

# Thank you!

Delzer's Dynamite Designs

Thank you so much for buying my Total Mechanical Energy worksheet! I always had a tough time finding pictures in order to do these type of problems and I am glad to bring you some professionally designed images. You will find that all my work is always aligned to objectives and those objectives correlate to state standards as best as I can.

I hope this listing helps you and your students! ☺

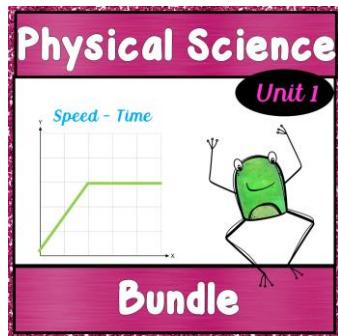
Please check out my other resources at

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If you have any questions, feel free to email me at:  
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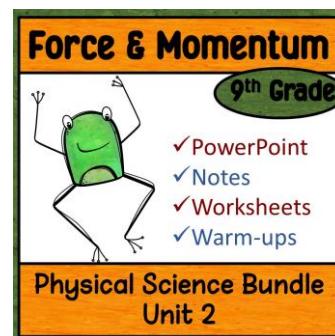
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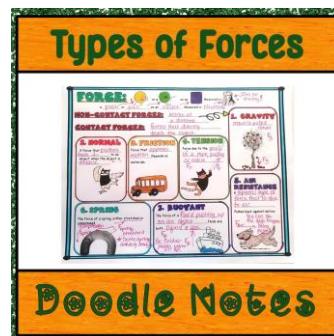
**Force & Momentum**  
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✓ PowerPoint  
✓ Notes  
✓ Worksheets  
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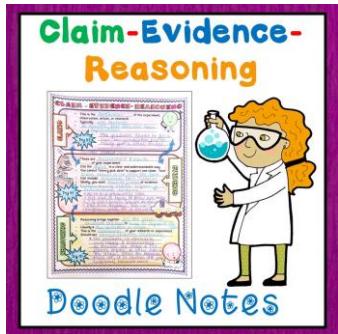
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**Types of Forces**



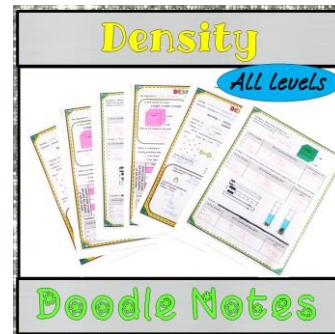
**Doodle Notes**

**Claim-Evidence-Reasoning**



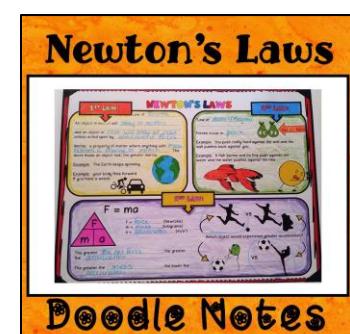
**Doodle Notes**

**Density**  
**ALL Levels**



**Doodle Notes**

**Newton's Laws**



**Doodle Notes**

# Thank You for Respecting My Work!

**Delzer's  
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## CLIP ART CREDITS:



Just Us Teachers

# Work, Energy, and Power Unit

## Objectives

Estimated Time: 10 days

- 1) I can identify 9 types of energy.
- 2) I can describe and calculate potential energy.
- 3) I can describe and calculate kinetic energy.
- 4) I can describe the conservation of energy and I can describe energy transfers between any of the 9 energy types.
- 5) I can describe and calculate the transformation of potential and kinetic energy (total mechanical energy) in a frictionless system.
- 6) I can describe and calculate work.
- 7) I can describe and calculate power.

This worksheet is written to support  
the pink objective above.

## NGSS

### HS-PS3-2 Energy

Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).

## Texas TEKS

(5) Science concepts. The student recognizes multiple forms of energy and knows the impact of energy transfer and energy conservation in everyday life. The student is expected to:

A) recognize and demonstrate that objects and substances in motion have kinetic energy such as vibration of atoms, water flowing down a stream moving pebbles, and bowling balls knocking down pins;

(B) recognize and demonstrate common forms of potential energy, including gravitational, elastic, and chemical, such as a ball on an inclined plane, springs, and batteries;

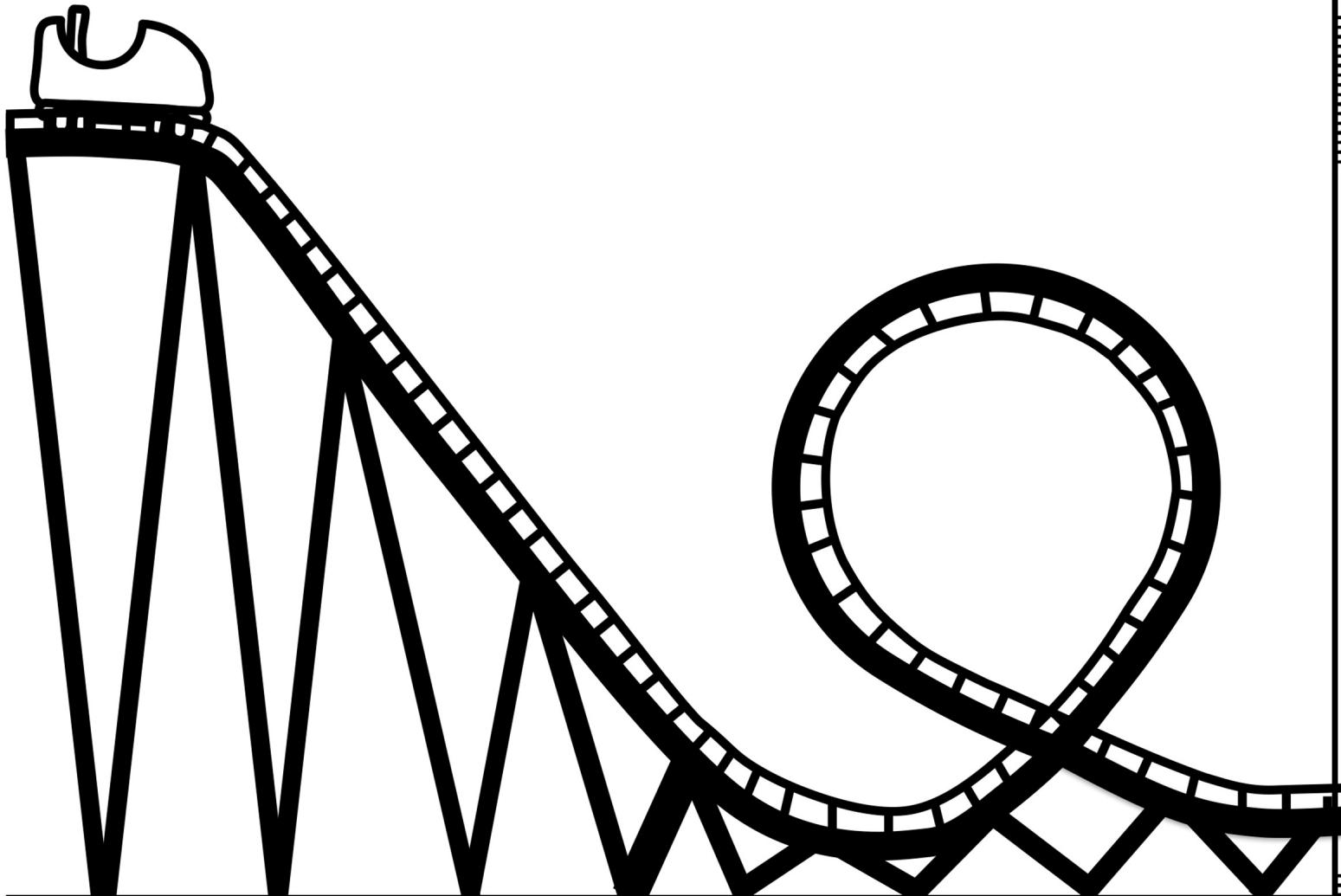
(D) investigate the law of conservation of energy;

## Virginia SOL

PS.6 The student will investigate and understand forms of energy and how energy is transferred and transformed. Key concepts include potential and kinetic energy; and mechanical, chemical, electrical, thermal, radiant, and nuclear energy.

PS.5 The student will investigate and understand changes in matter and the relationship of these changes to the Law of Conservation of Matter and Energy. Key concepts include physical changes; chemical changes; and nuclear reactions.

# Student Worksheets



Name: \_\_\_\_\_  
Period: \_\_\_\_\_

Date: \_\_\_\_\_

## Total Mechanical Energy

Directions: Fill out everything for each problem. Write neatly!

1) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.

Total Mechanical Energy = 950 J

Potential Energy = 800 J

Kinetic Energy = 150 J

Total Mechanical Energy = \_\_\_\_\_

Potential Energy = \_\_\_\_\_

Kinetic Energy = 450 J

Total Mechanical Energy = \_\_\_\_\_

Potential Energy = 0 J

Kinetic Energy = \_\_\_\_\_

2) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.

Total Mechanical Energy = 25,000 J

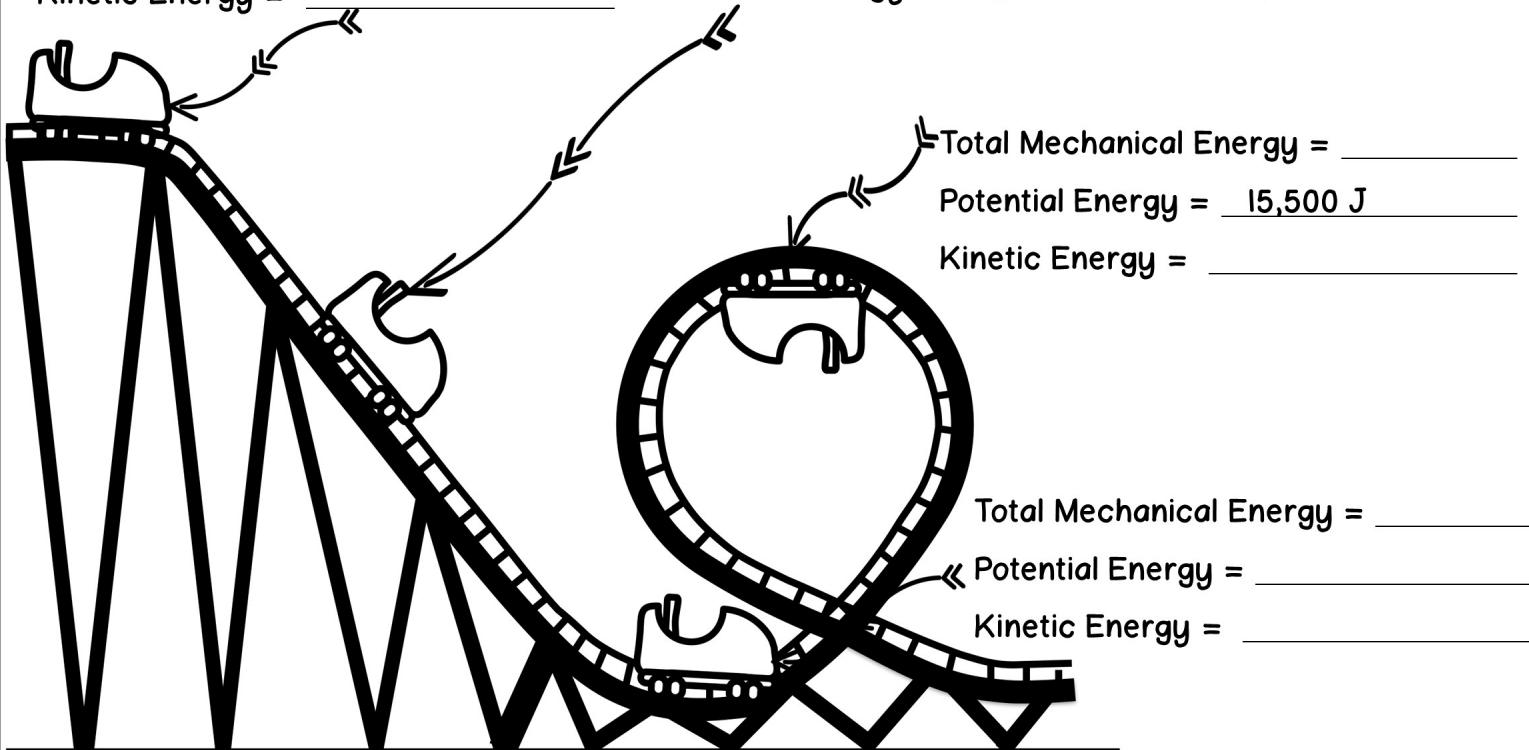
Potential Energy = 20,000 J

Kinetic Energy = \_\_\_\_\_

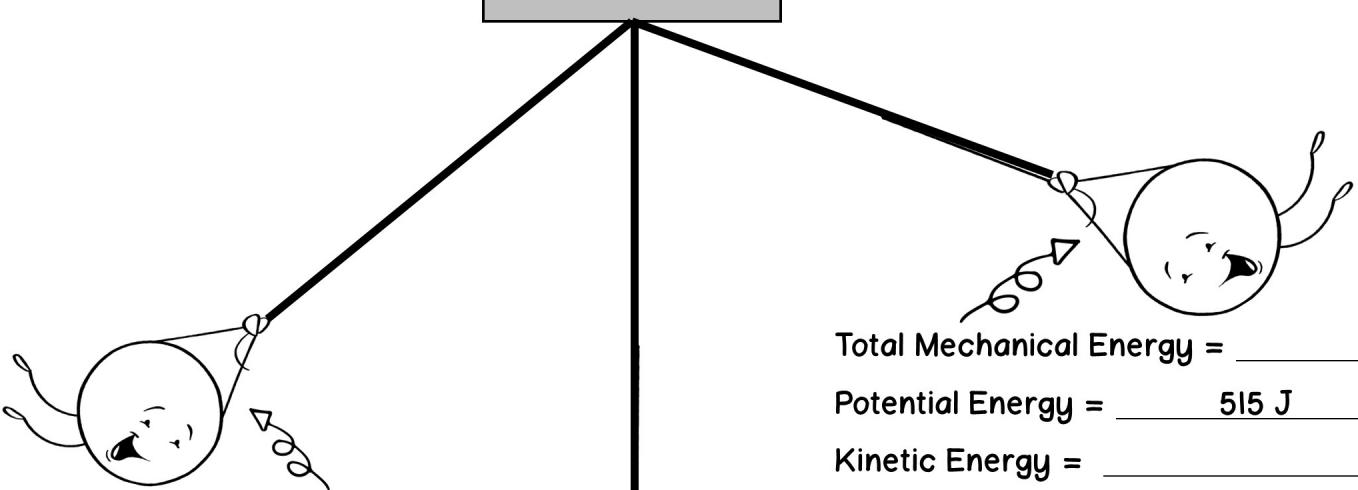
Total Mechanical Energy = \_\_\_\_\_

Potential Energy = \_\_\_\_\_

Kinetic Energy = 11,000 J



3) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.



Total Mechanical Energy = 515 J

Potential Energy = \_\_\_\_\_

Kinetic Energy = 235 J

Total Mechanical Energy = \_\_\_\_\_

Potential Energy = 515 J

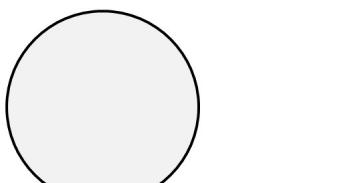
Kinetic Energy = \_\_\_\_\_

4) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.

Total Mechanical Energy = 150,000 J

Potential Energy = \_\_\_\_\_

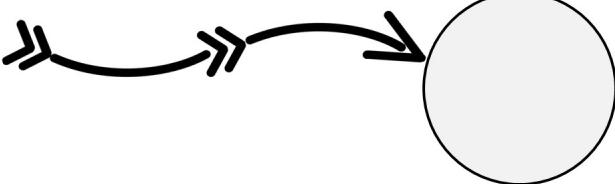
Kinetic Energy = 0 J



Total Mechanical Energy = \_\_\_\_\_

Potential Energy = \_\_\_\_\_

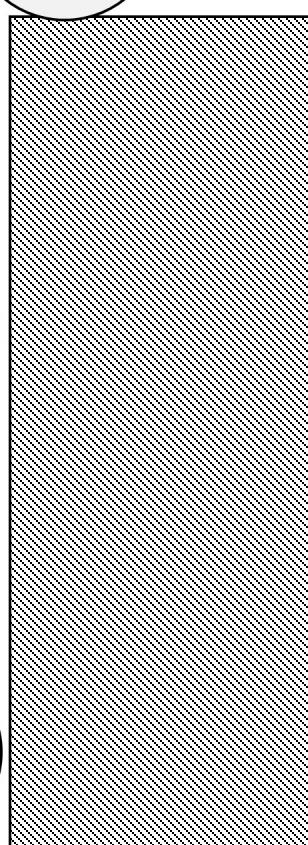
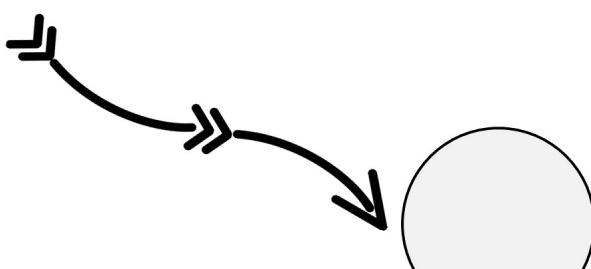
Kinetic Energy = 75,000 J



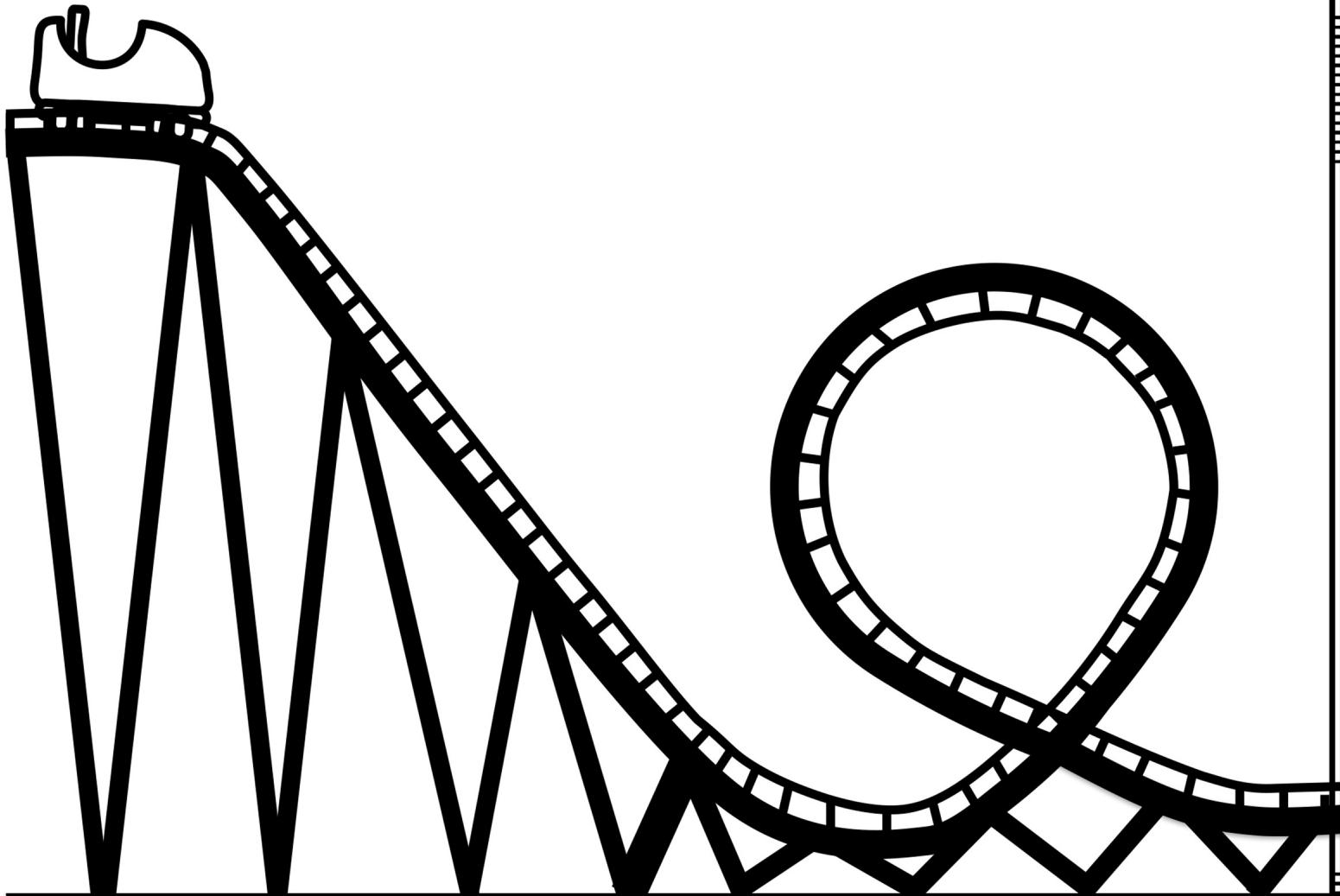
Total Mechanical Energy = \_\_\_\_\_

Potential Energy = 0 J

Kinetic Energy = \_\_\_\_\_



# Answer Key



Name: \_\_\_\_\_  
Period: \_\_\_\_\_

Date: \_\_\_\_\_

## Total Mechanical Energy

Directions: Fill out everything for each problem. Write neatly!

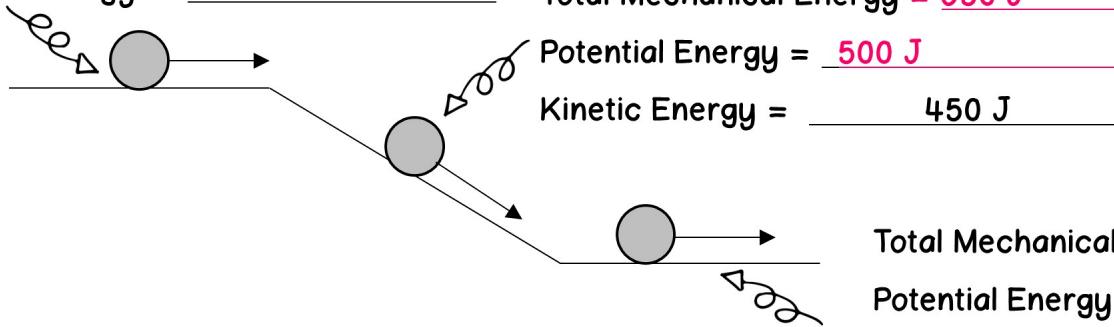
1) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.

$$\text{Total Mechanical Energy} = 950 \text{ J}$$

$$\text{Potential Energy} = 800 \text{ J}$$

$$\text{Kinetic Energy} = 150 \text{ J}$$

$$\text{Total Mechanical Energy} = 950 \text{ J}$$



Potential Energy = 0 J  
Kinetic Energy = 950 J

2) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.

$$\text{Total Mechanical Energy} = 25,000 \text{ J}$$

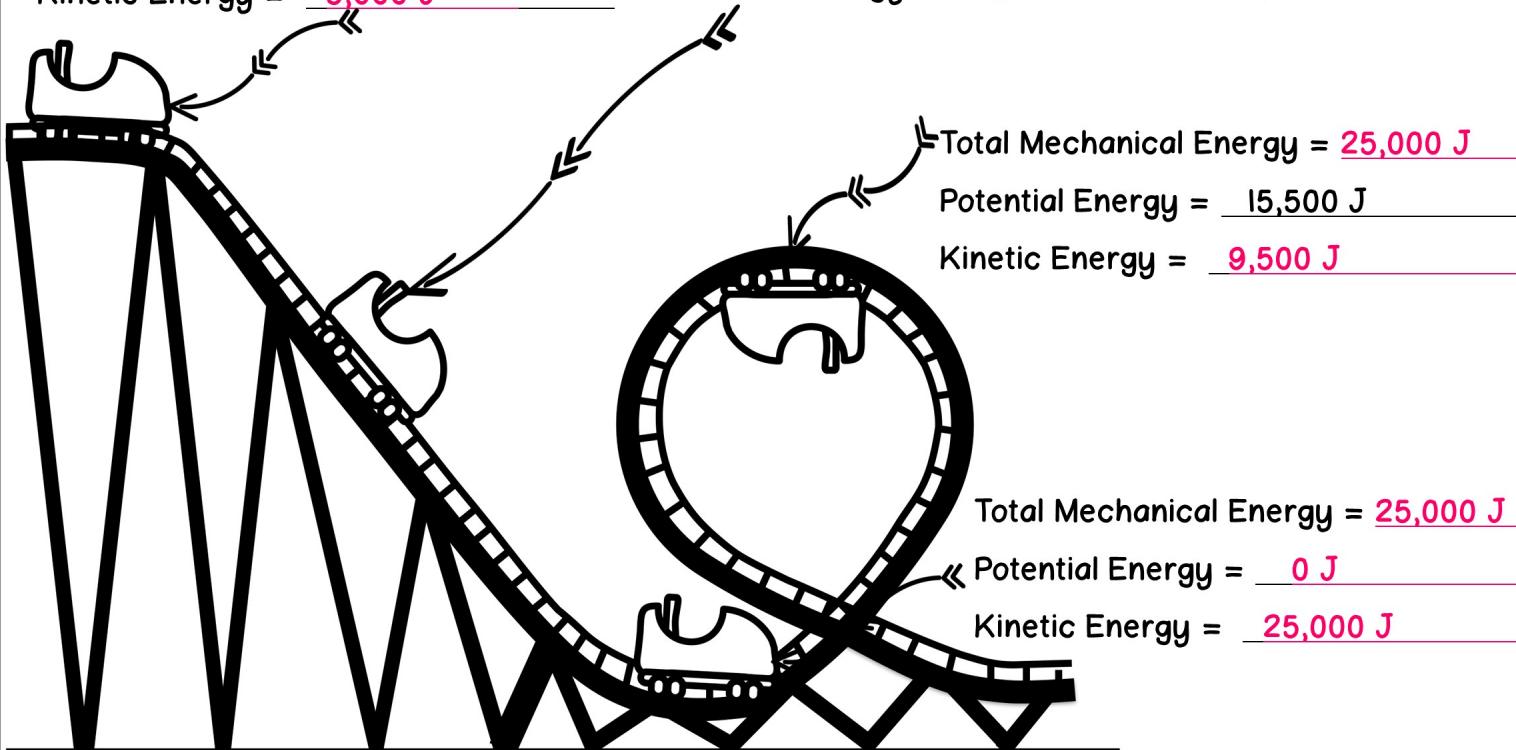
$$\text{Potential Energy} = 20,000 \text{ J}$$

$$\text{Kinetic Energy} = 5,000 \text{ J}$$

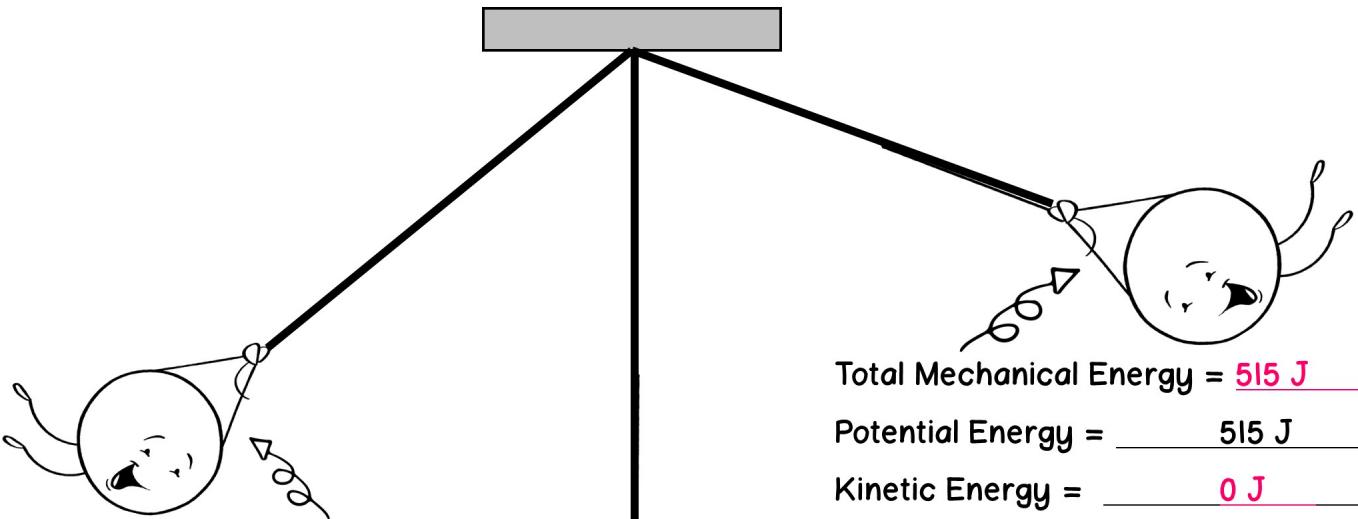
$$\text{Total Mechanical Energy} = 25,000 \text{ J}$$

$$\text{Potential Energy} = 14,000 \text{ J}$$

$$\text{Kinetic Energy} = 11,000 \text{ J}$$



3) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.



$$\text{Total Mechanical Energy} = \underline{515 \text{ J}}$$

$$\text{Potential Energy} = \underline{280 \text{ J}}$$

$$\text{Kinetic Energy} = \underline{235 \text{ J}}$$

$$\text{Total Mechanical Energy} = \underline{\text{515 J}}$$

$$\text{Potential Energy} = \underline{\text{515 J}}$$

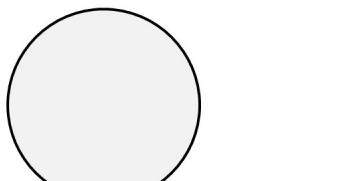
$$\text{Kinetic Energy} = \underline{\text{0 J}}$$

4) Fill in the missing values for potential energy, kinetic energy, and total mechanical energy.

$$\text{Total Mechanical Energy} = \underline{150,000 \text{ J}}$$

$$\text{Potential Energy} = \underline{150,000 \text{ J}}$$

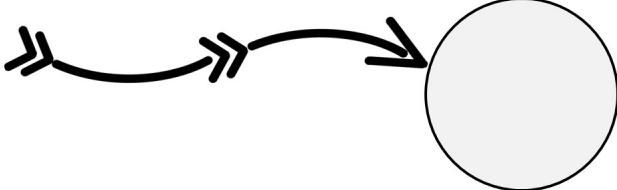
$$\text{Kinetic Energy} = \underline{0 \text{ J}}$$



$$\text{Total Mechanical Energy} = \underline{150,000 \text{ J}}$$

$$\text{Potential Energy} = \underline{75,000 \text{ J}}$$

$$\text{Kinetic Energy} = \underline{75,000 \text{ J}}$$



$$\text{Total Mechanical Energy} = \underline{150,000 \text{ J}}$$

$$\text{Potential Energy} = \underline{0 \text{ J}}$$

$$\text{Kinetic Energy} = \underline{150,000 \text{ J}}$$

