

# The Unit Organizer

④ BIGGER PICTURE

NAME \_\_\_\_\_  
DATE \_\_\_\_\_

← Interactions of Matter & Energy →		
② LAST UNIT/Experience Chemistry	① CURRENT UNIT <b>Rollercoaster Physics! (Force &amp; Motion)</b>	③ NEXT UNIT/Experience Seasons and Moon Phases
⑧ UNIT SCHEDULE	⑤ UNIT MAP	
⑦ UNIT SELF-TEST QUESTIONS	1. What are examples of potential and kinetic energy in your everyday life? 2. How do balanced and unbalanced forces affect the motion of an object? 3. How do Newton's laws explain the relationship between force and motion? 4. How can you use simple machines to demonstrate the relationship between forces and motion?	

# Physics Study Guide

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

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

Parent Signature: \_\_\_\_\_

## Study Tools

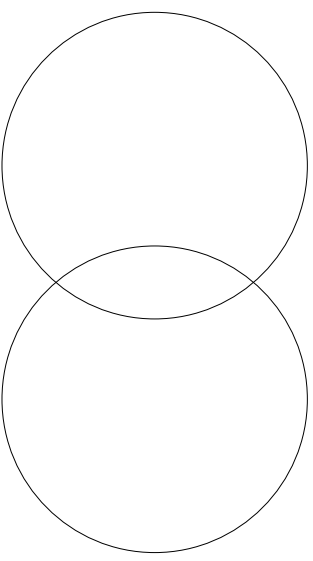
*(The textbook should be your last resort!)*

1. Bill Nye Energy
2. Potential and Kinetic Energy Notes
3. Force and Motion Notes
4. Newton's 3 Laws of Motion Notes
5. Forces Practice Problems
6. Energy and Forces Quiz
7. Picturing Physics
8. Work & Simple Machines Notes
9. EdHeads: Simple Machines
10. Simple Machines Lab

1. Use the Venn Diagram to compare & contrast *potential* and *kinetic* energy.

2. Which type of energy depends on an object's:

- speed-
- height-
- mass-



3. Explain the difference between *speed* and *velocity*.

4. List the *equation* and *units* for speed.

5. What is *acceleration*?

6. What are the **3 ways** that an object can accelerate?

7. List the *definition* and *units* for force.

8. Compare and contrast *balanced* and *unbalanced* forces.

9. Give an example of a way that you could *increase* the amount of *friction* on an object.

10. Give an example of a way that you could *decrease* the amount of *friction* on an object.

11. What is *inertia*?

12. How is an object's *inertia* related to its *mass*?

13. Explain Newton's *1<sup>st</sup> law* of motion.
14. Explain Newton's *2<sup>nd</sup> law* of motion (*include the equation*!).
15. How can changing the *mass* of an object change the *force* needed to move the object?
16. How can changing the amount of *force* on an object change the object's *acceleration*?
17. Explain Newton's *3<sup>rd</sup> law* of motion.
18. What is *work*?
19. What are the *3 ways* that simple machines can make work easier?
20. What is the difference between *input* and *output* force?
21. List the *definition* and *equation* for mechanical advantage.
22. List the *6 types* of simple machines & give an *example* of each.
23. Why would you use:
  - a single fixed pulley-
  - a single moveable pulley-
  - a multiple pulley system-
24. Label the *input force*, *fulcrum*, and *output force* for each lever below. Then label each as a *1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> class* lever.

