

Work, Energy, and the Simple Machines: Lever, Wheel and Axle, Pulley

VIDEO QUIZ

At the end of the video presentation there will be a video quiz. You may use this worksheet to write your responses to the questions from the video quiz.

1. The turning point of a lever is called the _____.
 - a. resistance
 - b. effort
 - c. fulcrum
 - d. arm
2. The load or object being moved on a lever is called the _____.
 - a. resistance
 - b. effort
 - c. fulcrum
 - d. arm
3. The mechanical advantage of a wheel and axle is determined by _____.
 - a. dividing the diameter of the wheel by the diameter of the axle
 - b. dividing the axle radius by the wheel radius
 - c. measuring the length of the effort arm
 - d. dividing the resistance arm by the effort arm
4. How do we calculate the mechanical advantage of a movable pulley?
 - a. Divide the length of the effort arm by the length of the resistance arm.
 - b. Divide the wheel radius by the axle radius.
 - c. Measure the length of the effort arm.
 - d. Count the number of supporting strands of rope.
5. How do we calculate the mechanical advantage of a lever?
 - a. Divide the length of the effort arm by the length of the resistance arm.
 - b. Divide the wheel radius by the axle radius.
 - c. Divide the length of the resistance arm by the length of the effort arm.
 - d. Divide the weight of the load by the effort arm.
6. What is energy? _____
7. How is a fixed pulley different from a movable pulley? _____
8. What is a block and tackle? _____
9. Name the six simple machines. _____
10. There are three kinds of levers. What makes them different from each other?

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VOCABULARY**

Directions: Match the definitions in column B with the words in column A. Write the letter from column B next to the word in column A.

COLUMN A

COLUMN B

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|-------------------------------|---|
| 1. resistance _____ | a. the ability to do work |
| 2. effort _____ | b. a pulley that makes work easier |
| 3. fulcrum _____ | c. the weight of the object being moved |
| 4. energy _____ | d. more than one pulley working together |
| 5. fixed pulley _____ | e. the force (push or pull) used to do work |
| 6. movable pulley _____ | f. a pulley that changes direction of effort but provides no mechanical advantage |
| 7. mechanical advantage _____ | g. the turning point of a lever |
| 8. block and tackle _____ | h. when a machine multiplies the effort being used |