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## Work and Machines Crossword Puzzle



## Across

2. Two forces acting in opposite directions on an object, and equal in size
3. A machine designed to make work easier by increasing the distance and decreasing effort 7. The transfer of energy that occurs when a force makes an object move
4. The force applied to the machine and the force you exert
5. A device that uses energy to perform an activity
6. A circular object that revolves on an axle and is fixed below a vehicle or other object to enable it to move easily over the ground
7. A simple machine that consists of an inclined plane wrapped in a spiral around a cylindrical post
8. The unit used to measure force
9. The resistance of any physical object to any change in its state of motion
10. The object that is moved or lifted (known as the output force)
11. The overall force on an object when all the individual forces acting on it are added together 25. measured as a product of an objects mass and velocity
12. An influence that causes a free body to undergo acceleration; a push or a pull
13. Output force $\div$ input force; the number of times a machine multiplies the effort force 30. Forces that cause a change in the motion of an object

## Down

1. The forces that oppose the relative motion of an object through a fluid
2. A type of lever that looks like a wheel with teeth
3. Two or more simple machines that operate together
4. A group of wheels with a rope, chain, or cable running along a groove
5. A sloping surface that reduces the amount of force required to do work
6. A rod or spindle passing through the center of a wheel or group of wheels.
7. The weight of the object of which force is being exerted to known as the load
8. The force which an effort force must overcome in order to do work on an object via a simple machine
9. The unit of work
10. Ration of output work done by the machine to input work done on the machine expressed as a percentage
11. The point on which a lever rests or is supported and on which it pivots
12. A simple machine consisting of a bar free to pivot about a fixed point called a fulcrum
13. A force that opposes motion
14. A simple machine that is an inclined plane with one or two sloping sides
15. a force that acts upon all objects
