



Name the different types of pulleys.

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How Do Pulleys Work?

As you learned on page F19, the *pulley* made it easier to move an object. There are two types of pulleys. In a *fixed pulley*, the wheel is attached to something so that it cannot change position. One end of the rope is passed around the wheel. The other end is tied to an object—the load. Pulling the rope lifts the load.

A single fixed pulley makes work easier by changing the direction of the effort force. You pull down, and the load moves up. However, a fixed pulley can't change how much effort force you need to move a load. A force equal to the weight of the load is needed.

A *movable pulley* is not attached to some fixed object. It moves with the load. It can be used to decrease the effort force you need to apply to move the load.

Look at the drawing of a fixed and a movable pulley hooked up together. In this system the rope runs around both pulleys. The load is attached to the movable pulley.

When pulleys are used, they can decrease the effort force needed to lift a load. The more pulleys, the less force is needed. However, the rope needs to be pulled a great distance to lift the object a small distance.

How is a fixed pulley different from a movable pulley?