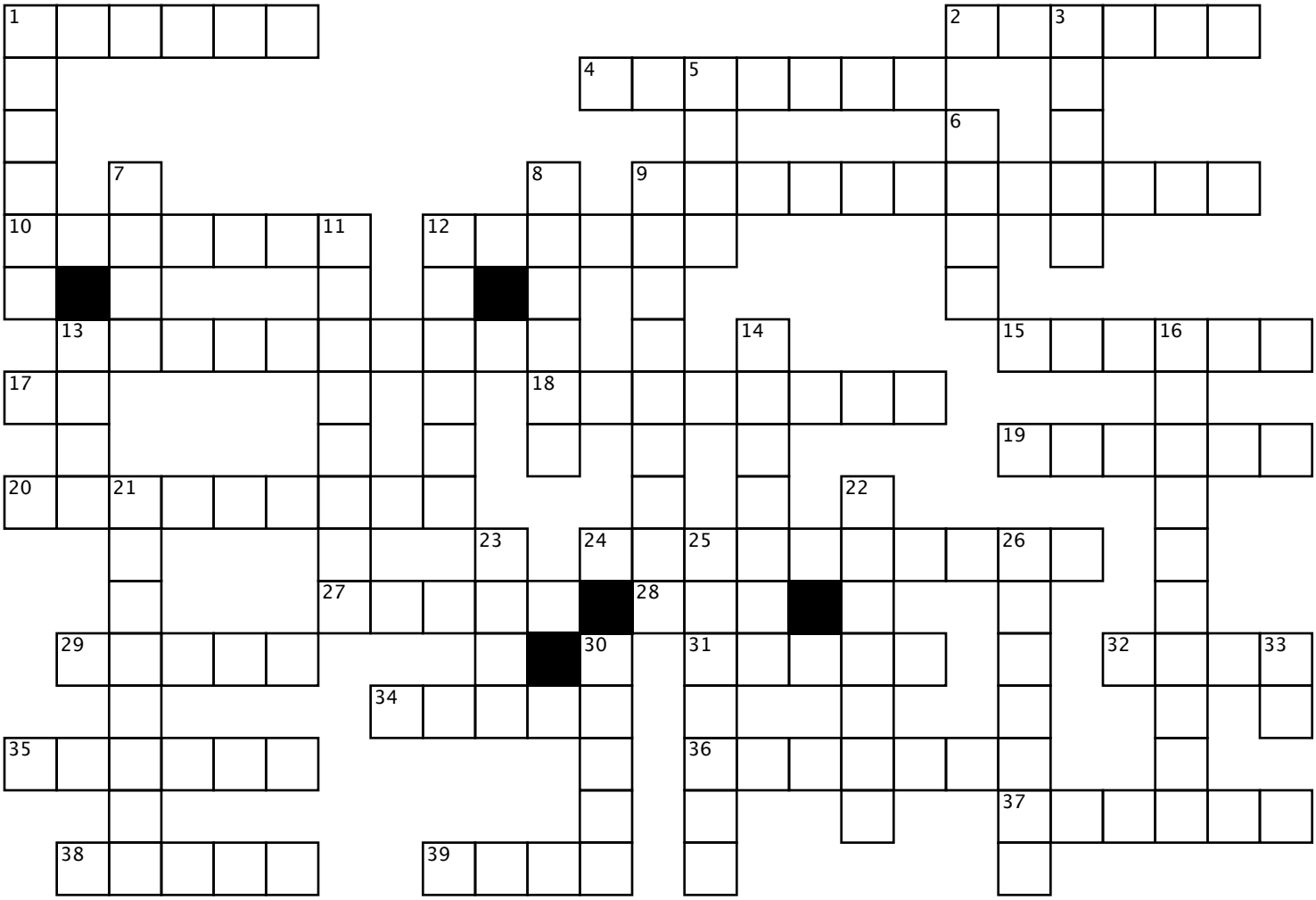
Chapter 7: Work and Energy

Integrated Science: Physics & Engineering Design

Name_____Per_____



Across

1. Ancient builders developed ___ machines that allowed them to multiply by many times the force of their muscles.
2. Forces, energy or power supplied by the machine
4. Complex machines ___ many simple machines into mechanical systems.
9. doing work always means ___ energy.
10. energy stored or released when an object changes shape or deforms
12. the kinetic energy of an object increases as the ___ of its velocity (hint: look at the mathmatical formula for calculating KE)
13. form of energy related to motion or position
15. Energy in a system tends to flow from ___ to lower energy.
17. If force is applied and nothing moves, ___ work is done.
18. gravitational potential energy describes the energy of an __ object.

Down

1. chemical energy is a formed of energy that is ___ in molecules
3. ___ class levers have the fulcrum at one end of the lever, and the input force is between the fulcrum and the output force.
5. The energy output of a process or maching can never be ___ than the energy input.
6. A rotating wheel with teeth that transfers motion and forces to other gears or objects.
7. power is the ___ at which work is done.
8. nuclear energy is a form of energy stored in the ___ of atoms
9. Machines create mechanical advantage with ____ between force and distance.
11. "using" energy by turning on a light bulb doesn't destroy the energy, but ___ it into less useful forms. So, while we won't run out of energy, we can run out of valuable, concentrated energy

Across

19. electrical energy comes from electrical ___.
20. A simple machine is an ___ mechanical device that accomplishes a task with only one movement.
24. the ratio of usable output work divided by the total input work.
27. kinetic energy depends on mass and ___.
28. practically all energy that humans and all other living things on Earth need comes from the ___.
29. ___ class levers have the fulcrum between the input and output forces.
31. A broom is an example of a ___.
32. A form of energy that comes from force applied over a distance.
34. Mechanical advantage is the ___ of output force to input force.
35. the gravitational potential energy of an object is the product of its mass, the strength of gravity, and its ___.
36. energy carried by electromagnetic waves
37. Ability to change or cause change
38. forces, energy or power supplied to make a machine accomplish a task
39. power is calculated by dividing the work done by the __ .

Down

12. ___ class levers have the fulcrum at one end of the lever, and the input force is at the other end of the lever.
13. The ___ is 384,000 km from Earth.
14. A device with moving parts that work together to accomplish a task.
16. 1 ___ equals 746 watts
21. potential energy is energy due to ___.
22. energy of motion
23. light energy and ___ energy are carried in the electromagnetic spectrum
25. a lever is a stiff structure that rotates around a fixed point called a ___.
26. the law of conservation of energy states that energy can never be ___ or destroyed, only transformed from 1 form into another
30. Unit of energy
33. as a ball falls toward Earth, its PE decreases while its __ increases.