Co-Teaching Lesson Plan

Teacher 1: Mary Hendrickse/ MaryLynn Thurman **Teacher 2: Rhonda Parker**

Co-Teaching Approach(es): Place an **X** or a ✓ on the line in front of each approach outlined in the lesson.

___ Parallel Teaching ___ Team Teaching _x_ Station Teaching
___ One Teach,One Observe ___ One Teach,One Assist ___ Alternative Teaching

Subject: **States and Forms of Energy**	Topic/Lesson: Investigating states and forms of energy	Date:

Standard(s): PS.6 The student will investigate and understand forms of energy and how energy is transferred and transformed. Key concepts include
a) potential and kinetic energy; and

PS.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.

Lesson Outcomes:
Students will conduct an experiment in which they will calculate the kinetic energy and potential energy in a system.

Materials Needed:
Toy cars
Textbooks
Meter sticks
Wooden boards
Stopwatches
Electronic scales or triple beam balances
Computers with printer or paper/pencil

Vocabulary: Energy, potential, kinetic, mass, joules, grams, velocity, speed, gravity

Lesson Component	Teacher 1	Teacher 2
Anticipatory Set	As students enter race track sound. Video of car crashes	
Co-Teaching Approach:	One Teach-One Assist (main teacher)	One Teach-One Assist (assistant teacher)
Lesson: Activities/ Procedures	Inquiry Level 2 Lab: Students will receive a jumbled set of lab steps. Students reassemble lab procedures into correct order before beginning.	
Co-Teaching Approach:	Teaming (provide modeled instructions)	Teaming (provide verbal instructions)

Co-Teaching Approach:	Students complete potential and kinetic energy lab using cars and wooden ramps. Alternative Teaching (small group assist with math calculations)	AlternativeTeaching:(larger group observe/monitor lab stations)
Guided/Independent Practice *Co-Teaching Approach:*	Students complete a concept comparison routine comparing potential and kinetic energy using previous notes and results of lab. Alternative Teaching (small group teach)	Alternative Teaching (larger group teach)
Closure *Co-Teaching Approach:*	Students write a lab conclusion using the information analyzed with the concept comparison routine. Parralel Teaching	Parralel Teaching
Formative Assessment Strategies *Co-Teaching Approach:*	Concept Comparison graphic organizer will be used as a formative assessment. Lab table and conclusion will be used as a summative assessment. n/a	
Homework		
Specially Designed Instruction and Accommodations, Modifications for Specific Students	• Providing both verbal and written instructions • Provide calculators for computation • Allow students to use ipad to complete data table and concept comparison graphic organizer • Provide task timer for those students or groups who need to be kept on task and progressing at a reasonable rate. • Highlighters • modeling	

Notes:		

Lab will include the following:

(Measurement)

- Find the mass of the toy car with one of the tools.
- Create a ramp with a height of one textbook.
- Place the toy car at the top of the ramp, and then measure the height of the ramp at the point where the toy car sits. Record the height in a table like that at right.
- Measure the distance from the top of the ramp to the bottom of the ramp. Record the distance in the table.

(Ramp Performance)

- Students let cars roll down ramp.
- Using a stopwatch, measure the time it takes for the car to roll down the ramp, and record it in the table.
- Repeat the previous steps, adding a one textbook at a time and creating a ramp with a steeper slope until you have a stack of 5 textbooks.

(Calculations):

- Calculate the potential energy of the toy car, and record it in the table.

$$PE = mass \times gravity \times height \ (gravity = 9.8\ m/s^2)$$

- Calculate the velocity of the car and then the kinetic energy. Record it in the table.

$$velocity = distance/time$$

$$KE = \tfrac{1}{2} \times mass \times velocity^2$$

Data Table:

Number of Textbooks	Height (m)	Potential Energy (J)	Distance (m)	Time (s)	Velocity (m/s)	Kinetic Energy (J)
1						
2						
3						
4						
5						