Lesson Plan Template
Date: Monday, October 1st

Grade: 4th	**Subject: Science**
Materials: **jenga blocksand container, textbooks, wrapping paper core tubes (preferably 2), 2 marbles (one lighter than other) , blue tape, stop watch, meter stick**	**Technology Needed:** **Laptop, active board** **https://www.youtube.com/watch?v=go2EHgRiHHA**
Instructional Strategies: ☐ Direct instruction ☐ Guided practice ☐ Socratic Seminar ☐ Learning Centers ☐ Lecture ☐ Technology integration ☐ Other (list) ☐ Peer teaching/collaboration/ cooperative learning ☐ Visuals/Graphic organizers ☐ PBL ☐ Discussion/Debate ☐ Modeling	**Guided Practices and Concrete Application:** ☐ Large group activity ☐ Independent activity ☐ Pairing/collaboration ☐ Simulations/Scenarios ☐ Other (list) Explain: ☐ Hands-on ☐ Technology integration ☐ Imitation/Repeat/Mimic
Standard(s) **PS3.A: Definitions of Energy** -The faster a given object is moving, the more energy it possesses.	**Differentiation** **Below Proficiency:** **-Have student ask partner why marble didn't move when tube was flat** **Above Proficiency:** **-Have them make a web chart using relationship between these three types of motion** **Approaching/Emerging Proficiency:** **-Have them give verbal or repeat simplified definitions of three motion words** **Modalities/Learning Preferences:** **Kinesthetic , visual**
Objective(s) **By the end of the lesson, students will better understand speed, velocity, and acceleration and by identifying their roles in "water slide's" structure, and by predicting how the marble will behave when the water slide is altered.** **Bloom's Taxonomy Cognitive Level: Evaluate, analyze, apply, understand, remember**	
Classroom Management- (grouping(s), movement/transitions, etc.) **1. Have science notebooks and pencil out** **2. Everything else put away** **3. Have students sit where they can see tubes and space (maybe set tubes up on desks or long table so it is more visible)**	**Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)** **-Voices off when I or other student are talking, demonstrating** **-calm bodies, gentleness when using 'slide' objects** **-Participation when called on and during exit slips**

Minutes	Procedures
5	**Set-up/Prep:** **1. Have plain tube lying flat on ground** **2. Have blue piece of tape at end of tube that's on ground to mark "stop"** **3. Have both marbles close to start** **4. Have jointed tube near** **5. Have jenga blocks close to help steady tubes, have their container close to prop tube higher later** **6. Have https://www.youtube.com/watch?v=go2EHgRiHHA pulled up at 0:30 ready to play for about a minute**
5	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** **1. Play waterslide clip until 'insano' slide info is done being explained** **2. Stop when clip says height (about 134ft), stop when clip says speed (what is speed??)** **3. Today we are going to engineer our own a water slide, and look at how speed, velocity, and acceleration are used when using and making one!** **a. Write and number SPEED, VELOCITY, and ACCELERATION on board** **b. Have them write those three on paper** **4. Go to tube setup!!!!**
20	**1. Explain/Explore: (concepts, procedures, vocabulary, etc.)** **2. Set marble at opening of tube and leave it** **a. "Is there any force acting on this marble??"** **i. THERE IS === gravity** **b. Has the marble changed speed?? Has it ACCELERATED??**

	i. NO, acceleration is change in speed or direction, which the marble has done neither, so no. ii. WRITE CHANGE IN SPEED OR DIRECTION on board/in their notebooks iii. Explain that this depends on how much of something there is to move, and how much force (either push or pull) there is on it c. Why isn't the marble going down the slide? d. <pick someone who is quiet and attentive to come show what they'd do to get marble to go down the slide> 3. Why did you do that? a. (if they didn't slightly prop up tube, do that) 4. Slant=adds speed 5. <Tip tube completely vertical> 6. It hit got to the floor way quicker 7. It had a greater SPEED a. SPEED is DISTANCE over TIME, or how long it took to get a certain distance i. Write a mph speed so they can recognize a familiar format b. Write that down 8. So when i tipped the tube completely up, the marble went the same distance, but it didn't take as long to do it as when it was just slightly tilted up a. Gravity could pull marble without the tube slowing it down or getting in the way/underneath it 9. So slant affects the speed 10. How long did this marble go? a. Who would like to measure and record on the board how long the marble went? (speak about and pick someone who has been focused and a respectful listener) b. Direct them to numerator spot on fraction next to the word SPEED on board c. While student is measuring, ask for a someone to remind me what speed is (HOW FAST something got somewhere) 11. Now I need someone to come be my timer, someone who's been focusing and can press buttons really quickly 12. I need one other person to be my marble monitor a. Marble monitor: when you let go of the marble say "go" b. Timer, when he says go, press button, but watch carefully c. When marble gets to blue tape, press button again d. Then have marble monitor write how long it took for marble to travel the x amount of cm in denominator spot 13. Now do we have a DISTANCE???? Do we have a TIME?? (line means per, or 'for every…" 14. When something is going a certain speed, it's important to know which direction its going that fast (N, S, E, W, right, left, towards the hallway…) a. When we have both a speed AND direction, we call it VELOCITY i. Write "like speed, but <u>also where</u> speed is going" 15. **If there's time, ask what would happen if water slides are dry, or were made of carpet?
	Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions) **COMBINED WITH ABOVE SECTION**
	<u>Review</u> (wrap up and transition to next activity): 1. We are going to watch the clip one more time. 2. This time, I want you to listen to see if you can hear the SPEED you can reach when you ride this slide a. So it will be a number with which two things <distance (miles) per time (hour)> 3. Which one of these words is really similar to speed? 4. So why is the 'insano' so insane?? It's because the acceleration, speed, and velocity it causes your body to have are so high!!

Formative Assessment: (linked to objectives, during learning) • Progress monitoring throughout lesson (how can you document	Summative Assessment (linked back to objectives, END of learning) At the end of the chapter, students will answer multiple choice,

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your student's learning?) **Before kids can line up for recess, they need exit slip with the following:** **1. NAME** **2. Which word tells us how fast an object is moving or going?** **3. Which word tells us how fast and what direction an object is moving?** **4. Which word tells us about the change in speed or direction that the object has gone?** **5. Why didn't the marble go anywhere when the tube/was flat?**	**chapter test provided by "Interactive Science" textbook** **Students can also make their own slide in groups with given supplies, and have to identify the types of motion during process of marble rolling on their own.** **1. Watch waterslide clip** **a. Have them take write down SPEED they hear** **b. Have them write how speed is measured** **c. Have them write at which main point on the slide is the slider's energy the greatest** **d. Ask how they could change the speed direction to show the person's velocity instead** **2. Students can also make their own slide in groups with given supplies, and have to identify the types of motion during process of marble rolling on their own.**

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

This particular lesson was interesting in the timing of when the lesson was taught, in the format of the way I ended up teaching it, and in the audience to which I taught it. If I'm being honest, I do not feel that I communicated enough to my practicum teacher prior to bringing my lesson and teaching it on Monday. I did get information as to when or what I should be touching upon with my lesson, however, I did not have as many details and explicit structure as I probably should have, because when setting up for my lesson, my teacher reminded me I would be in the other 4th grade classroom teaching my lesson first, and would then be switching rooms back to our own 4th grade class to teach the same lesson. This was a bit of an adjustment as I planned for the full session with just my class, allowing extra time for independent or large group experimenting with my science supplies. This would not have been significantly difficult or inconvenient, however, I had videos and links to pull up on the class' smart board, as well as multiple supplies and manipulatives to set up for the instruction and visual demonstrations. For that reason, I implemented turn and talk time regarding water activities the students had done this past summer.

When teaching the actual lesson itself, I felt the first class went much more smoothly. This is not to say that there were not many areas in which I feel I needed to improve, however, the first class I taught the lesson to provided much fewer interruptions while I taught. This could have been due to the differences in the way I taught my lesson with each class, but regardless of the reason, I was thrown off or sidetracked much less often and able to more effectively organize my thoughts, words, and lesson structure. I think both my activity, model, and video I used to supplement the concepts of speed, velocity, and acceleration were pretty engaging to both classes. However, I did not follow the format or order I had originally laid out in my typed lesson plan. It seems that my original plan tends to fly out the window when I get up in front of a class with a teacher watching and assessing my techniques, the latter being what causes the highest amount of nervousness. However, my lesson seemed to get the three main concepts across to the students. I do think I could have been more consistent with the way I defined or referred to certain terms, though.

My practicum teacher commented on the fact that I encouraged comments or questions that branched off of my actual lesson and content, as he stressed the importance of celebrating curiosity. He did mention that I could have been more effective or engaging had I moved around the room more often. Although he said it was common for new teachers to stick to the comfort zone of staying in one place up by the board in the "front of the classroom", movement helps with student engagement.

Overall, I think the lesson went alright considering I was still getting into the swing of lesson planning and teaching.