

Name: _____
Grade: _____
Date: _____

7th Grade Science Easter Break Study Packet



Due: Monday April 13, 2026

1. Read Chapter 12 pg. 119
2. Complete chapter questions in the back of the chapter without looking at answers
3. Complete fill-in-the-blanks
4. Complete questions at end of this worksheet

Work & Simple Machines

When using the scientific definition, _____ refers to an applied force making an object move in the same direction as that force. An example is using a crowbar to lift something, the object is being moved in the same direction as the crowbar that is being used to lift it. The amount of work depends on two things, the amount of _____ applied and the _____ across which the force is applied. _____ refers to the rate at which work is done, so how quickly or slowly work is done.

A _____ is a type of machine that does work in a single motion and decreases the amount of force required to do the same amount of work by increasing distance. A ramp, or _____ is an example of this. It increases the distance that the object being moved must go, thus decreasing the amount of effort per set amount of distance. Imagine lifting a 100 lb. box and then imagine pushing a 100 lb. box up a ramp, while pushing the box you are using less effort at any given time than you would trying to lift it.

Another example is a _____, a movable inclined plane. A _____ is a type of wedge that is wrapped around a shaft or post, as you turn it, the wedge pushes the object up the shaft. A _____ is used to reduce the amount of effort required to lift an object. Like a seesaw, when force is applied on one side of the pivot point, or _____, this lifts up the side opposite the pivot point. There are three classes of lever, each dependent on the placement of the fulcrum.

One of man's most important inventions is the _____ & _____, which makes it easier to move a heavy object. These increase output force since turning a larger wheel requires less force than turning a smaller wheel. These also decrease the distance required to move the wheel.

Lastly, a _____ uses a wheel with a rope wrapped around it to magnify the force you use when lifting something. The more of these added, the less effort is required.

Simple machines improve _____, meaning that you lose less energy in the form of heat while doing work.

Knowledge Check

You may write your answers on the back of this worksheet.

1. Write out the equation for work.
2. Write the equation for power.
3. What is the only direction in which applied force may be considered work?
4. Give 5 examples of simple machines.
5. For first, second, and third class levers, please write out the order in which we find the Load (what is being moved/carried), the effort, and the fulcrum. You may accompany this with a drawing if that helps you to visualize it.
6. If a simple machine is used, is less effort required? Is less work done?