

*The State Fair of*  
**TEXAS**  
*Curriculum*

**THE MIDWAY & GAMES**

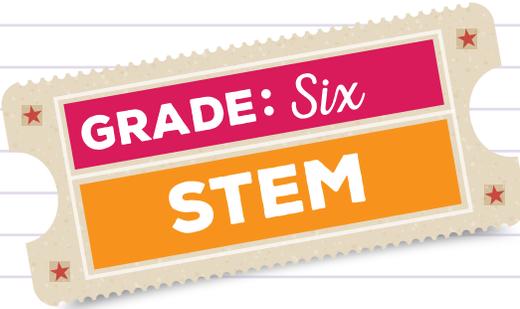
**GRADE 6 STEM**

STEP BY STEP

POTENTIAL & KINETIC ENERGY MOVE THE CROWDS



# STUDENT EDITION



## Step by Step Potential & Kinetic Energy Move the Crowds



### Recap

- ★ Watch this [video](#) to review the concepts of potential and kinetic energy.
- ★ Recall that in math, we use diagrams and other representations to model the relationships between ideas.

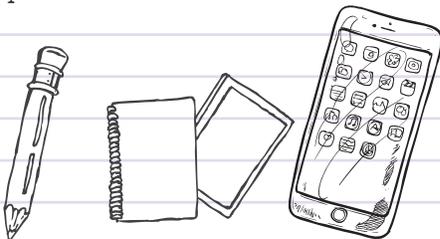
### Plan Your Route.

- ★ Start at the Texas Star and walk to some of your favorite places on the Midway.
- ★ If you don't have any favorite places yet, now's a great time to find some!



### Optional Materials to Bring

- ★ Smartphone or Tablet
- ★ Pencil & Sketchbook
- ★ Stopwatch (or use the Stopwatch function on your Smartphone)



### While you're there

You will use information you gather at the State Fair to help you with TWO project goals:

1. Design a ride or a game that uses potential and kinetic energy to show your class.
2. Analyze the data from the Steps Table you'll make while you're walking today.

You'll work on your projects back at school. For now, the objective of your visit is to identify kinetic and potential energy in the rides and games of the Midway, and to keep track of your own energy output, as well!



### Step by Step Potential & Kinetic Energy Move the Crowds



#### YOU

- Observe and record your steps for 10 minutes as you walk through the Midway.
- Keep track of how many steps you have taken and where you (or another person) are walking, over time, in your notebook.

Time (minutes)	Number of steps taken
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

#### GAMES

- Observe some of the games going on at the Midway.
- Take notes, snap pictures, or record video of the types of energy you observe.
- What kind of energy is exhibited in the balls and rings that are being thrown?
- If you use your notebook, make sure to take notes about the energy.
- If you take videos, narrate where you observe potential and kinetic energy.
- In addition to the types of energy being used, pay attention to the design of the games.
- ★ What colors are being used?
- ★ Are there lights?
- ★ What about sounds?
- ★ How have the game designers worked to ensure that their games will draw the interest of fairgoers?
- ★ What would you change about the visual aspects of any of the games?

#### RIDES

- Observe some of the rides going on at the Midway.
- Take notes, snap pictures, or record video of the types of energy you observe.
- What kind of energy do you spot when the roller coaster is going up and down hills?
- What about when the Ferris wheel is loading passengers, or when it's spinning?
- If you use your notebook, make sure to take notes about the energy.
- If you take videos, narrate where you observe potential and kinetic energy.
- Once again, take note of their design.
- ★ What makes this ride attractive to fairgoers?
- ★ What might make it unattractive?
- ★ How would you design it differently to draw in more people?

#### Back at School

When you return to class following your State Fair visit, you will work on your projects! See your teachers for more information.

