Roller Coaster Physics Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pre- Viewing Activities:

## ***Vocabulary***

**conservation of energy**

**friction**

**gravitational potential energy (GPE)**

**heat (thermal energy)**

**kinetic energy**

**mechanical energy**

**Pre-Viewing General Questions:**

1. How do rides create the illusion of increased or decreased weight?
2. How do the basic laws of physics allow a ride to accelerate?

**Pre-Viewing Video Specific Questions:**

1. What is potential energy?
2. What is the most thrilling roller coaster you have ridden? Or want to? Or are you scared?
3. What is inertia?
4. How many positive Gs do you think your body could handle?
5. Are roller coasters safe?
6. What should safety officials look for when inspecting roller coasters?
7. What would your dream roller coaster be like?

*During Viewing or Post-viewing question:*

1: At what point in a roller coaster ride does potential energy become kinetic energy?

2: How come people feel a “rush” when riding roller coasters?

3: How do negative G-forces affect your body?

4: What are some similarities between aerobatic flying and riding a roller coaster?

5: What are some safety features found on roller coasters?

6: What are the three sets of wheels on roller coasters for?

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8: How does the magnetic propulsion system work on Superman?