



Drag the correct word to its definition below.

friction

gravity



a)

The force of Earth's attraction.

motion



b)

Change of position.

meter



c)

A measure of distance.

force



d)

A push or a pull.

e)

The force that resists sliding motion.



What Are Force, Motion, and Work?

Carrying a 50-pound rock around on your shoulder all day sounds like hard **work**. If you think so, you are half right. It would be hard, but it wouldn't be work—at least not the way the word work is used in science.



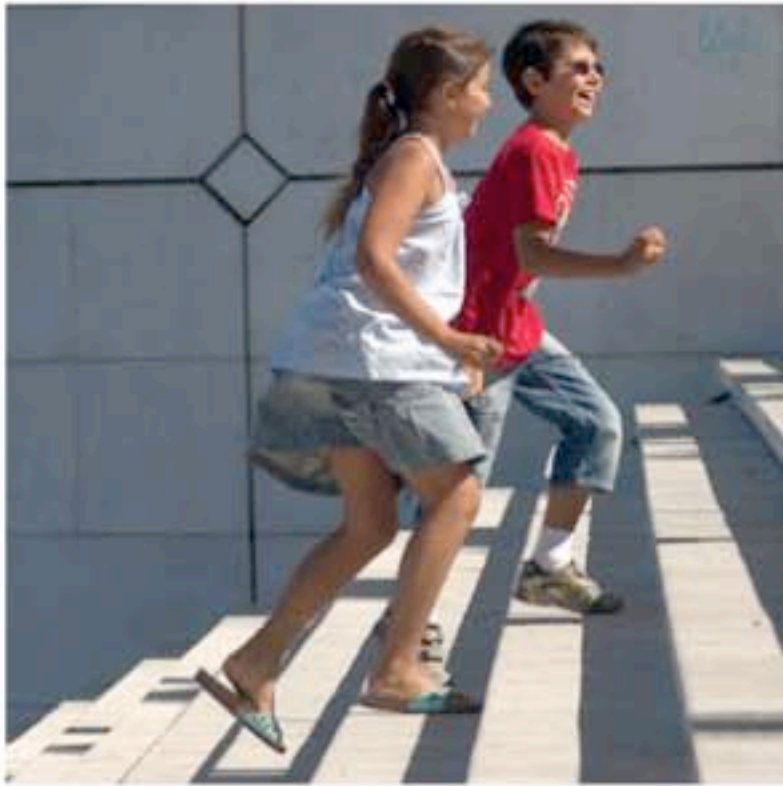
To understand what work is, we first have to understand **force** and **motion**. You may remember that a force is a push or a pull. You can exert a force on something by pushing or pulling with your hands. Gravity and friction are also common forces.

We can see motion, so we already have a feeling for what it is. When something moves from one place to another, that is motion.

continue reading

Measuring Work

WORK = FORCE (pound/newtons) **X DISTANCE** (feet/meters)



A girl walks up a flight of stairs.

Force

Her weight = **90 pounds** (367 newtons)

Distance

The height of the stairs = **9 feet** (3 meters)

Work = **810 foot-pounds**
(1200 joules)



800 foot-pounds
(1068 joules)

1200 foot-pounds
(1602 joules)

3500 foot-pounds
(4895 joules)

120 foot-pounds
(178 joules)

6250 foot-pounds
(8340 joules)



A boy kicks a soccer ball into the air.

Force

Kick force = **60 pounds** (245 newtons)

Distance

Ball distance = **20 feet** (6 meters)

Work =



Reset