

## Simple Machines Guiding Questions

1. How is the mechanical advantage of machines calculated? How are the mechanical advantage and ideal mechanical advantage different? (pp.163, 165)
2. How is the efficiency of a machine calculated? (p.165)
3. How is the ideal mechanical advantage of an inclined plane calculated? (p.169)
4. What is a wedge? How does it work? Draw a diagram showing the input and output forces. (p.170)
5. What is a screw? How does it work? Draw a diagram showing the input and output forces. (p.171)
6. How is the ideal mechanical advantage of a lever calculated? (p.172)
7. Draw a diagram of each of the three classes of levers. Label the locations of the fulcrum, output force and input force, and indicate the size and direction of the forces with arrows. (p.173)
8. How do you calculate the mechanical advantage of a wheel and axle? (pp.174-76)
9. Draw diagrams of a fixed pulley, movable pulley and two different pulley systems shown on p.177. Label the mechanical advantage of each. (p.177)