

## Simple Machines–Pulleys: Objectives and Vocabulary

By referring to the various handouts, notes, lab activities and homework covered during this unit, then at the end of this unit of study, each student should be able to:

1. Describe the 2 basic ways that machines make work easier.
2. Define what a pulley is.
3. Identify which family of simple machines that the pulley belongs to and why.
4. Describe the difference between a single fixed pulley and a single moveable pulley.
5. Determine what the Ideal Mechanical Advantage (IMA) is for a given pulley set up just by looking at it.
6. Calculate mechanical advantage (MA) using the formula  $MA = \text{resistance force} \div \text{effort force}$ .
7. Calculate how many support ropes would be needed to lift a known weight (resistance) using a known effort (input) force.

### Vocabulary:

Simple Machine

Pulley

Ideal Machine

Lever Family

Work

Mechanical Advantage (MA)

single fixed pulley

single moveable pulley

Ideal Mechanical Advantage (IMA)

support ropes