Emerson Middle School Integrated Lesson Form
Title: Week 23: February 10-15
Lesson Description: Introduction to Motion and Energy

Educator	Name: Elena Mackey A+ School: EMS Grade level/subject area: 7th Grade Science
Curriculum & Arts	Overarching Concept: Motion and Energy Essential Question(s) and/or Focus Question(s): ● What is energy? ● What is work? ● What is the difference between potential and kinetic energy? ● Which state of matter do sound waves travel through the quickest? ● What type of energy travels in waves? Disciplines Addressed: 21st Century skills: __dance _music _x_visual arts _x_creativity __drama _x_reading _x_writing _x_problem solving _X_language arts _x_science __other: _x_technology _x_math __social studies _x_collaboration Curricular connections/instructional objectives: (state standards, etc.) MS PS 3-6
Enriched Assessment	Ways to assess/evaluate students' understanding during and at the conclusion of the lesson Formative: Students will complete daily bellworks. Students will build a model to demonstrate potential gravitational energy and kinetic energy. Students will complete a domino lab to test whether sound waves travel faster through solids, liquids or gases. Summative: Students will complete daily exit slips.

Collaboration	How will collaboration be used: (between students, fellow teachers, or anyone with potential expertise): Students will plan a charade to act out different forms of energy. After watching my latest swivel, I will discuss ways I can improve my instructional coach.
Multiple Learning Pathways	Multiple Intelligences addressed within lesson: (check all that apply) _X_bodily/kinesthetic __musical-rhythmic _x_interpersonal _x_naturalist _Intrapersonal _x_veral-linguistic _x_logical-mathematical _x_visual spatial

Infrastructure	Classroom Infrastructure/Setup:
	 Timeframe (example: length of unit, number and length of lesson(s): 1 week
	 Space: Tables, individual and group work
	 Material:
	 Textbook, Google Classroom, Google Drive, lab worksheets, and lab materials
	
	 Monday
	 1. Bellowork: 10 min
	      A. Define Energy pg. 109
	      B. Give an example of how you have used energy today.
	      C. Define Potential Energy Pg. 109
	      D. What are two things in this room that have potential energy?
	 2.Using Pg 110 in the textbook, fill in the chart in Google Classroom(5 min)
	 3, Discuss (5 min)
	 4. Energy Challenge (15 min)
	      A. Increase the potential energy of the bean using only the newspaper (3 min)
	      B. Gallery Walk (90 seconds)
	      C. Who increased their potential energy most (5 min)
	      D. Draw your original design
	      E. Improve your design (5 min)
	
	 5. Kinetic Energy Challenge (12 min)
	      A. Define Kinetic Energy (Pg. 111)
	      B. Modify your design to transform the bean's gravitational potential energy of the bean into kinetic energy (5 min)

C. Draw your your design and label where your bean has the greatest potential energy and where it has the greatest kinetic energy

Exit: Roller Coaster Loop (5 min)
  A. Where is the greatest potential energy?
  B. Where is the greatest kinetic energy

Tuesday
Bellwork: Roller Coaster Loop (7 min)
  A. Where on this look is potential energy the greatest?
  B. Where is the kinetic energy the greatest?
  C. Which has more kinetic energy; a 5 kilogram object moving at 5 meters per second, 1 meter off the ground, or a 5 kilogram object at rest 2 meters off the ground?
Vocabulary Chart (15 min)
  A. Define the words (P111-114)
  B. Find an example of each type of energy in the classroom
Tuning Fork Launch Lab (20 min)

Exit: KWL One I already knew is_____ one thing I still want to know is_____. One thing I learned is_____. (5 min)

Wednesday
Bellwork: (10 min)
Read page 113-114
  A. Sound and radiant energy travel in _____.
  B. What are waves that carry radiant energy called?
Define (5 min)
  A. Energy Transfer
  B. Energy Transformation
  C. Work
Energy in Pictures (20 min)
  A. Find a picture in a magazine
  B. Identify energy transfer, energy transformation and work
  C. Explain how each type of energy shown in your picture fits the definition of each word
Exit I would like to know more about…. (5 min)

Thursday
Bellwork (5 min)

	Do you think sound waves travel faster in solid, liquid or gas? Explain your answer
	
	Domino Activity (20 min)
	Picture Practice(12 min)
	
	Exit One thing I am still confused about is….(5 min)
	
	Friday
	Bellwork (7 min)
	    A. Compare two types of energy
	    B. Give two examples of these types of energy in your daily life.
	
	Energy Charades (30 min)
	Exit: A swimmer is about to dive off the diving board, Draw a picture that shows the greatest potential energy, and a picture that shows the greatest kinetic energy. (5 min)

Experiential Learning & Climate	Steps/Process: (You may share by using this form, video, photostory, powerpoint, etc.) Please attach rubric, checklist or other assessment tool, if applicable.
ISTE standards	Check all that apply: _x_Empowered learner _x_Digital citizen _x_Knowledge constructor _x_Innovative designer _x_Computational thinker _x_Creative communicator __Global collaborator