other students. Having the students push in their chairs decreases the chance of anyone falling or tripping and creates room for traffic to flow. I will consistently monitor the classroom before, during, and after each lesson to make sure that there are no materials on the floor that could cause injury from a trip or a fall.

As for transitions, calling the students by rows to the rug and dismissing the students from the rug by rows will reduce the chance of outside conversations emerging. This will also reduce the amount of chaos and traffic as students move around the classroom. Another classroom management strategy that works exceedingly well with this class is having them restate what materials they should take out. For example, if I tell the students to go back to their desks and take out their T-chart and a pencil, I will say, "I will be calling you by rows to go back to your desks. When you return to your desk please take out your T-chart and a pencil. What should you take out?" The students will say, "our T-chart and a pencil." Then I will say, "whisper it." Then the students will whisper, "our T-chart and a pencil." Having them state the materials in two different tones prevents the chance of forgetting what materials to take out and the chance of questions arising. I plan on stating the expectations of the lesson before the lesson begins. This helps the students remember what their behaviors should look like. Giving clear and concise directions is an additional classroom management strategy that I will use.

I will have the materials prepared and ready before each lesson begins. Being organized with the content will decrease time spent rummaging through the materials during the lesson. This is a busy class and they tend to get sidetracked if they are not involved with the content. With this said, I plan to use manipulatives, games, and demonstrations to keep the content engaging and to make sure that all students are involved. I will also implement turn and talks throughout each lesson. Turn and talks

work extremely well with this class and they also have many benefits. Turn and talks involve all students and build their listening and speaking skills. I will often ask the students to share what their partner said during the turn and talk. This strategy has students listen closely to their partners and reiterate what the partner stated. I will not always use this strategy, but the students are aware that I may ask it, which ensures that the students are closely listening during every turn and talk. Turn and talks also allow me to listen to the conversations, guide students who need an additional prompt or need the question restated, and ask higher-level thinking questions to partners to challenge their thinking.

Another classroom management strategy that I plan on using is consistently checking for understanding. I will use many methods to do so. I will use questioning, fist of five, thumbs up and thumbs down, review activities, exit slips, and self-assessments. One of the most important classroom management strategy I plan on using is acknowledging good behavior. I plan on doing this by saying, "thank you (student) and (student) for coming to the carpet quietly." Or saying, "I love how (student) is getting their materials out quickly." This class does extremely well when I point out good behavior because all of the students want to be recognized for doing the right thing. I plan on using consequences to prevent unacceptable behavior from happening. This can be seen in the engage section of lesson #3. I will explain to the students if they blurt out the answer they will be sent to their desk and will not have a chance to play the game. Stating the expectations and potential consequences makes the students aware of the behavior I am expecting.

F. Lesson Plans	(connects in various ways with Rubrics 1-4 in Planning)
1 Drawida lagger plane for 2 5 days of your wit	

1. Provide lesson plans for 3-5 days of your unit.

Day 1

Lesson Standards

NGSS Grade 3, Physical Science, PS2.A: Forces and Motion

• Each force acts on one particular object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. (3-PS2-1)

NGSS Grade 3, Physical Science, PS2.B: Types of Interactions

• Objects in contact exert forces on each other. (3-PS2-1)

Purpose

• The purpose of today's lesson is to assess student's prior knowledge about forces and interactions. The students will be introduced to forces, pushes, and pulls through hands-on experiences, discussion, and a video. The students will be recording information about these topics on a T-chart.

Lesson Objectives

- Students will be able to define that a force is a push or a pull on an object.
- Students will be able to recognize that every force has a strength and a direction.
- Students will be able to explain that every time an object moves, a force is acting on it.
- Students will be able to differentiate between a push and a pull on an object.

Focus Questions

- What is a force?
- What two things does a force have?
- What is the difference between a push and a pull?

Materials & Resources

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera

- Science Folders
- Exploring Science, Grade 3, Teachers Guide
- 24 Pre-Assessments
- 23 Privacy Folders
- Hardcover Textbook
- 24 T-Charts
- 1 Guided T-Chart
- YouTube Video: (2:32-3:25) https://www.youtube.com/watch?v=mEg5GOVpUIE

Vocabulary

- Force \rightarrow A push or a pull on an object. Every force has a strength and a direction.
- Push \rightarrow Moving an object away from you.
- Pull \rightarrow Moving an object towards you.
- Strength \rightarrow Quantity of a force (strong force = a lot of strength, weak force = very little strength)
- Direction \rightarrow The course in which an object moves.

Differentiation

- I will cross out one option in the multiple-choice section of the pre-assessment for two students.
- I will read the directions, questions, and possible answers of the pre-assessment out loud to the students. This is beneficial to students with learning disabilities, students who are auditory learners, and students that benefit from concentrating on one question at a time.
- I will give one student an outlined T-chart with words missing to guide them as they write the definitions of the vocabulary terms.
- I will ask higher-level thinking questions to challenge students to use higher-level thinking strategies.
 - Example: Do you think you can move an object without using a force?
- Paraprofessional support for one student throughout the lesson.
- The paraprofessional may offer support by scribing for the student during the pre-assessment and T-chart vocabulary review.
- Including movement in the lesson benefits kinesthetic learners.
- Spelling out the words in the definition section of the T-chart while projecting it on the white board benefits both visual and auditory learners.
- I will implement turn and talks into the lesson. These conversations allow me to converse with students who need an additional prompt to get their thinking started or need the question re-worded using simple student-friendly terms. Turn and talks also allow me to observe conversations and ask higher-level thinking questions to challenge the students.

Lesson Procedure

Pre-Assessment:

- I will have the students clear their desks and take out a pencil and their privacy folder.
- I will administer the pre-assessments.
 - o First, I will have the students write their names on the pre-assessment and wait for further directions.
 - \circ ~ I will then read each question one by one, so the students understand what is being asked.
- I will call students by rows to place their pre-assessment in the turn-in tray and find a spot on the rug.

Engage:

- Once all students are seated and quiet, I will tell them we will be starting a unit on forces and interactions.
- Ask: "Have you ever pushed a shopping cart?"
 - o Yes
- Ask: "Have you ever pulled a wagon?"
 - o Yes
- Say: "Turn and talk with your neighbor about how these two scenarios are alike and different."

- Alike: Both the cart and the wagon are moving.
- Different: You push a cart and pull a wagon.
 - Acknowledge all responses and lead them toward the words push and pull.
- Say: "Observe what I do next."
- I will push a chair two feet in front of me.
- I will then ask:
 - "What made the chair move?"
 - Me pushing the chair with my arms.
 - "What direction did the chair move?"
 - It moved forward.
 - o "How could the chair move toward the whiteboard? How could the chair move toward the desks?"
 - Push it from the right side.
 - Push it from the left side
 - "Is there another way I can make the chair move without <u>pushing it?</u>"
 - By pulling it.
 - "Does anyone know what it is called when a person applies a push or a pull on an object?"
 - A force.
- Say: "Today we will be exploring pushes and pulls and recording their definitions and examples on a T-chart. A T-chart is a simple way to record the definitions of words."

Explore:

- As I call on rows to return to their desks:
 - o I will tell row 1 and row 4 to stay standing at their desk and pull their chair out from under their desk.
 - o I will tell row 2 to sit at their desk and take out a pencil.
 - o I will tell row 3 to sit at their desk and take out a hardcover textbook from their desk.
- Say: "The definition of a push is moving an object away from you."
- Say: "Row 1 and row 4, push your chair away from you."
 - "Row 2 push your pencil away from you."
 - "Row 3 push your textbook away from you."
- Say: "Here we applied the force of a push to move the object away from us."
- Say: "The definition of a pull is moving an object towards you."
- Say: "Row 1 and row 4, pull your chair towards you."
 - "Row 2 pull your pencil towards you."
 - "Row 3 pull your textbook towards you."
- Say: "Here we applied the force of a pull to move the object toward us."
- Say: "Push your object in a different direction."
 - Ask: "How did you change your direction?"
- Say: "Pull your object with a stronger strength."
 - Ask: "What changed when you pulled your object with a stronger strength?"
 - It moved faster
- Explain that a force is a push or a pull acting on an object AND every force has a strength and a direction.
- Ask: "Is there any way to move an object without using a force? Try making your object move without applying a force to it."
- Say: "Do you think you can move an object without using a force? Turn and talk with your neighbor."
 - No; Blowing air = pushing on the air with your lungs
- Explain: "Every time an object moves, a force is acting on it."

Explain:

- Say: "Please be seated at your desk with a pencil."
- Say: "We will now record the definitions for the words we learned today."
- I will distribute T-charts to the students.
- I will place a blank T-chart under the projector.
- Say: "What is a force? Turn and talk with your neighbor."
 - Call on students.
 - Answer: A force is a push or a pull on an object.
- Write that on the T-chart under the projector.
- Say: "The T-chart says that a force has a _____ and a _____. Turn and talk with your neighbor. What are the two things that every force has?"
 - Demonstrate if necessary
 - Answer: A strength and a direction
 - Write that on the T-chart under the projector
- Say: "Raise your hand if you can demonstrate a push for the class."
 - Student demonstrates
- Say: "A push is moving an object away from you."
- Write that on the T-chart under the projector
- Say: "Raise your hand if you can demonstrate a pull for the class."
 - Student demonstrates
- Say: "A pull is moving an object towards you. Let's write that next to pull in the definition box."
 - Write that on the T-chart under the projector.
- If time remains, show the YouTube video below and record examples in the T-chart. If not, say: "please place your T-chart in your science folder."

Elaborate:

- Project the YouTube video showing real-world examples of pushes and pulls
 - o <u>https://www.youtube.com/watch?v=mEg5GOVpUIE</u>
 - Start: 2:32 → End: 3:24
- If time remains, ask: "What real-world examples of push and pull did you see in the video?"
- Record these examples in the definition section of the T-chart.

Evaluate:

- I will evaluate and grade the pre-assessments. I will assess what areas the class was strong in, and what areas received the most incorrect answers. The results of this pre-assessment will guide my instruction towards what they do not know, decreasing the time spent instructing topics they already know.
- I will create an Excel Document to graph each student's score of the pre-assessment. I will create an additional Excel Document to graph how many students received a certain score.

Day 2

Lesson Standards

NGSS Grade 3, Physical Science, PS2.A: Forces and Motion

• Each force acts on one particular object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (3-PS2-1)

NGSS Grade 3, Physical Science, PS2.B: Types of Interactions

• Objects in contact exert forces on each other. (3-PS2-1)

Purpose

• Students will review vocabulary introduced on day 1 by determining if a photograph is indicating the force of a push or a pull. Students will be introduced to balanced forces by analyzing the textbook, acting it out, and recording vocabulary definitions in their T-Charts.

Lesson Objectives

- Students will be able to define balanced force, net force, and gravity.
- Students will be able to recognize that objects in contact exert forces on each other.

Focus Questions

- What is a balanced force?
- What is net force?
- How does gravity act on objects?

Materials & Resources

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera
- Science Folders
- White Board
- Push/Pull Flash Cards
 - o Source: Teachers Pay Teachers, Number Two Pencils, Force & Motion: Push & Pull Sorting Cards
 - o https://www.teacherspayteachers.com/FreeDownload/Force-Motion-Push-Pull-Sorting-Cards-421544
- Exploring Science, Grade 3, Student Textbook
- Classroom Set of Name Sticks
- 24 T-Charts
- 1 Guided T-Chart
- 23 Sticky Notes
- Exit Slip Questions
- Exit Slip Sticky Note Model

Vocabulary

- Force \rightarrow A push or a pull on an object. Every force has a strength and a direction.
- Push \rightarrow Moving an object away from you.
- Pull \rightarrow Moving an object towards you.
- Balanced Force → Forces that do not cause an object to move because they are equal in size and opposite in direction.
- Net Force → Overall forces acting on an object. Found by adding together the forces acting on the object.
- Gravity \rightarrow A force that pulls objects toward the center of the earth.
- Strength \rightarrow Quantity of a force (strong force = a lot of strength, weak force = very little strength)
- Direction \rightarrow The course in which an object moves.

Differentiation

- Paraprofessional support for one student throughout the lesson.
- The paraprofessional may offer support by scribing for the student during the T-chart vocabulary review and the exit slip.

- I will give one student an outlined T-chart with words missing to guide them as they write the definitions of the vocabulary terms.
- Including movement in the lesson benefits kinesthetic learners.
- Reading the textbook out loud while projecting the text on the white board benefits both visual and auditory learners.
- Spelling out the words in the definition section of the T-chart while projecting it on the white board benefits both visual and auditory learners.
- I will implement turn and talks into the lesson. These conversations allow me to converse with students who need an additional prompt to get their thinking started or need the question re-worded using simple student-friendly terms. Turn and talks also allow me to observe conversations and ask higher-level thinking questions to challenge the students.

Lesson Procedure

Engage

- I will call students by rows to find a spot on the rug.
- Say: "Before we start our lesson, think to yourself. How would you define the word push?"
- Say: "Turn and talk with a partner and define the word push."
 - Students will turn and talk.
 - A push is moving something away from you
- Say: "Think to yourself. How would you define the word pull?"
- Say: "Turn and talk with a partner and define the word pull."
 - Students will turn and talk.
 - A pull is moving something toward you.
- We will review the vocabulary terms introduced on day 1 using the push/pull flash cards.
- Say: "To review what we learned yesterday; I will place an image under the projector. The image will either be a push or a pull scenario. Please don't say the answer right away, as I will be calling on those who are sitting quietly that volunteer to answer."
- Place the push/pull flash cards under the projector one by one.
 - Repeat x8:
 - Ask: "What is this image showing? A push or a pull? Think to yourself to decide."
 - Say: "Turn and talk with your neighbor."
 - Say: "Give me a thumbs up if you and your partner thought the same force was happening."
 - Call on 2 students to share what force they believe the picture is showing.

Explore

- I will explain to the students that today we will be learning about balanced forces.
- Ask: "Think to yourself, based on what we learned about forces, what would a balanced force mean?"
 - o Have students turn and talk
 - Allow two students to share what they think a balanced force is.
- I will place the Exploring Science, Grade 3, Student Textbook page 6-7 under the projector.
- I will cover up the text on the page with a blank sheet of paper.
- **Say:** "Analyze the photograph."
 - Ask: "What is happening in this picture?"
 - \circ ~ The boards are resting still, and when the hand hits the boards, they split.
- Ask: "Are there any forces acting on the boards in the top picture?"
 - o Students answer
- Say: Let's read to find out.

Explain

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- Call on a student to read the first paragraph.
 - Ask: "What force is pulling the boards down?"
 - Gravity

- Ask: "What force is pushing up on the boards?"
 - The cement blocks
- Point to the top image and say: "the force of gravity and the force of the cement blocks are balanced forces, meaning they balance eachother out."
- Point to the word net force. Say: "the net force is the overall force, meaning it is all the forces acting on an object."
- Explain that if the force of gravity was stronger than the force of the cement blocks, the boards would fall to the ground.
- Call on another student to read the second paragraph.
- Ask: "From what we just read, are there forces acting on an object even when it is still?"
 - o Yes
- Say: "An object at rest typically has multiple objects acting on it. But they add up to produce Zero net force on the object. Remember that net force is the overall force found by adding all the forces acting on an object."

Elaborate

- Explain that we will be experimenting with classroom objects to find balanced forces.
- Say: "Please stand up."
- If chattering arises during this transition, I will say Salami and the students will listen to my next prompts.
- I will ask, "As we are standing on the floor, are there any forces acting on us?"
 - Yes. Gravity is pulling us down and the floor is pushing us up.
- Say: "These forces are balanced because we are not moving."
- Say: "I will be drawing sticks for two volunteers. If you do not want to volunteer, please say pass."
- I will draw two name sticks.
- I will have the two students stand in front of the other students on the rug.
- Say: "Please face eachother and put your hands out flat in front of you like you are giving a high five."
- Say: "Place your hands against eachother and apply a gentle pressure at the same time.
- Say: "Because the students are both applying the same amount of strength, this is a balanced force."
 - Ask: "What is the net force of this scenario? Turn and talk with a partner."
 - The net force is zero because the strength being applied in opposite directions is equal.
- Say: "_____ (student) please apply a little more pressure."
- Say: "Students here you see ______ applying more pressure, resulting in movement. This does not show a balanced force because ______ is applying more pressure."
- I will call by rows to return to your desk. When you return to your desk take out a pencil and your T-chart."
- Ask: "What should you take out?"
 - A pencil and our T-chart
- Place T-chart under the projector and point to balanced forces.
- Ask: "Do objects with balanced forces move?"
 - 0 **No**
- Ask: "In balanced forces, what are the forces equal in?" (Demonstrate with my hands pushing against eachother.)
 Strength
- Ask: "In balanced forces, what are the forces opposite in?" (Demonstrate with my hands pushing against eachother.)
 - Say: "Balanced forces are forces that do not cause an object to move because they are equal in strength and opposite direction."

 Students will write.
- Point to net force
- Say: "Net force is the overall forces acting on an object."
 - Students will write.
- Point to gravity
- Say: "Gravity is a force that pulls objects toward the center of the earth."
 - o Students will write.

• Say: "Please put your T-chart in your science folder and keep out your pencil."

Evaluate

- Say: "I will place a sticky note on your desk. When you get a sticky note please place your name on the top and wait for further directions."
 - Say: "Label your sticky note with 1, 2, 3, 4, and 5, like this"
 - Model under projector
- Say: "For the first three questions I will place an image under the projector, and you will write if it is a push or a pull."
 - Show image
 - o Students will write

X3

- Say: "For the next two questions, I will say a definition and you will write the vocabulary term. I will also place the question and possible answers under the projector. Choose the best answer and write it on your sticky note."
- Place question number 4 under the projector.
- Say: "Number 4. The overall forces acting on an object. Is it absolute force, net force, full force or rapid force?
 - Students will write answer.
- Place question number 5 under the projector.
- Say: "Number 5. A force that pulls objects toward the center of the earth. Is it pushes and pulls, the downward force, zero force, or gravity?
 Students will write answer.
- Say: "Check that your name is on your sticky note. I will come around and collect them."
- As I am collecting the sticky notes, **ask**: "How confident do you feel with the concepts of push, pull, balanced forces, and net force? Please place a 5 in the air if you feel confident, place a 4 or a 3 in the air if you are starting to understand the concepts, and place a 2 or a 1 in the air if you would like more time spent working on these concepts or if you have questions about the concepts."
 - This fist of five will be a quick formative assessment to gauge where students would assess their level of understanding with the concepts that have been covered.

Day 3

Lesson Standards

NGSS Grade 3, Physical Science, PS2.A: Forces and Motion

• Each force acts on one particular object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (3-PS2-1)

NGSS Grade 3, Physical Science, PS2.B: Types of Interactions

• Objects in contact exert forces on each other. (3-PS2-1)

Purpose

• Students will review vocabulary through an engaging hands-on activity. The students will be introduced to unbalanced forces and learn how to draw diagrams to represent balanced and unbalanced forces. I will evaluate what students learned throughout the lesson by distributing an exit slip that the students will complete independently.

Lesson Objectives

- Students will be able to match vocabulary words with their definitions.
- Students will be able to define unbalanced forces.
- Students will be able to draw diagrams to represent balanced and unbalanced forces.

Focus Questions

- What is an unbalanced force?
- What is the difference between a balanced force and an unbalanced force?
- How does the net force change when a force changes from balanced to unbalanced?

Materials & Resources

- Pencils
- Chairs
- Desks
- Rug
- Projector
- Document Camera
- Science Folders
- White Board
- Dry Erase Marker
- Buzzer
- Classroom Set of Name Sticks
- Eraser
- Exploring Science, Grade 3, Student Textbook
- Slates
- Markers
- 24 T-Charts
- 1 Guided T-Chart
- Balanced and Unbalanced Forces Exit Slip

Vocabulary

- Force \rightarrow A push or a pull on an object. Every force has a strength and a direction.
- Push \rightarrow Moving an object away from you.
- Pull \rightarrow Moving an object towards you.
- Balanced Force → Forces that do not cause an object to move because they are equal in size and opposite in direction.
- Net Force → Overall forces acting on an object. Found by adding together the forces acting on the object.
- Gravity \rightarrow A force that pulls objects toward the center of the earth.
- Strength \rightarrow Quantity of a force (strong force = a lot of strength, weak force = very little strength)
- Direction \rightarrow The course in which an object moves.
- Unbalanced Forces → A force that causes a change in motion because there are unequal forces acting on the object.

Differentiation

- Paraprofessional support for one student throughout the lesson.
- The paraprofessional may offer support by scribing for the student during the T-chart vocabulary review and the exit slip.
- I will give one student an outlined T-chart with words missing to guide them as they write the definitions of the vocabulary terms.
- Including movement in the lesson benefits kinesthetic learners.
- Reading the textbook out loud while projecting the text on the white board benefits both visual and auditory learners.
- Spelling out the words in the definition section of the T-chart while projecting it on the white board benefits both visual and auditory learners.
- I will implement turn and talks into the lesson. These conversations allow me to converse with students who need an additional prompt to get their thinking started or need the question re-worded using simple student-friendly terms. Turn and talks also allow me to observe conversations and ask higher-level thinking questions to challenge the students.

Lesson Procedure

Engage

- Before instruction begins, I will write these vocabulary terms on the white board.
 - o Force
 - o Push
 - o Pull
 - o Gravity
 - Net Force
 - Balanced Forces
- Call students by rows to come to the rug.
- Say: "Before we start the review activity, let's review the vocabulary terms listed on the board."
 - o Point to a word, say it out loud, have students turn and talk, then have students share what they think the definition is.
 - Force
 - Push
 - Pull
 - Gravity
 - Net Force → (Explain to the students that they can think of the NET force as a basketball net that catches the total amount of forces put into it.)
 - Balanced Forces
- Say: "For today's warmup, we will be reviewing vocabulary words by playing the vocabulary buzzer game. I will draw two names from the name sticks. The two players will walk up to the front desk and stand on opposite sides. The players will place their hands behind their back and wait for me to read a definition. I will read the definition of one of our vocabulary words. The goal is to be the first to tap the buzzer and state the vocabulary word that matches the definition. Everyone will get a chance to be a contestant in the game and because we only have a few vocabulary words, the words will be repeated, so listen closely."
 - \circ \quad Model how to walk up to the desk, place hands behind my back, and tap the buzzer.
- Say: "Here are the rules: there is no blurting out answers. If someone blurts an answer, they must return to their desk and they will not be able to be a contestant.
- Say: "_____ and _____ will model the first round. Stand up, come to the desk, place hands behind your back, and get ready to listen to the definition."
 - I will say a definition from the vocabulary cards.
 - The students will tap the word.
 - \circ ~ I will either say correct or incorrect, then state the word and the definition.
 - I will draw the next two players and they will walk up to the desk.
 - This will be repeated until all players have had a turn.
- I will have all students find a square on the rug.

Explore

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- Say: "You all did an excellent job matching the definition with the vocabulary word. We will continue to review the words, so they are locked in our memory."
- I will erase the words on the white board.
- Say: "Yesterday we learned about balanced forces. Balanced forces are forces that don't cause an object to move because the forces are equal and strength and opposite in direction."
- Ask: "What do you think happens when forces are not balanced? Turn and talk with a partner."
 - Cause a motion or there is a change in motion.
- I will turn the projector on to show pages 8 and 9 in the Exploring Science, Grade 3, Student Textbook.
- Say: "Raise your hand if you would like to read this first paragraph about unbalanced forces."

- Call on a student
- Student reads
- Say: "Raise your hand if you would like to read the next two paragraphs about unbalanced forces."
 - o Call on a student
 - Student reads

Explain

- Ask: "From what we just read, what happens when the forces acting on an object go from balanced to unbalanced?"
 - An object that was not moving starts moving.
- Ask: "What does it mean to say that the forces acting on an object are unbalanced?"
 - All the forces acting on the object do not add up to zero. There is a stronger force in one direction than the others.
- Ask: "What happens to the rope when both teams pull in opposite directions with the same amount of force?"
 - The rope does not move
 - Ask: "What would the net force be? Remember the net force is the total of all the forces acting on an object."
 - Zero
- Point to the picture and ask: "It appears that the forces on this rope are balanced. How can the forces on this rope become unbalanced?"
 - \circ ~ If one team pulls with stronger force than the other team, the forces will become unbalanced.

Elaborate

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- Send students by rows to get their slates, a marker, and an eraser and return to the rug.
- Say: "We will be learning how to draw diagrams to show balanced and unbalanced forces."
- Say: "Let's first draw a diagram to represent a balanced force."
 - o Draw a line on the white board and the students will draw a line on their slate. Above my line I will write balanced forces.
- Say: "Now let's draw a dot in the center of the line to represent the middle of the rope."
- Say: "To represent balanced forces, we will draw two equal length arrows above our rope starting at the center dot and going outwards. Watch as I draw my lines."
- Say: "Your turn to draw."
- Say: "These arrows represent that the forces are the same strength in opposite directions. Resulting in balanced forces."
- Ask: "What would be the net force of this balanced forces diagram. Turn and talk with a partner."
 - o Zero. The forces are equal in strength and opposite in direction so the net force (the total number of forces acting on an object) is zero.
- Say: "Erase the arrows. Let's draw a diagram to represent an unbalanced force.
 - Say: "Think to yourself, how could we draw a diagram to represent unbalanced forces. (Wait 5 seconds). Turn and talk with a partner."

 Students raise their hand to answer.
- Say: "To make a diagram for an unbalanced force, we will make one arrow longer than the other."
- Draw another line with a dot in the center to represent the middle of the rope. Then add arrows above, with one arrow visibly longer than the other.
- Say: "Draw this on your slate."
- Say: "The longer arrow represents that a stronger force is being applied.
- Ask: "Would the net force still be zero?"
 - No. The net force will be to the (right/left) whatever side the longer arrow is.
 - Ask: "How could we switch the diagram to represent that the other direction is the stronger force?"
 - Make the opposite arrow longer to represent a stronger force.
- Say: "Clear your slates. I will call by rows to return to your desk. When you return to your desk take out a pencil and your T-chart."
- Ask: "What should you take out?"
 - A pencil and our T-chart
- Place T-chart under the projector and point to unbalanced forces.

- Say: "Unbalanced forces cause a change of motion because there are unequal forces acting on the object. Let's write that in the definition box next to unbalanced forces."
 - o Students will write.
- Say: "Please put your T-chart in your science folder and keep out your pencil."

Evaluate

- Check to make sure all T-charts are put away.
- Say: "Now you will complete an exit slip. This exit slip will tell me what you have learned throughout our lessons on forces and interactions. This exit slip is not graded but try your best because it will show me what you do and do not know. When you are done, place it in the turn in tray. Then go back to your desk and read silently to yourself until everyone has finished."
- Distribute exit slips.
- Read the directions.
- Monitor classroom while the students complete the exit slips.
- I will review the exit slips to evaluate student learning throughout today's lesson.

Day 4

Lesson Standards

NGSS Grade 3, Physical Science, PS2.A: Forces and Motion

• Each force acts on one particular object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (3-PS2-1)

NGSS Grade 3, Physical Science, PS2.B: Types of Interactions

• Objects in contact exert forces on each other. (3-PS2-1)

NGSS Grade 3, Physical Science, 3-PS1: Motion and Stability: Forces and Interactions:

• Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. (3-PS2-1)

Purpose

• The purpose of today's lesson is for the students to apply their knowledge about pushes and pulls and identify if a scenario is representing a push or a pull. The students will brainstorm with classmates and elaborate to describe why the scenario represents either a push or a pull. The students will also observe what happens when the forces on a ball change from balanced to unbalanced, and how the net force is affected by these changes. Then the students will explore how forces can change an objects speed and direction. The students will then evaluate their confidence level by comparing it with a stoplight. Red shows that the students are confused and not ready for the test, yellow shows that they have questions before they take the test, and green shows that they understand the content and are ready for the test. The exit slip includes one question that we covered throughout todays lesson that the students will answer.

Lesson Objectives

- Students will be able to identify balanced and unbalanced forces in real-world scenarios.
- Students will be able to recognize that forces can change an objects speed or direction.

Focus Questions

- What is the difference between a balanced force and an unbalanced force?
- What happens when balanced forces become unbalanced?
- How can forces change an objects speed and direction?

Materials & Resources

Pencils

- Chairs
- Desks
- Rug
- Projector
- Document Camera
- Balanced and Unbalanced Flash Cards
- White Board
- List of Balanced and Unbalanced Scenarios
 - Teachers Pay Teachers, Educate, Communicate, Collaborate, Balanced/Unbalanced Forces
 - o https://www.teacherspayteachers.com/FreeDownload/BalancedUnbalanced-Forces-3554852
- Exploring Science, Grade 3, Student Textbook
- Ball
- 24 Exit Slips
- 24 T-Charts
- 1 Guided T-Chart
- Exit Slip
 - Clipart: <u>http://cliparts.co/cliparts/zcX/eRy/zcXeRygdi.png</u>

Vocabulary

- Force \rightarrow A push or a pull on an object. Every force has a strength and a direction.
- Push \rightarrow Moving an object away from you.
- Pull \rightarrow Moving an object towards you.
- Balanced Force \rightarrow Forces that do not cause an object to move because they are equal in size and opposite in direction.
- Net Force → Overall forces acting on an object. Found by adding together the forces acting on the object.
- Gravity \rightarrow A force that pulls objects toward the center of the earth.
- Strength \rightarrow Quantity of a force (strong force = a lot of strength, weak force = very little strength)
- Direction \rightarrow The course in which an object moves.
- Unbalanced Forces \rightarrow A force that causes a change in motion because there are unequal forces acting on the object.

Differentiation

- Paraprofessional support for one student throughout the lesson.
- The paraprofessional may offer support by scribing for the student as they complete the exit slip.
- Including movement in the lesson benefits kinesthetic learners.
- Reading the textbook out loud while projecting the text on the white board benefits both visual and auditory learners.
- I will implement turn and talks into the lesson. These conversations allow me to converse with students who need an additional prompt to get their thinking started or need the question re-worded using simple student-friendly terms. Turn and talks also allow me to observe conversations and ask higher-level thinking questions to challenge the students.

Lesson Procedure

Engage

- I will call students by rows to find a spot on the rug.
- Say: "We will be reviewing what we have learned about balanced and unbalanced forces."
- Say: "Before we start, will someone explain what a balanced force is?"
 - Students will answer.
 - A balanced force is forces that do not cause an object to move because they are equal in strength and opposite in direction
- Say: "Give me a thumbs up or a thumbs down if you agree with _____ explanation of a balanced force."

- Say: "Will another student explain to the class what an unbalanced force is?"
 - Students will answer.
 - An unbalanced force causes a change in motion because there are unequal forces acting on the object.
- Say: "Give me a thumbs up or a thumbs down if you agree with _____ explanation of an unbalanced force."
- "Say: "Please get into partners."
 - Count down from five to ensure that students are speedy with their selection.
- Say: "I will distribute the flash cards once I state the directions. One partner will hold the balanced forces flash card and the other partner will hold the unbalanced forces flash card. I will read a scenario and you and your partner must decide if you think that scenario represents a balanced or an unbalanced force. When you decide, the person with that card must hold it up for me to see. Please don't say the answer right away, as I will be calling on those who are sitting quietly that volunteer to answer."
- Distribute flash cards.
- State scenarios one by one.
 - o Students will turn and talk with their partner to decide what the scenario is representing.
 - Students will be called on to share.
 - Repeat for all scenarios.
- Say: "I will call you by rows to put your flash card in your mailbox and return to the rug. I would like you to show your parents/guardians/friends/ and family your flash card and explain to them what the force means."
- I will call students by rows to place their card in their mailbox.
- While the students are doing this, I will place Exploring Science, Grade 3, Student Textbook page 10 and 11 under the projector.
- Students will return to the rug.

Explore

- Call on a student to read page 10.
 - o Student will read.
- Call on a student to read page 11.
 - o Student will read.

Explain

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- Say: "Forces that do not add up to zero cause changes in the objects speed or direction of motion."
 - Ask: "How is the player on page 10 applying an unbalanced force to the ball?"
 - \circ \hfill His foot is coming in contact with the ball and pushing it as he kicks.
- Say: "Today we will be learning about how forces can change an objects speed and direction."
- Ask: "How is the ball's speed changing as it contacts the player's foot?"
 - It is slowed down by the foot, stopped by the foot for a split second, then sped up again as it is pushed away.
- Ask: "How is the ball's direction changing as it contacts the player's foot?"
 - The ball was moving in a direction toward the player, and now the ball is moving in a direction away from the player.

Elaborate

- Say: "Please sit in the purple, blue, or green row."
- I will place the ball on the ground in front of my foot.
- Ask: "Right now, what two forces are being exerted on the ball?"
 - o Gravity is pulling it down and the floor is pushing it up.
- Ask: "Is the ball is moving?"
 - 0 **No**
- Say: "Because the ball is not moving, this is a balanced force."
- Ask: "What would the net force be of this balanced force?
 - o Zero

- Say: "If I kick the ball, my foot exerts a force on the ball, therefore making it move. I could change the strength of my kick to change the balls speed."
 Demonstrate.
- Now we will evaluate what happens when the ball is rolling toward my foot.
- Say: "______ you will be my assistant. Please roll the ball slowly toward my foot."
 - Student rolls the ball.
- I will tap the ball with my foot, rolling it back to the student.
- Say: "Here we saw the ball make contact with my foot. My foot applied a greater force than the ball, resulting in a change in direction."
- Ask: "Is this a balanced or unbalanced force?"
 - $\circ \quad \text{Unbalanced.}$
- Ask: "How could I change the speed and direction of the force I exert on the ball?"
 - Kick it harder and kick it at an angle.
- Say: "_____ please roll the ball toward my foot again."
 - Student will roll the ball.
 - I will kick it slightly harder and at an angle.
- Say: "Here we saw that my force changed the balls speed and direction."

Evaluate

- Before sending the students back to their desks I will explain the exit slip.
- I will tell the students that they will rate their confidence of the concepts and vocabulary terms using the stop light. They will circle the color that they are feeling.
- Next, I will read the second part. They must circle the two ways that forces can change an objects motion. I will say that we discussed the ways in todays activity.
- I will tell the students that they will place their exit slips in the turn-in tray and review the vocabulary words on their T-chart for the test tomorrow.
- I will send students back to their desks by rows.
- I will distribute the exit slips.
 - Students will complete the exit slips.
 - o I will monitor the classroom while the students complete the exit slips.

Day 5

Lesson Standards

NGSS Grade 3, Physical Science, PS2.A: Forces and Motion

• Each force acts on one particular object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (3-PS2-1)

NGSS Grade 3, Physical Science, PS2.B: Types of Interactions

• Objects in contact exert forces on each other. (3-PS2-1)

Purpose

• The student's will Student's will complete a post-assessment to evaluate what they learned throughout the unit. The post-assessment scores will be compared to the pre-assessment scores to determine student academic achievement.

Lesson Objectives

- Students will be able to identify vocabulary terms using key words and actions given by their classmates.
- Students will be able to complete the post-assessment.

Materials & Resources

- Pencils
- Chairs
- Desks

- Rug
- Projector
- Document Camera
- T-Chart
- Name Sticks
- Headbands
- White Board
- Marker
- 23 Privacy Folders
- 24 Post-Assessments

Vocabulary

- Force \rightarrow A push or a pull on an object. Every force has a strength and a direction.
- Push \rightarrow Moving an object away from you.
- Pull \rightarrow Moving an object towards you.
- Balanced Force → Forces that do not cause an object to move because they are equal in size and opposite in direction.
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- Strength \rightarrow Quantity of a force (strong force = a lot of strength, weak force = very little strength)
- Direction \rightarrow The course in which an object moves.
- Unbalanced Forces \rightarrow A force that causes a change in motion because there are unequal forces acting on the object.

Differentiation

- I will cross out one option in the multiple-choice section of the pre-assessment for two students.
- I will read the directions, questions, and possible answers of the pre-assessment out loud to the students. This is beneficial to students with learning disabilities, students who are auditory learners, and students that benefit from concentrating on one question at a time.
- Paraprofessional support for one student throughout the lesson.
- The paraprofessional may offer support by scribing for the student during the post-assessments.
- Including movement in the lesson benefits kinesthetic learners.

Lesson Procedure

Engage

- I will call students up to the rug by desk rows.
 - Students will come to the rug.
- Say: "Today we will be taking our forces and interactions assessment. Before we take the assessment, we will review our vocabulary terms by playing a review game of headbands."
- Say: "Let's review our T-chart of vocabulary terms."
 - Place T-chart under projector.
 - Go through each term one by one.
 - Turn off projector.
- Say: "I will draw name sticks, if your stick is called, you will walk up to the front and get your headband. If your name is not called, you will stay seated and stay quiet. If you blurt the vocabulary term you will return to your desk and you will not have the chance to get your name stick drawn."
- Say: "The person with the headband on will choose three people to give her a clue to her vocabulary word. For the clues, you may say one word, or you may do an action to represent the vocabulary word."

- Say: "Give me a thumbs up if you understand the directions."
- Ask: "Does anyone have any questions before we begin?"
- Draw name stick
- Place headband on the student.
- The student will call on three people to give them a clue to solve the vocabulary word.
- If a student does not know what the word is, I will offer them another clue.
 - o Repeat x7
- Ask: "Every force has a _____ and a _____?"
 - Turn and talk
 - Strength and a direction
- Ask: "In what ways can forces change an objects motion? Hint: there are 2 ways."
 - Turn and talk
 - Speed or Direction
- Ask: "Who would like to come up to the whiteboard and draw a diagram for a balanced force?"
 - Call on student
 - Say: "Draw a line for a rope with a dot in the middle to represent the center of the rope. Use arrows to represent the forces."
- Ask: "Who would like to come up to the whiteboard and draw a diagram for an unbalanced force?"
 - Call on student
 - Say: "Draw a line for a rope with a dot in the middle to represent the center of the rope. Use arrows to represent the forces."
- Call by rows to have students go to their desk and get out their privacy folder and a pencil.
 - Ask: "What should you get out?"
 - Our privacy folder and a pencil.

Post-Assessment

- Distribute an assessment to each student.
- Say: "Please write your name at the top when you get your assessment. Please wait to start the assessment."
- Place a post-assessment under the projector.
- Read the directions out loud to the students. Read every question out loud. Allow for think time while students answer the questions.
- Say: "Double-check to make sure all questions are answered and that your name is at the top of the first page. I will call by rows to turn the assessments into the turnin tray."

2. Explain how key learning tasks are sequenced in the learning segment to build connections from prior knowledge to new knowledge.

Include how you will help students make connections between and among prior and new content knowledge and reasoning strategies to deepen student learning.

I planned my unit to start by assessing the student's prior knowledge with a pre-assessment. Included in the pre-assessment are vocabulary terms and concepts that will be covered throughout the unit. Analyzing this pre-assessment will give me information on the student's prior knowledge of the concepts in the unit. To build connections from prior knowledge, I will start each lesson by asking open-ended questions to the students about their experiences with the day's focus topic (i.e. push and pull, unbalanced forces, changing direction). I will have the students turn and talk with a partner about the topic, then share and/or demonstrate what they know about the topic. Throughout the lessons, I will tie the new content to the student's prior knowledge. One way I can do this is to say, "(student) demonstrated what a push was, how could we describe a push using words. Think about what (student) did during (his/her) demonstration." Together as a class, we will discuss the similarities and differences between terms and concepts. This will strengthen the student's reasoning skills by comparing one thing to another. The content from the day prior will be reviewed through activities and discussions.

G. Overall Reflective Commentary on Planning	(connects in various ways with Rubrics 1-4 in Planning Section)
1. Communicate what you learned about planning and the role of planning in teacher effectiveness.	

This unit showcases the accumulation of what I have learned throughout my teaching journey. The planning section exhibits the step-by-step thought process I endured to create the most engaging, creative, and detailed lesson plan with every student in mind.

First and foremost, I learned that planning a unit takes time, time, and more time. I thought about the unit for three weeks before I placed a word onto the lesson plan. I searched the internet for games, videos, and lesson inspiration before integrating my ideas together. While planning, I learned that there are so many aspects that have to be considered so the assessments match the lessons that match the targeted standards. Next, accommodations and modifications need to be considered to ensure that the content matches and challenges students at every learning level. Considering the students, their needs, their learning styles, their behaviors, their ability to concentrate, and their prior knowledge were all greatly considered while planning the unit. Having the supplies listed, questions highlighted, and focus questions and purpose memorized greatly increased my confidence to teach each lesson.

I also learned the importance of being flexible while planning a unit. Initially, my plans were set in stone and I was confident that every lesson would go as planned. I learned on the first day of the unit that as much time you spend planning a lesson, it might not go the way you expected. I had to change and modify the next lesson to keep the students engaged and involved in the content. Altogether, planning this unit gave me a new perspective on the various components that need to be considered so that the unit matches various learning levels and learning styles.