Name
TA

Science 10
2022-2023

Learning Guide # 9: Kinetic and Potential Energy

BIG IDEA: *Working with Kinetic and Potential Energy*

Fundamental Knowledge (I know)

- ☐ What Kinetic, Gravitational Potential, and Mechanical energy are AND can define each
- ☐ How to calculate the amount of energy an object has due to motion (Kinetic) and due to position (Gravitational Potential)
- ☐ How to calculate the transformation from Potential to Kinetic energy using formulas and theory

Curricular Competencies (I can)

	Proficiency Scale Teacher and Student self assessment (Circle one)	**Evidence (How do you know?)**
I can: Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest.	**Emerging (EMG)** Initial Understanding **Developing (DEV)** Partial/Near Complete Understanding **Proficient (PRF)** Complete Understanding **Extending (EXT)** Sophisticated Understanding	
Seek and analyze patterns, trends, and connections in data, including describing relationships between variables, performing calculations, and identifying inconsistencies.	**Emerging (EMG)** Initial Understanding **Developing (DEV)** Partial/Near Complete Understanding **Proficient (PRF)** Complete Understanding **Extending (EXT)** Sophisticated Understanding	

Student Signature: **Teacher Signature:**

Date:

Instructions To help guide your learning, make your way through the activities in Option 1, Option 2, or Option 3. You may "mix and match" between the different Option columns.

TOPIC	OPTION 1	OPTION 2	OPTION 3
Calculating Kinetic and Potential Energy	Watch the following video and complete the **Bozeman Pendulum/Potential Energy Worksheet**.	Watch the following video and complete the **Bozeman Pendulum/Potential Energy Worksheet**.	**Choose your own adventure!** Pick up a planning sheet from the Science Kiosk. Create a plan! Make sure you read through the first page of this LG, as you will need to design ways to learn/practice and show your understanding of the topic(s) and skill(s) (competencies.) You will need to have a teacher approve your plan before beginning the LG.
Calculating Kinetic and Potential Energy Practice Problems	Complete the **Kinetic and Potential Energy worksheet**.	**Create** (5) Kinetic Energy Practice Problems and (5) Potential Energy Practice Problems. **Create and include answer key for the questions (Show your steps and correct units).**	
Lab	Kinetic and Potential Energy Lab		
Self Assessment	Reflect on the Fundamental Knowledge and Curricular Competencies. Use the rubric and make goals to improve for your next learning guide.		
Interview or Quiz	See you teacher for an interview or to have a quiz slip signed for the test center. Bring your work and staple it to your quiz when complete.		

Resources can be found at www.THSSscience.com or the Science Kiosk
*User: **THSS***
*Password: **science***