

Lesson Title	Non-Contact Forces: Push & Pull		
Essential Question	What are contact and non-contact forces? What is gravity?		
Subject/ Grade Level	Grade 4 science	Time Duration	80 minutes 12:18-12:58 12:58-1:38
Unit (Organizing Ideas)	Energy: Understandings of the physical world are deepened by investigating matter and energy.	Teacher	Abbey Ford

Learning Outcome:		Students investigate how forces can act on objects without contact
KUSP's		<ul style="list-style-type: none"> • Non-contact forces occur between objects that are not in direct contact. • Non-contact forces are invisible forces that can affect objects, materials, and substances.
LEARNING OBJECTIVES		
<p>Students will: understand the difference between a pushing and pulling force.</p>		
MATERIALS NEEDED FOR LESSON		
<ul style="list-style-type: none"> • Non-contact Forces Google Slides • Pencil and eraser for each student • Non-contact forces booklet for each student • Egg Drop Booklet • Brain Break Mario Races Video 		

PROCEDURE

Lesson		Time
<i>Set up (Before students arrive)</i>	<ul style="list-style-type: none"> • Display the Non-contact Forces Google Slides On the board • Put a science booklet on each of their desks. 	
<i>Attention Grabber</i>	<ul style="list-style-type: none"> • Welcome students into class at the door. • Begin lesson by asking students: “if you can hear me touch your head, if you can hear me touch your nose, if you can hear me clap once”. • Before beginning the lesson, ensure that all students have their hands above their desk with a pencil and eraser on top of their desk. 	5 minute
<i>Transition to Body</i>	<ul style="list-style-type: none"> • Explain that we are starting a new science unit about non-contact forces. <p>Egg Drop Experiment</p> <ul style="list-style-type: none"> • “Next Thursday we are going to do an egg drop experiment. You are going to be making a contraption that will protect an egg when dropped from a high surface. Throughout this week, I want you to brainstorm some ideas on how you are going to protect your egg. But first, we have to learn about forces!” 	5 minute
<i>Body (Google Slides)</i>	<p>Think, Pair, Share- what is force?</p> <ul style="list-style-type: none"> • Explain what a think, pair, share is. • Allow 1 minute for independent thinking, 2 min for talking with neighbour, and 2 min to share with the class. 	5-10 minutes

	<p>What is force?</p> <ul style="list-style-type: none"> • Explain what force is and how an object can't move without a force acting on it. • State that there are two types of forces: push and pull 	5 minutes
	<p>Push and Pull</p> <ul style="list-style-type: none"> • Explain push and pull. 	
	<p>Push OR Pull</p> <ul style="list-style-type: none"> • Explain that we are going to play a game called “push or pull”. If they believe the image is an example of a push force they will raise the roof. If they believe the example is a pulling force, they will pretend to climb a rope. • Ask students to stand up to play the game. • Go through each example and ask class to raise their hand and tell me their thinking process. 	10 minutes
	<p>Fist-to-five- formative assessment</p> <ul style="list-style-type: none"> • Explain what a fist-to-five is. • Ask “give me a fist-to-five on how you are feeling about push and pull forces.” 	3 minutes
	<p>Brain Break</p> <ul style="list-style-type: none"> • Brain Break Mario Races Video 	5 minutes
	<p>Refocus</p> <ul style="list-style-type: none"> • Refocus group with “if you can hear me...” 	1 minute
	<p>Todo- formative assessment</p> <ul style="list-style-type: none"> • Tell class to open their science books and to complete pages 8,9, and 10. • What ever they don't complete in class is to be completed at home. • Walk around to formatively assess, mark students work and give feedback. • Check-in with students who displayed a 3 in lower in their fist-to-five. • Allow students to work for 25 min. 	1:00 (at the latest) 25 minutes

	<ul style="list-style-type: none"> • <u>Hand out egg drop sheet during the end of work time.</u> <p>Refocus</p> <ul style="list-style-type: none"> • Hit the chimes to regain class focus. <p>Egg Drop- more in depth explanation</p> <ul style="list-style-type: none"> • Explain that this project is going to be done individually completed at home. • Go through the booklet explaining what parts they must complete at home. • Over this next week they will take what they learned in class to build their contraption at home and bring it to class next Thursday. • Ask if they have any questions. 	<p>1 minute</p> <p>10 minutes</p>
<p><i>Lesson 1 Closure</i></p>	<ul style="list-style-type: none"> • Tell students to put their booklets in their duotang. • Call students to put their science books away in order of birthdays. 	<p>1 minute</p>