

## Power

Read from **Lesson 1** of the **Work, Energy and Power** chapter at **The Physics Classroom**:

<http://www.physicsclassroom.com/Class/energy/u5l1e.html>

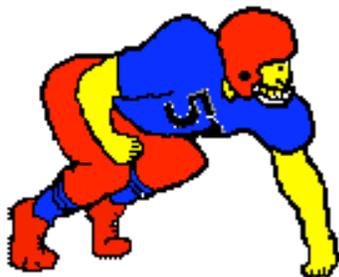
**MOP Connection:** Work and Energy: sublevel 2

### Review:

- A force acting upon an object to cause a displacement is known as \_\_\_\_\_.
  - energy
  - potential
  - kinetic
  - work
- Two acceptable units for work are \_\_\_\_\_. Choose two.
  - joule
  - newton
  - watt
  - newton•meter

### Power as a Rate Quantity:

- Power is defined as the \_\_\_\_\_ is done.
  - amount of work which
  - direction at which work
  - angle at which work
  - the rate at which work
- Two machines (e.g., elevators) might do identical jobs (e.g., lift 10 passengers three floors) and yet the machines might have different power outputs. Explain how this can be so.
- There are a variety of units for power. Which of the following would be *fitting* units of power (though perhaps not standard)? Include all that apply.
  - Watt
  - Joule
  - Joule / second
  - hp
- Two physics students, Will N. Andable and Ben Pumpiniron, are in the weightlifting room. Will lifts the 100-pound barbell over his head 10 times in one minute; Ben lifts the 100-pound barbell over his head 10 times in 10 seconds. Which student does the most work? \_\_\_\_\_ Which student delivers the most power? \_\_\_\_\_ Explain your answers.



- An often-used equation for power is

$$\text{Power} = \text{force} \times \text{velocity}$$

Express an understanding of the meaning of this equation by using it to explain what type of individuals would be the best choice for lineman on a football team.